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# INDEX TO VOLUME CVI.

The Index of the Boston Medical and Surgical Journal is arranged by authors and by subjects. Articles relating to the circulatory, respiratory, or nervous systems are to be found under those heads respectively. This method of indexing is that followed by the Editors of the *Index Medicus*, and is believed to be the most satisfactory plan which can be adopted. F. H. B.

- Adams, Z. B.** Neglect of vaccination, a state vaccine establishment, 111.
- Allen, C. A.** Pelvic hamatocoele, 617.
- Amay (Norwich).** A remarkable case of extremely low temperature, 614.
- Anatomy.** Frozen sections through a thorax with pericardic effusion, 177; recent progress in anatomy, 177; the study of anatomy in the Leipzig University, Walton, G. L., 389.
- Atkins, F. H.** Clon on pulvis after version, decapitation, forepaw, 251.
- Atlee, W. P.** A case of lungeles of the hand cured by scraping with the finger, with some references to the literature of this affection, 289.
- Ayer, J. B.** A severe case of melanoma following pneumonia, 81.
- Baker, W. H.** Recent progress in gynecology, 8; cancer of the uterus, 85.
- Baltimore.** Letter from Baltimore, 491.
- Bancroft, C. P.** Normal cerebellum, following three years of diseased mental action, the mystery of idiocy, 75, 85.
- Barnes, H. J.** The water supply of Boston, 4.
- Bartlett, W. W.** Repts, preparations and methods of assay, 229.
- Barteldier, H.** Report on malarial fever in the neighborhood of Providence, R. I., 227.
- Battery (Georgia).** Ophorhynchus, Listeria, 498.
- Beard, G. M.** Petition for a stay of proceedings in the case of Galtman, 621.
- Bibliography.** American Gynecological Society, Transactions, Volume V, 1; Address by the Lectures on the Pathology and Treatment of Lateral and Other Forms of Curvature of the Spine, 493; *Ischy, H.* Memoirs of Physiology, 350; *Atkinson, W. B.* The Therapeutics of Gynecology and Obstetrics, Comprising the Medical, Dietetic, and Hygienic Treatment of Diseases of Women, 251; *Eliot, W. M.* Keats's Handbook of Physiology, 304; *Billing, J. S.* Address to a graduating class, 25; *Brace, L. D.* Student's Manual of Diseases of the Skin, 221; *Cheney, J. C.* Lectures on the Pathological Anatomy of the Nervous System, Diseases of the spinal Cord, 423; *Cores, W.* The Nurse and Mother, a Manual for the guidance of Amiable Nurses, 10; *Cooper, G. C.* *Cooper, G. C.* *Cooper, G. C.* Percussion Outlines, 280; *Dalton, J. C.* A Treatise on Human Physiology, Designed for the Use of Students and Practitioners of Medicine, 274; *Deley, H.* Anesthesia and Non-Anesthesia in the Extraction of Cataract, 542; *Doyle, T.* Frozen Sections of a Child, 229; *Eliot, A. W.* Diseases of Women, including their Pathology, Causation, Symptoms, Diagnosis, and Treatment, 208; *Eliot, G.* A Practical Manual of the Diseases of Children, with a Formulary, 161; *Eliot, G.* Illustrations of Dissections in a Series of Original Colored Plates, Representing the Dissection of the Human Body, Vols. I. and II., 25; *Father, C. A.* Lectures on Digestion, 61; *Foster, M. and Kocher, E. T.* A Text-Book of Physiology, 339; *Fothergill, J. M.* Students Aid Series, Arts to Diagnosis, 61; *Fothergill, J. M.* Aids to Rational Therapeutics, 328; *Gartner, P.* Dictionnaire Annuel des Progres des Sciences et Illustrations Medicales, 328; *Gartner, W. R.* Epilepsy and Other Chronic Convulsive Diseases, their Causes, Symptoms, and Treatment, 249; *Harrison, R.* The Prevention of Stricture and of Prostatic Obstruction, 280; *Hollen, L.* Human Oology, 328; *Howard, E. H.* The Opium Habit and Alcoholism, 251; *Hutchinson, H.* Essentials of the Principles and Practice of Medicine, 61; *James Hopkins University.* Sixth Annual Report, 502; *Kane, H. H.* Opium Smoking, 394; *Kiddler, J. H.* Notes on the Microscopic Appearances Presented by the Blood of Scariation and Typhoid Fever, 122; *Léon, H.* Recherches Cliniques et Anatomico-Pathologiques sur les Affections Catarrhales d'Origine Viscerale, 314; *Lusk, W. T.* The Science and Art of Midwifery, 324; *McClagan, T. J.* Rheumatism, its Nature, its Pathology, and its Successful Treatment, 49; *Meisch, J. M.* A Manual of Organic Materia Medica, 74; *Marine Hospital Service.* Hand-Book for the Ship's Medicine Chest, 113; *Marine Hospital Service.* Annual Report of the United States Marine Hospital Service for the Fiscal Year 1891, 115; *Maulsby, L.* The Sympatric Diseases of the Eye, 450; *Medeiros, A.* A Manual of Midwifery, 255; *Medical Journals.* Changes in the Journal of Oology, The Journal of Nervous and Mental Disease, 189; *Meyer, J. F.* and *Exner, W.* A Practical Treatise on the Diseases of Children, 122; *Morton, A. S.* Reflection of the Eye, its Diagnosis and the Correction of its Errors, with Chapter on Keratocopy, 338; *National Medical Museum and Library.* Museum and Library of the Surgeon-General's Office, *National Medical Museum and Library.* Practical Medicine, with Particular Reference to Physiology and Pathological Anatomy, 40; *Osgood, H.* Winter and its Dangers, 61; *Palmer, A. B.* A Treatise on the Science and Practice of Medicine, or the Pathology and Therapeutics of Internal Diseases, 541; *Roskell, A. D.* Lectures on Electricity (Dynamic and Franklinian) in its Relations to Medicine and Surgery, 113; *Taylor, C. F.* Sensation and Pain, 473; *Tilt, E. J.* A Hand-Book of Therapeutic and Diseases of Women, 135; *Weyl, T.* Analytisches Hülfsbuch für die Physiologisch-Chemischen Uebungen, 39; *Williams, H. W.* The Diagnosis and Treatment of the Diseases of the Eye, 134; *Windale, W. H.* The Human Ear and its Diseases, 269; *Ziemssen, H. von.* Cyclopaedia of the Practice of Medicine, Vol. XX, 450.
- Bigelow, H. J.** Cases in the service of Dr. Bigelow, 19; a case of disease of the liver, terminating fatally in a month, 171, 175; idiocy with evacuation, 493; resignation of Professor Bigelow, 559, 524; L. D., 624.
- Bigelow, W. S.** The study of bacteria and their relations to disease, 248.
- Billroth.** Pirroff's last illness, 573.
- Biography.** Adams, E. G.; Bigelow, H. J., 569, 624; Bigelow, J., 598; Birtbeck, A. W., 121; Cahill, 21; Darwin, C. R., 12; Dodge, C. M., 359; Fisher, A., 573; Foley, J. P., 24; Holgren, J. T., 478; King, D., 573; Mack, T., 254; Mann, A., 572; Mos, J. A., 573; Morrison, J., 594, 524; Neufeld, W. C. H., 72; Pancoast, J., 231, 234; Phillips, B. P., 24; Pirroff, D., 573; Bond, J. O., 170; Reynolds, L., 20, 23; Root, D. S., 359; Shurtleiff, H., 408; Spafford, 24; Stearns, R., 421; Thomas, J. G., 24; Tucker, J., 211; Under, J. P., 251; Wood, J. R., 431, 171, 432.
- Blake, G. H.** Bilateral laceration of the uterine cervix of five years' standing, complicated with proctitis, recovery, 11; specula, B., two successful cases of ovariotomy, marked discrepancy in ages, remarkable similarity in history and form of disease, 324; solid tumors of both ovaries, 417.
- Blake, C. J.** Tubular snare for the removal of nasal polyp, 573.
- Blake, J. G.** Acute diseases of the lung, 277; tumor, subsequently abscess in the right lung region, 391; cases in the service of Dr. Blake, 418.
- Blake, M. E.** To the late Dr. George Bigelow on his eighty-ninth birthday, 268.
- Blodgett, A. S.** Some of the health reports of the United States, 590.
- Boardman, W. E.** A case of rare form of double vagina, 395.
- Bohland, E. S.** A partial review of eighteen cases of general paralysis of the insane, 174, 182.
- Bolles, W. P.** Report of progress in materia medica and pharmacy, 212; solitary kidney, 120.
- Boston.** The Memorial History of Boston, the chapter on medicine, 232.
- Bowditch, H. I.** Two fatal cases of pericardic effusion, would not paralyze life in adult; a case of pericardic effusion, American Therapeutics in the disease, 14, 25; aspiration of the chest, 24.
- Bowditch, A. V.** Unusual or accidental results of vaccination, 356.
- Bowen, W. S.** A case of large lateral paralysis supposed to be due to malaria poisoning, 331.
- Bowyer, E. E.** *Edwards* on Pirroff's last illness, 573.
- Bradford, E. E.** Cases of contraction at the hip joint, 52, 62; recent progress in orthopedic surgery, 364; cases of wry-neck, 543.
- Bradford, S. S.** Catarrhes of the ear, 229.
- Bradford, S. S.** A case of acute inflammation of the ear, 229.
- Brown, F. H.** The neuropathic, 16; the first medical school in America, an historical note, 341.
- Brug, G. A.** A case of unusual tolerance of sulphate of morphia, 128, 130.
- Buckingham, A. M.** Albuminuria in pregnancy, 22.
- Bunker, F. H.** Idiopathic pneumonia for typhoid fever and phthisis, 11; inoculation of typhoid, prophylaxis of tubercular diseases, 188.
- Bundy, F. E.** and *Ingliss, W.* Nephro lithotomy, 183, 192.
- Bush, J. F.** A penetrating pistol-wound of the brain, 27, 36.
- Cabell, J. L.** Sanitary conditions in relation to the treatment of surgical operations and injuries, 562.
- Cabot, A. T.** A case of osteotomy, 157, 161.
- Cabot, S.** Cases in the service of Dr. Cabot, 295.
- Caswell, E. T.** Treatment of puerperal convulsions, 130; successful lithotomy, 372; fibroid tumor of uterus, 372.
- Chadwick, J. R.** Admission of women to the Massachusetts Medical Society, 514.
- Chandlerian (Connecticut).** Etiology of consumption, 614; small-pox and aneurism, 614.
- Chandler, T. H.** Harvard Dental School, 87.
- Channing, W.** Recent progress in insane asylum management and constitutional medicine, the mental status of Quinlan, the assassin of President Garfield, 269, 362.
- Chapin, C. W.** The occurrence of intermittent fever in Providence and vicinity during the past summer, 124.
- Cheever, D. W.** Foreign body in oesophagus, oesophagotomy, death in six hours after operation, 258, 272; two cases of successful lithotomy, 273.
- Chemistry.** Condition and circumstances which should induce the medical examiner to employ a chemist, Miller, E. P., 74; recent progress in medical chemistry, 116, W. R., 129.
- Children.** Recent progress in children's diseases, 107; infant feeding and infant food, Jacob, A., 137; pneumonia in children, Ewell, W. C. B., 472; infantile diarrhea, Davis, N. S., 968.
- Circulatory System.** Report on progress in the treatment of thoracic diseases, Knight, J. G., 418; aneurism of the aorta, Blake, J. G., 418; specimen of rupture of the heart, Draper, F. W., 420; some negative results in sphygmography among the human, Turnbull, F. M., 438; remarkable case of sacculated or of circled aneurism of the second intercostal space, with a report of the case, Turnbull, F. M., 438.
- Clark, E. C.** Combined and separate systems of sewerage, 502; aneurism of the orbital, McLean (Ann Arbor), 106.
- Cleemann, R. A.** Report of the committee on meteorology and epidemics for the year 1891, in Philadelphia, 178.
- Croft, E. E.** The McLean Asylum, 362.
- Crane, R.** Antipyretics, 616.
- Curtis, H.** Tumor formations in acute pelvic inflammation, 245, 241; a case of Addison's disease with autopsy, 435, 444.







- [illegible]

- Walton, G. L.** Agrealde iron preparations used in Germany, 44; four cases of nerve stretching for affections of the spinal cord in the clinic of Professor Tiersch, Leipzig, no beneficial result, 204; the study of anatomy in the Leipzig University, 380.
- Warren, J. C.** A new steam spray, 37; excision of the wrist-joint, 473.
- Weber, S. G.** Paraplegia (paraparesis) from functional weakness, 54, 63.
- Webster, O. E.** A head supporter, 463.
- Weist, J. R.** Foreign bodies in the air-passages, 565.
- Wellington, W. W.** A case of retained placenta; protracted convalescence; repeated chills and fever alternating with days of comfort with normal temperature, 205, 207.
- Whitney, W. F.** Rupture of meningeal artery, 250; diphtheritic endometritis, 327; recent progress in pathology and pathological anatomy, 462, 487.
- Wilbur, H. B.** Restraint in Massachusetts insane asylum, a correction, 188; asylum statistics, 261.
- Williams, C. H.** Antiseptic injections, 110.
- Williams, E. F.** Moses as a sanitarian, 6, 132.
- Wing, C. E.** Some points regarding the diagnosis of uterine antelexions and anteversions, 124.
- Wooldridge, C. W.** Two cases of probable trichinosis, 290.
- Workman, W. H.** A case of angina pectoris associated with arterial disease at the base of the brain, death from acute anoxia of the brain, 313.



## LECTURES.

### PENNSYLVANIA HOSPITAL.

CLINIC OF J. M. DA COSTA,

*Professor of the Theory and Practice of Medicine and of Clinical Medicine in the Jefferson Medical College, etc.*

#### REMARKS UPON TWO CASES OF LEAD-POISONING EXHIBITING NERVOUS AND MUSCULAR SYMPTOMS.

GENTLEMEN: The two cases now brought before you are very striking ones, each showing marked implication of the muscles, though through different causes. I bring them in together because they both have the same disease.

#### CLINICAL HISTORY OF FIRST CASE.

Andrew M. is forty-two years of age, a house-painter. This man has been working in white lead for thirty-one years and has had frequent attacks of colic. We also learn that these occurred in spite of the fact that he has been in the habit of taking whiskey, as a prophylactic. Notwithstanding the faithful use of his antidote, he has had pains at least a dozen times, so he says, and in referring to them he describes the usual symptoms of lead-poisoning. About a year ago he had a similar attack for which he was treated in this hospital; he went out relieved of his constipation and pain but not entirely well; he states that he was out of sorts for several months. When he returned to his work he followed a branch of the business in which there was no lead used.

#### SYMPTOMATOLOGY; MUSCULAR SPASM; PARALYSIS.

Four months ago, he began again to work in white lead paint, and about three weeks ago he noticed a stiffness or tonic spasm of the muscles of the thumb and fingers which held the brush, in both hands, for he was in the habit of changing the brush from one hand to the other, while painting. This difficulty he found to be greater in the afternoon than in the morning; that is, the stiffness increased when he had been some hours at work. After a few days the loss of power extended from the fingers to the hand, so that he could no longer hold the brush. First, he says there was spasmodic action of the muscles concerned in holding the brush, and afterwards came loss of power; he next noticed that his wrists were weak, and soon he could not hold anything. His bowels were then obstinately constipated, requiring him to employ opening medicine. This shows that muscles in other parts of the body were beginning to be affected, constipation and lead colic being caused by paralysis of the muscular coat of the intestinal tube. During the preceding attacks his gums had been very sore, and the teeth loose. Just before his admission, eight days ago, a similar set of symptoms manifested themselves.

#### NERVOUS PHENOMENA.

Upon entering the ward he was noticed to be, as he still is, pale and weak. He has marked tremor in both his hands, but much more in the left than the right. There is some wrist-drop besides this tremor, the hand hangs down; there is, as you see, also a want of general power in this arm, the hand not only trembles, but he also cannot hold it out except for a very brief period. These are the symptoms he presents now, which were also

noticed upon admission. There is no trembling at present in the muscles at the wrist; he calls our attention, however, to the fact that while there is no persistent tremor, there is an occasional jerk in the muscles, even when the limb is at rest, but as you see, the least effort to use the hand will produce this trembling motion.

#### CONDITION OF MUSCLES, ETC.

Now, gentlemen, I have told you the general history of this case, and I can supplement it by some facts which strengthen his statements. First, let me say, that he has no headache, but has great muscular soreness all over the body, and winces when he is touched as if it hurt him. He actually dreads to be touched. Upon testing the cutaneous sensibility, I find that this is, really, as I have described it to you, a muscular soreness; when I take hold of the skin and pinch it there is no evidence of increased sensibility. He says that he feels it just as anybody would. The muscular soreness is less in the hands, but even in the muscles of the forearm, where as I pinch him, now, there is not much tenderness, as I press deeper pain is evoked. Muscular soreness is then very decidedly present. You see, also, that he is to a certain extent paralyzed, at least muscular movement is very much impaired. He has difficulty in taking off his coat. There is atrophy of the arms, and upon inspection, every now and then I see fibrillary contractions of the muscles, especially around the shoulder. The muscular groups, both flexors and extensors, are wasted. Atrophy of all the muscles of the arm and forearm co-exists, therefore, with this muscular soreness; this in both arms. The muscles of the hand, especially of the ball of the thumb, are deficient; while markedly sensitive they are decidedly atrophied; the interossei are less so.

He never has had headache nor giddiness; but he sleeps poorly, he says he has bad nights, and thinks that it is the pain that prevents him from sleeping. His vision is good, except that the left eye was injured by an accident some years ago. His appetite is very good, and he digests the food he takes. The bowels are opened by medicine, the salines being sufficient to keep them in a soluble condition. His tongue is white, flabby, and tremulous. He has a most thoroughly characteristic blue line on the gums; nor is the blue line confined to the teeth where it is partially obscured by the tartar, but you see a blue stain upon the lower lip upon its mucous surface. His breath, moreover, is very offensive, and the gums are spongy. He thinks himself that this condition was due to some mercury which he had taken as a purgative, but the evidence on this point is very doubtful. Indeed, the resident physician tells me that a good deal that he said when he came in about mercury and the like, was due to hallucination. The man since has been found to be subject to hallucinations.

The urine has been free from albumen; the quantity and appearance are normal. The body temperature is not elevated. Pulse is feeble and compressible, and the action of the heart distinct; the second sound is not quite so sharp as in health, the first is of normal volume.

#### REACTION TO ELECTRICITY.

Now, gentlemen, it is very evident what is the matter with this man; it is a case of most aggravated lead-poisoning with all the peculiar muscular and nervous symptoms characteristic of lead. I will finish our clinical record of the case by testing the condition of the

<sup>1</sup> Reported for the Boston Medical and Surgical Journal.

muscles with the battery; and I might add to our former observations that the muscles of the lower extremity also appear wasted as they are also sore to the touch. What do we find to be the electrical reaction? There is unusual amount of insusceptibility to the action of the faradic current; the muscles barely move under a strong current, while you perceive that it hurts him. That is in the extensor group of the left forearm. Now we are trying the biceps, which contracts a little better. It is very clear that the electro-muscular sensibility and contractility are better preserved in the biceps than in the extensor groups of arm and forearm. The right is similarly affected, but less than the left. Under a strong current the flexors of the right arm also move better than the extensors. Therefore, while the muscular contractility in the upper extremities is everywhere diminished, this is true to a less degree in the flexors than in the extensors. The same reduction of muscular action under the faradic current exists in the lower limbs, though it is nowhere completely abolished.

#### CLINICAL HISTORY OF SECOND CASE; EXAMINATION.

Let us now investigate case two, which is also one of lead-paralysis: William D., forty-one years of age. He has been a house-painter for sixteen years but never had lead colic until two years ago, but he has had it each summer since then. He is temperate. He noticed that he had lost some power in his hands last summer, and three months later he had to give up work on account of inability to use his hands. His bowels were constipated, his appetite good; upon admission he had most marked wrist-drop in both arms, more so than in the other case. He also showed atrophy, and general, though not complete, loss of power in his limbs. Notice the atrophy; there is also characteristic wrist-drop and with it wasting of the muscles, particularly of the forearm. The muscles of the ball of the thumb are almost gone, there is scarcely anything of the thenar eminence left in this hand, but there is a little more in the right; the interossei muscles do not seem to be very much affected. Muscular soreness there is none. The case differs from the preceding one also in the fact that there is no wasting of the lower extremities, which are well developed. He can kick vigorously. He says, however, that he had some loss of power in the lower limbs, though of late they have been much better; it now no longer exists. You can see the difficulty he has in making motions of the forearm, the extensor group of muscles is especially implicated. Let us look at his gums. There is a most marked blue line. He thinks that he has never had fetor of the breath; and he has no nervous symptoms; no headache, nor hallucinations, as in the man we just saw; nor is there any tremor, and he informs us that he has never observed muscular twitching.

We will now also test him with the battery. With a very strong current the extensor muscles contract, the electro-muscular sensibility seems well preserved, though he has no power in the extensor muscles, and even with a strong current we cannot make the wrist bend backwards. In the biceps the muscular contraction is good, very different from the extensor group, and in the flexors of the forearm it is good, slightly impaired as compared with the normal, but still very fair.

#### SUMMARY OF TREATMENT.

You have now seen these two instructive cases; I will indicate their treatment, reserving some remarks

upon it until afterwards. This man is employing the battery, daily, with the faradic current, on the muscles of the forearm, particularly the extensors. He is also using the iodide of potassium (ten grains thrice daily), and has been purged with sulphate of magnesia. He has also been taking strychnia now for about a week, and has already commenced to improve. He takes a thirtieth of a grain three times daily. There has been no evidence of lead in the urine, although we sometimes do find lead discharged by the kidneys after giving iodide of potassium.

The former case is also taking the iodide (ten grains three times a day), and a saline purge; he has not taken strychnia. What shall be done for the muscular pain and restlessness? I will order—

|                        |           |
|------------------------|-----------|
| ℞ Chloral. hydrat.     | gr. xv.   |
| Tinct. cannab. indicæ. | gtt. v.   |
| Syrup. tulatani        |           |
| Aque                   | aa 3j. M. |

To be taken each night, and repeated if necessary. We will not begin the battery with him for the present until we see how the muscular soreness is influenced. He shall be kept upon the potassium iodide, and occasional purges of Epsom salt.

These two cases of lead-poisoning, in one affecting principally the nervous, in the other the muscular, system, are of more than usual interest, and more than usual gravity; they present the typical symptoms about as well marked as you will ever see them. As we have considered their clinical history, and examined them fully, let us now take up the prognosis and treatment.

#### PROGNOSIS.

The prognosis in both, I think, is favorable; I believe, that both, if treatment be continued, will recover. In case number one with the great disturbance of the nervous system, hallucinations, restlessness, tremor, and muscular soreness in addition to the paralysis and atrophy, I think that a longer time will elapse before perfect recovery than in case number two; still, here, too, recovery will finally take place, and in the short time he has been in the hospital a marked amelioration is noticeable in the phenomena; although the gain in power is decided, yet he still exhibits the curious muscular trembling. His digestion is better, the bowels regular.<sup>1</sup> This case did receive some treatment prior to coming into the hospital, but in case two I do not think that there was any particular treatment, at least what it was he does not exactly know.

#### DISCUSSION OF TREATMENT.

Let us inquire into the principles of our treatment, and explain why we use certain remedies in preference to others. Both patients are taking iodide of potassium. In other respects their treatment is quite different except that both take sulphate of magnesia as a purgative. Let us first consider the points in treatment that both have in common: the iodide of potassium and a saline each morning. The reason for exhibiting the former is that this is the most powerful agent that we have to eliminate lead from the tissues; a double decomposition is said to occur, and the iodide of lead is discharged in soluble form. But it is not merely for its chemical effects upon the lead that it is so valuable, but also for its influence upon general

<sup>1</sup> A week later the muscular soreness was much diminished, he slept well, and had no hallucinations. The general improvement was marked. — KEE.

nutrition, for correcting the process of degeneration in the muscles, and removing the stiffness and soreness caused by the lead. For these reasons we find iodide of potassium valuable in other forms of metallic poisoning, even in chronic poisoning by arsenic. Whatever be the *rationale* by which it acts, it does more good than any other therapeutic agent in chronic lead-poisoning. With this view I have placed both cases upon it, and they have responded in a marked manner. That is one point they have in common. Secondly, they have in common the use of salines, sulphate of magnesia. This is indicated because in all cases of chronic lead-poisoning there is torpor of the bowels, and constipation; frequently, in grave cases, there is lead colic, and these were no exception to this general rule: one had repeated attacks, and the other had an attack while in the ward. Then, I say, the object of treatment is to keep the bowels soluble; and to overcome the constipation purgatives generally are necessary. For a long time the sulphate of magnesia has been especially valued in this connection, it has, indeed, a popular reputation as a remedy for lead colic. Whether on account of the sulphuric acid which it contains or not, it has undoubtedly good effects, and has advantages over other popular laxatives in use. At La Charité Hospital in Paris, it was regarded not merely as a laxative but also as an important agent in aiding to eliminate the lead from the system.

Now we will take up the points of treatment in which the cases differ. Chloral, at night, in case number one, on account of the state of his nervous system, his restlessness, hallucinations, and pain, which prevented him from sleeping. Partly, then, to procure rest, and partly for its effect upon the nervous system, we gave the hypnotic. In cases like number two, where the difficulty seemed more localized than in the other, where we have more wrist-drop, I rely more upon galvanism and strychnia. Now, strychnia is a particularly advantageous remedy in cases of lead poisoning, especially long-standing cases in which there exists more decided paralysis or wrist-drop. It is a remedy, I think, which has been far too much neglected. I have read somewhere of strychnia being given in as high as grain doses in lead poisoning. I confess that I was incredulous about it, but when I reflect that when the system is under the influence of one poison it takes correspondingly large doses of another poison to affect it, I am willing to maintain that if only well borne, large doses may do a great deal of good. The strychnia has been supplemented by the battery, but the strychnia does as much good as the electricity. I generally order the strychnia in granules, commencing with a thirtieth, but I have more confidence in the hypodermic use in these cases, using at first one half this dose. In these old cases the strychnia, hypodermically, does more good than when given internally. Where the paralytic affection is localized the battery is of the greatest possible use; where the disorder is general, as in case one, it is of little benefit. There is a belief that you sometimes get results from the continuous current that you cannot obtain from the faradic current, and in obstinate cases I would advise you to try both. Sometimes the muscles will react to the continuous current when they will not to the interrupted, especially when the system is under the influence of lead. It has therefore been asserted that it should be used more frequently than the latter, but where, as in the present case, the muscles react to

the faradic current, and the patient is still improving, I can see no reason for changing it.

#### PROPHYLAXIS.

With these remarks I intended to conclude our consideration of these cases, but one other point occurs to me. Suppose these men go away from here to return to their business, can we give them anything to prevent subsequent attacks? Nothing that I know of will avail except perfect cleanliness. The skin should be kept perfectly clean by a bath at the close of the day. They should live in the open air, do their work in a well-ventilated room, and stop work as soon as "the gripes" appear. It is claimed that sulphuric acid will prevent lead poisoning, and in white lead manufactories they sometimes give the workmen sulphuric acid lemonade. In practice, however, this does not so happen; indeed, sulphate of lead itself has caused lead poisoning. In point of fact, in many white lead works the use of this acid has been stopped on account of its not proving efficient. When the system is saturated with lead vapor baths may aid in getting rid of some of it through the skin by encouraging perspiration, but the essential part of the prophylaxis in a person very susceptible to the poison is to escape from the influence of the lead by a change in the occupation or surroundings.

### Original Articles.

#### IN WHAT CASES SHALL THE MEDICAL EXAMINER DECLINE TO VIEW A DEAD BODY? <sup>1</sup>

BY MEDICAL EXAMINER ALFRED HOSMER, M. D., OF WATERTOWN.

THE medical examiner forms a conspicuous and important element in that vast system of protection which it has been found necessary to establish for the community. In one of his relations to the public he is, but in no mental sense, a servant, and as such he should be willing, prompt, and obedient. With this idea in mind I have never failed to report for duty whenever a requisition has been made for my official services. Yet it has sometimes happened that after reaching the place where immediate action on my part was expected, I have been forced to the conclusion that the case in hand not being among those contemplated and provided for by the statute of 1877, I had derived no authority from that act to take cognizance of it, and have therefore declined to hold a view in the legal sense of the phrase.

For instance, one morning a police officer requested me to give immediate attention to a case which had occurred five miles away, in the district of Medical Examiner —, then absent. At much personal inconvenience I responded to the summons without delay. I found in the custody of the undertaker the body of an elderly man, who, early in the day, while in company with a friend, had died suddenly in the street. Careful interrogation failed to discover any suspicion that the death was not a natural one, and also elicited the statement that the deceased had recently consulted a neighboring physician. The fact that the death had been both public and sudden was assigned as the only reason for calling a medical examiner. Yet a little reflection will satisfy all that neither of these features in that case could be considered *per se* as proof of

<sup>1</sup> Read before the Massachusetts Medico-Legal Society.

"death by violence." Sudden deaths from natural causes are unquestioned, although their frequency has not yet been exactly determined. Their origin and relations form a subject which deserves a full elucidation before this Society. Public deaths are not likely to be unnatural ones unless they occur under circumstances which plainly show their violent character. There can be no doubt as to the nature of the fatal results that follow a social disturbance, which may exist in any and all degrees, from a simple individual assault to a riot of the largest proportions. There is no difference of opinion as to the kind of death which overtakes the victims of a disaster or awaits those who lose their lives through that agency which, with a careless freedom of language, we are accustomed to speak of as accident.

To return to the point whence this digression started, I sought the physician who had attended the deceased. On the demand of the instant he could not furnish the information I desired. He promised to investigate and report; in a very short time he wrote to me as follows: "Mr. — had a marked stenosis of the mitral valve; was moderately comfortable with care. I learn that he had been drinking hard a day or two preceding his death." Such evidence as this fully confirmed me as to the correctness of the conclusion at which I had arrived, and upon which I had acted, when, in the presence of the dead body, I had expressed the opinion that the case did not come within the province of the medical examiner. There was no duty prescribed by law that I could perform, there was no service that I was qualified to render, and, rendering none, I considered myself entitled to no compensation, and have never claimed any.

An answer to the question which forms our subject must be obtained from a careful study of the law, of which the seventh section is as follows: "Medical examiners shall make examinations as hereinafter provided upon the view of such persons<sup>1</sup> only as are supposed to have come to their death by violence."

What is a death from violence within the meaning of the statute? In a general statement it is one with the causation of which human agency is connected directly or indirectly: through default of a reasonable and necessary precaution; through neglect to secure protection against danger known to exist or to be incurred; through force, mental, mechanical, medicinal, chemical or toxic, exercised and applied either ignorantly and unconsciously, or under the impulse of excitement, without premeditation or with deliberation and improper purpose. This definition requires some explanation and limitation, and will be better understood if we constantly bear in mind the fact that the high function of the medical examiner is to assist in the detection of *crime against life*. But the location of the line which separates guilt from innocence is fixed by the provisions of statute law. Violence of death has no constant relation to legal prohibition and penalty, and is not confined to the unlawful destruction of life. In deference to the necessity and the right of self-defense the shooting of an unprovoked assailant may receive no sentence of condemnation. Yet such a death must primarily be treated as a violent one, for the true character of the deed can be determined by judicial inquiry alone, and exoneration is attained only with the verdict which concludes the inquest. On the other hand, death by violence cannot

be held to include such human agency as that, for instance, which in the form of parental indiscretion has contributed so freely to the mortality of infants. Neither can it mean those deaths which, also traced to a similar origin through what some one might have done but has failed to do in a preventive sense, are often sudden, always premature, accidental as we call them. The child who, for want of attention, is allowed to be drowned in a cistern or scalded to death in a vessel of hot water; the boy who in his carelessness falls from a tree and breaks his neck; the laborer who in perfect health and in pursuit of his daily work receives a heavy blow upon the abdomen, and three days later suddenly passes into a collapse from which he never rallies; the man of business who with hasty and unguarded steps collides with a post in the street and sustains injuries which are ultimately fatal; the victim of melancholy who wanders from home and is lost, and whose remains are found months afterwards with everything untouched except by the process of decay; those who perish by the unmistakable consequences of great natural commotions, such as thunderstorms and tornadoes; not one of these furnishes an example of death by violence in the medical examiner's sense; no one of them dies by the method provided in the easy and uninterrupted order of nature; but on the other hand they do not die through an unlawful course of action on the part of any person.

"Supposed to have come to their death by violence." The word "supposed" imparts a degree of elasticity to the section, and without being intended to exclude those cases which derive a known character from obvious violence, enables it to cover a field the contents of which, as being unexplored, would otherwise be uncertain; and in which either the rights of good personal reputation or the demands of justice require that doubts should be replaced with facts. The term in question seems, at first sight, to be a vague one; it implies a mental process, but carries no reference to the conditions which shall render that process a sound and valid one. We must believe that the word is intended to mean the average opinion of intelligent minds whose conclusions, unmixt with the elements of credulity and timidity, represent the preponderance of well-considered testimony. In addition to this, violence may reasonably be "supposed" in those cases which, though not presenting *prima facie* a suspicious aspect, cannot be proved by a very large probability to fall within the range of the operation of the natural causes of death. Whenever violence is not self-evident but only supposed, it is the duty of the medical examiner, before taking any action, to assure himself that the theory of illegal force commands a plausible support. His position is not a judicial one, yet his decisions may be final. He must judge of the applicability of the law to the case in hand. He must exercise that discretion which takes precedence of learning in the enumeration of qualities which determine the selection of candidates for office. Thus will he aid in establishing those principles upon which must be based every rule of official action, and in teaching the public to understand and accept those distinctions which are of fundamental importance, and which cannot be neglected without endangering his own integrity and dignity, and doing injury to the cause of law and order.

To the rule laid down I have in practice made an exception when a notice has been sent by a magistrate or municipal officer of high grade. I have then en-

<sup>1</sup> The italics form no part of the original law.



tered upon a medical examination without preliminary questions, and it is a curious fact that in all such instances I have found myself dealing with a kind of inverted cone, so that the further down the investigation proceeded the nearer it has come to nothing.

"Upon the view of the dead bodies of such persons only as are supposed" etc. The word "only" is here used in a strong restrictive sense, and contains the prohibition which limits the official competence and jurisdiction of the medical examiner. Unless there be a supposition of violence his commission confers upon him no authority and he is powerless.

In deciding what is the significance of the word "persons," I shall take the liberty of referring you to an instructive paper,<sup>1</sup> written in answer to the question "What constitutes the dead body of a person?" and presented to this Society at the February meeting. The conclusions to which the writer came, after careful study and consultation, interest us now only so far as they relate to what of humanity is not included in the definition of "persons," as that term is understood and accepted by those who interpret law, and explain the intent of its equivocal portions. According to the indisputable authorities whom he quotes, judicial voices all agree in the declaration that a child is not born until it is entirely extruded from the maternal body, and that, although it may have breathed at some point in the parturient passage, if it be still at the instant of complete expulsion it has never become a person; and, therefore, cannot have been the subject of such violence as the medical examiner is qualified to recognize and certify to. No child known to be dead-born can be inspected in the sense of viewing the dead body of a person. But the question at once arises as to what course the medical examiner shall pursue in the event of the discovery, through the improper disposition of the body of a child born prematurely or at term, respecting which no information can be obtained. For a portion of them, Medical Examiner Holt lays down the following rule: "It would, perhaps, only be safe to conclude that all fetuses born in the first half of pregnancy cannot live for any period, and the body of such an one cannot be considered the dead body of a person within the meaning of the law."

According to Caspar the maximum length of a fetus at the end of the twentieth week of utero-gestation is twenty-eight centimetres. The application of a metric measure will determine with sufficient accuracy whether in a particular instance the medical examiner is dealing with a person or a thing. In other words he must decline to view a fetal body unless it be more than twenty-eight centimetres long.

It appears from the report of the Executive Board for 1879<sup>2</sup> that in thirty-eight per cent. of all the views held the cause of death was found to be a natural one. Where three succumbed to violence, two yielded to nature. Can it be that in so large a proportion of the cases there was so much obscurity and mystery as to justify excite a suspicion of unlawful agency? Is it not possible that the office of medical examiner, like the drug last added to the *materia medica*, has been perverted through its application to conditions for which it was never intended? If this mistake has been committed, there was during the first few months that followed his institution an apology for the deficient

condition of our statutes. An act<sup>3</sup> of the legislature of 1878 is the first that has ever authorized any one to certify to the cause of death whenever there has been no medical attendant during the last illness. Having made a general provision, it excepts cases of violence, and refers them to the medical examiner for certification. It thereby intimates that the simple fact that a man has died without medical supervision is not a sufficient reason for demanding a view; that it does not require or even permit the medical examiner to hold one.

"But nothing herein shall prevent any medical examiner from acting as such in any part of his county." This provision forms the concluding portion of the sixth section of the law to which we owe our official being. It is simply a negation, and conveys the idea that the medical examiner has full legal liberty to exercise his office throughout his county irrespective of the district lines originally established by commissioners. Without violating any statute a physician may render professional service to every patient who seeks it, yet there is a rule of etiquette, dictated by the sentiments of honor, justice, and propriety, not to speak of the less worthy consideration of self-protection, which restrains the average medical man, and admonishes him not to interfere in work already assigned to another. This principle should guide the medical examiner in his conduct towards official neighbors. Human nature is tenacious of its lawful possessions, it is jealous and intolerant of seeming intrusion. Provoke collision and coöperation is at an end. The success of this new system will not attain the highest possible degree unless its essential instruments act in cordial harmony. We can give no better proof of our devotion to the cause which we have espoused, and to which the acceptance of our commissions has committed us, than by cultivating and maintaining among ourselves relations, not simply of mutual good-will and confidence, but of active friendship. We should adopt a policy which is rendered safe and simple by the exclusion of all doubts and questions as to propriety. Therefore I hold the opinion that a medical examiner should decline to hold a view outside of the district for which he has been appointed unless the medical examiner whose district he enters either requests to be relieved from duty in a particular instance, or is so situated that his services cannot be obtained within a period of time which is reasonable when considered with reference to the necessities of a given case.

Practice is the acknowledged route to perfection,

<sup>3</sup> ACTS OF 1878, CHAPTER 174. SECT. 1. No human body shall be buried, or removed from any city or town, until a proper certificate has been given by the clerk of local registrar of statistics to the undertaker or sexton, or person performing the burial, or removing the body. This certificate shall state that the facts required by chapter twenty-one of the General Statutes have been returned and recorded; and no clerk or local registrar shall give such certificate or burial permit until the certificate of the cause of death has been obtained from the physician, if any, in attendance at the last sickness of the deceased, and placed in the hands of said clerk or local registrar; *provided*, that in those cities and towns where local boards of health have been established, the certificate of the cause of death shall be approved by such board before a permit to bury is given by the registrar or clerk. Upon application, the chairman of the local board of health or any physician employed by any city or town for such purpose, shall sign the certificate of the cause of death to the best of his knowledge and belief, if there has been no physician in attendance. He shall also sign such certificate, upon application, in case of death by dangerous contagious disease, or in any other event when the certificate of the attending physician cannot for good and sufficient reasons be early enough obtained. In case of death by violence, the medical examiner attending shall furnish the requisite medical certificate. Any person violating the provisions of this section shall be punished by a fine not exceeding twenty-five dollars.

<sup>1</sup> Boston Medical and Surgical Journal, vol. ciii., p. 200.

<sup>2</sup> Boston Medical and Surgical Journal, vol. ciii., p. 265.

and the novitiate is terminated only by the exercise and action which constitute experience, and confer new ability. For his training and instruction, for the gratification of that sense which appreciates and enjoys the curious and the interesting, the medical examiner needs all the opportunity and all the material which his district can possibly furnish. He is defrauded and retarded in his official growth whenever that to which he alone has a claim is converted to the use and advantage of another.

The medical examiner, required to be "learned in the science of medicine," must be a physician, and is under a double obligation to be of good repute. Even if his ideas of duty are less severe than those which have found expression here, his conduct should be regulated by those principles, a strict adherence to which has made the name of medicine so suggestive of intelligence, moral worth, and public spirit.

### MOSES AS A SANITARIAN.<sup>1</sup>

BY EDWARD T. WILLIAMS, M. D.

UNDERSTANDING that a paper on circumcision was to be read at the present meeting, it occurred to me that a few brief remarks on the sanitary regulations of the ancient Hebrews might be not inappropriate. It is true I can say nothing but what every one can read for himself in the Bible, yet there may be some to whom a brief review of the subject from a medical standpoint will be interesting.

In the first place, as to the authorship of the Mosaic books, Deuteronomy (chap. xxxi.) states that Moses wrote a book of the law, and gave it to the priests, the sons of Levi, to put into the ark with the two tables of stone containing the ten commandments, and commanded that it should be publicly read every seventh year in the presence of all the people. In Joshua (chap. viii.), after the occupation of the promised land, we learn that the book was so read before all Israel by Joshua, and that a copy of it was written upon stone at the altar near Bethel by the same hand. Joshua xvii. 1 states that the whole congregation of Israel afterwards assembled together at Shiloh, and set up there the tabernacle which contained the ark, and without doubt, also, the sacred book. At any rate the book was certainly preserved, for Joshua, in his old age, twice more assembled the people together (chaps. xxiii. and xxiv.), solemnly warned them to keep and to do all that is written in the book of Moses, and also added certain words to the book. In the time of Eli, three or four hundred years after, the tabernacle and ark (1 Sam. i., ii., iii., iv.) were still at Shiloh, which had during the whole period of the judges been a place of yearly resort by the pious Israelites (Judges xxi. 19; 1 Sam. i. 3). There can be little doubt that the sacred records were there too. Shortly before Eli's death the ark was removed from the tabernacle, and subsequently captured by the Philistines. The tabernacle remained at Shiloh under the charge of the priests, and was afterwards removed to Gibeon, a place nearer Jerusalem (1 Chron. xvi. 39; 1 Chron. xxi. 29; 2 Chron. i. 3), from which it was again removed by Solomon and deposited in the temple (1 Kings viii. 4; 2 Chron. v. 5). There is no direct mention of the

books. A brazen altar, however, made under the direction of Moses by Bezaleel, the son of 'Uri, was preserved with the tabernacle at Gibeon (2 Chron. i. 5). The brazen serpent, made by Moses in the wilderness, was also preserved somewhere, probably at Gibeon, for we read (2 Kings xviii. 4) that it was purposely destroyed three hundred years after by Hezekiah. The two tables of stone were found unmolested in the ark by Solomon (1 Kings viii. 9; 2 Chron. v. 10). Is it not reasonable to suppose that the sacred books would have been guarded with equal care, and must, therefore, have been in existence at the same time? At any rate they did exist under Jehoshaphat, fourth in descent from Solomon, for he sent priests through the cities of Judah with the book of the law in their hands to teach the people (2 Chron. xvii. 9), and again, under Josiah, the same book was found in the temple by the high priest, and publicly read at the great feast of the passover (2 Chron. xxxiv. 14, 30). It was known and read by Daniel during the Babylonish captivity (Dan. ix. 13), as were also the writings of Jeremiah (Dan. ix. 2). Ezekiel (Ezek. xiv. 14) speaks familiarly of Noah and of Job. Facts which show that numerous books and probably numerous copies of them still survived. In what manner the Psalms were preserved is plainly shown in Psalm cxxxvii. How absurd, then, the idea of some skeptics that the Pentateuch was composed by Ezra, who simply carried back from Babylon at the restoration the book of the law in which he was accomplished and "ready scribe" (Ezra vii. 6, 14). From this period its history is sufficiently well known, and though there can be no doubt to the critical mind that the book as originally written has undergone alteration, revision, and interpolation, the probability certainly is that a considerable portion of it was really written by Moses himself.

How far the system of Moses was original with himself no one can say. He certainly borrowed largely from the Egyptians, as archaeology shows, a fact which strikingly corroborates the Scriptural account of his early education, and the broad historic fact of the Exodus. But from whatever source the fragments of his system may have been derived the system was his own and the Power's which guided him.

So far as we know Moses was the creator of preventive medicine, an idea thought to be peculiarly modern. We know little of the treatment of the sick as pursued by the ancient Jews. The references even to physicians as a distinct class are rare in the Old Testament. But the idea of a sound mind in a sound body, the value of physical health to the state and the individual, were profoundly felt by the Jews. The notion of promoting health by preventing themselves from becoming sick was the foundation stone of their sanitary legislation.

The foremost subject of their code was dietetics. The Jews were good feeders. They were rich in sheep and cattle, and partook liberally of fresh meat. It has been said that the greatness of England is founded on beef and beer. Undoubtedly that of the Jews was partly due to a plentiful supply of meat. The flesh of reptiles, however, of all carnivorous animals, and of swine was condemned as unclean (Lev. xi.). So also, the flesh of diseased animals or those which died a natural death. The prohibition against pork, considering the heat of the climate and its liability to be diseased, must be considered as a safe, if not absolutely

<sup>1</sup> Read before the Norfolk District Medical Society, November 29, 1881, and printed by request of the Society.

necessary provision. It was left for the youngest of the sciences, histology, through the discovery of the trichina, to fully expose to the modern world the transcendent wisdom of the Hebrew lawgiver on this point.

The laws concerning "issues" or discharges from the genital organs, both of men and women, display a similar wisdom. The word "issue" seems to be used indifferently for discharges of blood, pus, or mucus. The dangerous character of all such discharges was fully understood, and but little attempt was made to discriminate between them. All persons so affected were declared "unclean" (Lev. xv.) They were obliged to live apart, and abstain from sexual intercourse. Their clothes, bedding, and cooking utensils were also declared "unclean." Any person even touching them was obliged to wash carefully his body and his clothes. This *régime* was continued for seven days after the cessation of all discharge, after which a thorough ablution of both person and clothing was necessary before the affected individual could resume his place in society. With women after childbirth from one to two months of isolation were required. It is easy to see that these rules if faithfully carried out would be an efficient preventive of gonorrhœa. Yet we, in our enlightened age and country, dare not legislate on the subject of venereal disease, blindly refusing the protection of the law not only to the guilty victims of illicit pleasure, but to great numbers of innocent men, women, and children, who have to suffer and often to die for the faults of others. Leaving wholly out of view the humane aspect of the question, the mere pecuniary loss to the State from such defective legislation is incalculable.

The nature of the tsaraath or Mosaic leprosy has been much disputed. That it was something quite different from the Grecian elephantiasis, commonly called leprosy, of the present day is clear enough from the description given (Lev. xiii., xiv.), and from the fact of its attacking articles of wearing apparel, whether of wool, linen, or skin, and even the walls of houses. Nothing but some species of *vegetable mould* or *parasite* could possibly produce such an effect. It affected by preference the hairy parts of the body, like favus, and, like favus, caused the diseased surfaces to turn white. It also affected the hairs, like favus, causing them to turn white or yellow and thin. This affection of the hairs was the crucial test by which the priestly physician was to decide the true character of the disease, as it still is the chief point of diagnosis with all parasitic affections of the hair. It was also excessively contagious, so that it seems pretty clear that the disease must have been some species of vegetable parasite, and may possibly have been favus.

The laws concerning this disease were most strict. Every person having a suspicious eruption on his body was obliged to present himself to the priest for inspection. If it proved to be leprosy he had his clothes torn and his upper lip covered in some way to make him conspicuous, and was turned outside the camp, where he was compelled to live alone until cured. If the diagnosis was doubtful he was shut up a week or a fortnight and then reexamined. If the leprosy had not declared itself by this time he was discharged; another fact which goes to show that the disease was one of rapid progress, like a parasitic disease, and not a chronic one like elephantiasis.

Articles of clothing attacked by leprosy had also to

be submitted to the priest. If found diseased they were burnt forthwith. If doubtful they were washed, and reexamined at the end of a week, when they were either burnt or pronounced clean.

When the walls of a house were attacked the parts affected had to be torn down and carried to a refuse heap outside the city. The remainder of the wall was thoroughly scraped, the scrapings themselves being carried out of the city, and the broken places rebuilt with fresh materials. If these means proved insufficient the whole house was demolished and the *débris* removed from the town.

Modern science may have discovered simpler methods of disinfection, but certainly nothing more thorough or effective.

It remains to speak of circumcision. The origin of this rite is doubtful. It was certainly practiced by the Egyptians, but whether before the time of Abraham or not is perhaps difficult to say. According to the Bible account it was not adopted by Abraham till some time after his residence in Egypt, and may therefore have been borrowed from Egyptian usage, a notion which nowise conflicts with the statement that it was enjoined upon Abraham and his descendants by divine command. It does not appear to have been too faithfully carried out even under Moses, who, it would seem from Exodus iv. 25, even neglected to circumcise his own son, till Zipporah, his wife, thoughtfully rectified the omission. Again, it is stated in Joshua v. 2-5, that none of the Israelites who were born in the wilderness during the forty years' wandering had been circumcised, though their fathers who came out of Egypt had been. For this reason Joshua, as soon as he had crossed the Jordan, made a halt and consummated the rite upon all the people at Gilgal. The law ordained that it should be practiced upon every male child on the eighth day after birth (Lev. xii. 3).

The object of this singular rite is nowhere stated in the Bible. It probably does good in several ways.

First, the exposure of the glans penis to the air and to friction from the clothes dries and hardens its surface and renders it less liable to abrasion in sexual intercourse, and consequently to venereal ulcers. It is known that Jews rarely have syphilis, though it is an open question whether this disease prevailed among the ancients. It may perhaps have been included under those plagues of Egypt, the "botch," the "emerods," and the "scab" (Deut. xxviii. 27), with which Moses threatened the Israelites as a punishment for disobedience to the divine command. At any rate soft chancres must have been well known. I find proof of this in the account given, in 1 Samuel v., of the plague of "emerods" which occurred among the Philistines of Samuel's time after their capture of the sacred ark. These "emerods" (a corruption for hæmorrhoids) affected the "men of the city, both small and great, in their secret parts," and caused great destruction of life. The word "emerods" is certainly a mis-translation, for the description given bears no resemblance to the disease now known as hæmorrhoids or piles. If the account is true, it could hardly have been anything else than some severe species of phagedænic chancre, like the famous "black lion" of Portugal, or the "Chinese pox" familiar to Pacific Ocean sailors. Such epidemics would be largely prevented by the general adoption of circumcision.

Second, the removal of the foreskin is acknowledged to be useful as a preventive of masturbation. It not only

renders the act itself more difficult, but by diminishing the sensibility of the part and favoring the removal of irritating secretions diminishes also the propensity to the act. It is certain that this vice is a prolific cause of nervous diseases and even of insanity among Christian nations. Its effects in this direction may have been overstated by some writers, yet it is undeniably true that it often does produce the most serious results. The habit itself when fully formed, and a species of paralysis resulting from it, have in numerous instances been cured by circumcision. Hence one of the strongest arguments in its favor.

Third, it prevents the accidents of phymosis and paraphimosis, with their train of evils. Among these may be reckoned cancer, which is stated to be peculiarly common in persons affected with phymosis.

Fourth, it prevents the retention of the sebaceous secretion, and the ensuing balanitis to which many persons are subject.

Lastly, it probably promotes continence by diminishing the pruriency of the sexual appetite. It might naturally be expected that the removal of a portion of the prepuce with its sensitive nervous filaments, the blunted sensibility of the parts remaining, and their free exposure to cold air, might tend to produce this result without in the least impairing the virile power of the individual. It might further be expected to strengthen the general, and especially the nervous, system, by removing those sources of irritation which by sympathy and reflex action so often act unfavorably upon it. That it really does produce these effects is a matter of wide-spread belief. The remarkable exemption of the Jews from insanity and nervous diseases, even their general good health and longevity, may in no small degree be attributable to these causes. At any rate it is a fact that the Jews are the healthiest race in existence. They have produced the greatest men, and contributed more to the advancement of civilization than any nation known to history. However degenerate, morally speaking, some of their modern descendants may be, they certainly have not degenerated physically, a sufficient answer to the often repeated assertion that civilization tends to physical weakness, for the Jews have been longer civilized than any other highly civilized people. May we not then venture the inference that the rite of Abraham, or Moses, has had its share, and possibly a very important share, in the production of these wonderful results, and that it might perhaps be profitably imitated by other nations?

The above is a brief summary of the most important sanitary provisions of the Mosaic code. Proud as we are of the great discoveries of modern science we cannot repress a feeling of wonder at the astonishing wisdom of these old laws. We find in them much that we ourselves might advantageously copy. We are far too apt to forget the greatness of former ages in our boastful praises of the times in which we live. It is good for us to turn back now and then to cull a lesson from the past, and do reverence to the memory of the mighty dead.

—The physicians of Copenhagen lately held a meeting, when a resolution was adopted approving the proposal to hold the next International Medical Congress, in 1884, at their city, and pledging their cordial welcome and hospitality to the Congress.

## RECENT PROGRESS IN GYNÆCOLOGY.

BY W. H. BAKER, M. D.

### TREATMENT OF UTERINE FLEXIONS.<sup>1</sup>

The author agrees with Dr. Hewitt that, in cases of acquired flexion, an unhealthy condition of the uterine tissues, "undue softness," connected probably in a large proportion of them with general malnutrition, is the condition antecedent to the bend, and he thinks a recognition of this to be primarily important in the treatment. The necessity for treatment depends rather upon the amount of obstruction occasioned by the flexion than upon the amount or form of the flexion itself. In cases of retroflexion, if there be no exudation or active inflammatory action present, he would replace at once and adjust a pessary, even if endometritis exist, which he has found to disappear gradually as the uterus is kept in a normal position. In cases of antelexion uncomplicated, he advises the frequent careful passing of graduated bougies during the intermenstrual period, not using them, however, within ten days of an expected menstruation.

### LACERATION OF THE CERVIX AS COMPARED WITH COMPLETE INTERNAL DIVISION OF THE CERVIX.<sup>2</sup>

In considering the extent of this lesion, which is followed by changes requiring, sooner or later, treatment by surgical interference, the author advances the statement which we have so often insisted upon, namely, it is only when the laceration is lateral and extends beyond the crown of the cervix upon one or both sides that evil consequences follow. Among the factors which derange the circulation of the uterus while undergoing involution, he gives prominence to open lacerated wounds of the cervix extending entirely through the cervical wall. He shows how the lips of the cervix are forced apart by the superincumbent pressure, the womb finally resting upon the inner surfaces of the everted lips. This gives rise to influences which bring about ulceration and areolar hyperplasia. No such conditions or influences are present in the division of the cervix, for then the uterine structure is healthy, the weight of the uterus is not increased, and the constant tendency of the divided surface is to unite by first intention. It is often with the greatest difficulty, in fact, that such union is prevented. The author concludes as follows:—

I. Parturient laceration of the cervix occurs in a womb whose tissues are in a state of fatty degeneration, and therefore have no tendency to heal.

Division of the cervix is performed upon a womb whose tissues are in a perfectly normal state, with an almost insuperable tendency to heal.

II. Parturient laceration interferes with a physiological function of the womb, namely, the process of involution.

Division of the cervix interferes with no function of the womb, but on the contrary facilitates the performance of one of its most important functions.

III. Parturient laceration occurs at a time when the weight of the womb is so great as to force the divided lips apart by pressure against the posterior vaginal wall, and so to prevent healing.

Division of the cervix is performed while the womb

<sup>1</sup> By Henry Gervis, M. D., F. R. C. P., British Medical Journal, June 25, 1881.

<sup>2</sup> By Virgil O. Haddon, M. D., American Journal of Obstetrics, July, 1881.

is normal in weight, and therefore the divided surfaces remain in apposition, and will heal as far as they are allowed to by the physician.

IV. Clinical experience shows that parturient laceration is productive of a long train of distressing symptoms.

Clinical experience shows that division of the cervix produces no injurious effects if properly done; but, on the contrary, completely and permanently relieves a very painful and persistent disease.

#### INFLAMMATION OF SKENE'S DUCTS AS A CAUSE OF VAGINISMUS.<sup>1</sup>

Dr. Skene calls attention to a case in his practice where inflammation of the two small ducts on each side of the meatus urinarius was the cause of vaginismus, which yielded to simply slitting open the ducts from within outwards, and applying a bit of cotton wet with iron to prevent them from uniting.

#### REMOVAL OF THE UTERINE APPENDAGES.<sup>2</sup>

The author reports an oöphorectomy. The patient was one for whom he had previously aspirated, by the vagina, an abscess of the right ovary, evidently occasioned by a sponge tent left for nine days in the uterine canal. Two years had elapsed since the aspiration, when, among other symptoms, the rise of temperature at night and the night sweats led him to suspect the presence of pus somewhere about the pelvis, although no fluctuation could be detected. An exploratory incision was therefore made through the abdomen, and the pelvis was found roofed over by adherent coils of intestines, which were lifted with much trouble. Below these the whole of the organs were matted together, and their identification was a matter of the greatest difficulty. He finally succeeded in recognizing the right Fallopian tube, distended into a cyst, with greatly thickened walls, and full of pus. Below it and immediately adherent to it lay the ovary, as large as an orange, and containing some old cheesy matter,—the remains, probably, of the abscess tapped more than two years before. The uterus was bound down in the cul-de-sac by old adhesions, and from these he relieved it. He found the left ovary adherent below the fundus, and from it the left Fallopian tube ran a circuitous course, like a sausage in appearance, and adherent to the brim of the pelvis, the uterus, and a piece of small intestine. It contained about two ounces of pus. Both ovaries and tubes were removed, the latter being cut off close to their uterine attachments. The hemorrhage during the operation was very troublesome, but was controlled by sponge pressure. The patient recovered without a bad symptom, and is perfectly free from pain for the first time since the incident of the sponge tent. The uterus is perfectly free, and any movement of it gives no pain.

If cases with so extensive adhesions can be successfully operated upon, it certainly opens a new field for the treatment of many of those hitherto regarded as most intractable.

#### "ON REMOVAL OF UTERINE APPENDAGES FOR THE ARREST OF UTERINE HÆMORRHIAGES."<sup>3</sup>

In a paper read before this Society, the author, Mr.

<sup>1</sup> Transactions of the Obstetrical Society of New York, American Journal of Obstetrics, July, 1881.

<sup>2</sup> By Lawson Tait, F. R. C. S., British Medical Journal, May 14, 1881.

<sup>3</sup> Report of the Royal Medical and Chirurgical Society, London Lancet, May 28, 1881.

Lawson Tait, stated that his experience had shown that the removal of the ovaries was not a certain method of arresting menstruation, while removal of the tubes as well as the ovaries seemed to be so. He cited thirty-one cases, twenty-seven of which recovered from the operation and four resulted fatally. The following conclusions might, he thought, be legitimately drawn from them:—

(1.) So far as its primary results are concerned, removal of the uterine appendages for the arrest of intractable uterine hæmorrhage is an operation quite as easily justified as any of the major operations in surgery.

(2.) So far as its secondary results are yet known, it is an operation which yields abundant encouragement for its further trial.

As a conclusion indicated but not wholly proved, he thought he might formulate a statement that removal of both tubes and ovaries was necessary to the immediate arrest of menstruation.

#### SOUNDING THE URETERS.<sup>4</sup>

In the Gynecological Section of the Congress of Naturalists at Salzburg, Dr. Rawleek describes his new method of sounding the ureters without preparatory operation. The value of determining their position is shown by the frequent wounding and ligating they undergo in laparotomies and in extirpations of the uterus. In the latter operation for carcinoma it is only possible to cut away all suspicious tissue when the position of these canals is known. He therefore looked about for a method simpler than those of Tschann and Simon, and, after long and patient experimentation, he found it. He depends upon the fact that the trigonum is more or less plainly marked out by the folds on the anterior vaginal wall. The woman is placed in the knee-elbow position, and the perineum retracted by Simon's or Sims's speculum. The air fills the vagina and stretches the anterior wall. From the little prominence which ordinarily marks the end of the urethra two sets of folds pass off right and left at an obtuse angle. These are crossed higher up by ridges running laterally. The triangle formed by these ridges corresponds to the trigonum, and the openings of the ureters lie in the direction of these folds. With the sound in the urethra it is possible, by pressing the knob against the vesico-vaginal septum, to follow its movements, and usually it has been easy to find the openings of the ureters in the direction of these folds. A peculiar feeling teaches one after a little experience when one is in the ureter. The author has in this way sounded fifteen women, sometimes easily, sometimes with more difficulty. He avoids passing the sound beyond the point where the ureter bends out of the small into the larger pelvis, because it might be perforated or too much stretched. Practically this method might be of use in stenosis of the ureters when not above the lesser pelvis, and the question whether eclampsia is caused by compression of the ureters might be solved. It might also serve in the diagnosis of one or double sided kidney disease, and in the treatment of diseases of the ureters and pelvis of the kidneys. He cites a case where severe cramps were cured by sounding the ureters. A thick plug of mucus followed the probe from the right side, which had evidently caused retention.

<sup>4</sup> Centralblatt für Gynäkologie, No. 24, 1881.

## Hospital Practice and Clinical Memoranda.

### MASSACHUSETTS GENERAL HOSPITAL.

SERVICE OF DR. H. J. BIGELOW.

CASE REPORTED BY DR. WILLIAM D. HODGES.

*Radical Cure, without Operation, of a Large and Inflamed Umbilical Hernia, of Seven Years' Duration, and Irreducible for Two Months before Admission to the Hospital. The Hernia was slowly reduced by Compression with Adhesive Straps, and the Cavity of the Inverted Integuments Obliterated by Blistering during a Period of Six Months.*

Mrs. B., Irish; thirty-two years of age; strong and healthy; weighs two hundred and thirty pounds. Seven years ago, after a third confinement, she discovered a slight swelling at the umbilicus, which increased in size until it became necessary to wear a binder to keep the protrusion in place. During warm weather the patient was in the habit of throwing off this binder, and there followed a constant increase in the size of the swelling. Two weeks before her admission to the hospital the tumor became painful, and its under side was ulcerated from chafing.

November 4, 1880. On admission the tumor was of the size of a child's head, and its whole mass was red and inflamed. Manipulation caused nausea. There had been vomiting for five days before entrance, and no movement of the bowels for three days. After etherization only a small portion of the tumor could be reduced by Dr. Bigelow. The remaining part, which hung down toward the pubes, was then supported by charpie placed beneath it, and compressed and held in position by adhesive plaster. A poultice was applied over all. Temperature 102° F.

November 8th. The hernia was again in part reduced by Dr. Bigelow, causing a slight amount of pain, and the strapping with adhesive plaster was renewed. The tumor was now about the size of a large apple. The bowels spontaneously moved at this time, seven days after the first symptoms of strangulation. Temperature normal.

November 14th. Pressure was applied upon the mass of skin and its contents by means of a large cork with a convex surface held firmly in place by adhesive plaster and a swathe.

November 21st. The integument of the sac was puckered. It was of a dark color, but there was no tenderness or lack of sensation. The discoloration was probably due to ecchymosis from tight strapping. Examination revealed two distinct rings: a large one in the place of the umbilicus, at its side a smaller one which appeared to be directed toward the larger ring.

November 29th. (Twenty-five days after entrance.) The sac has become invaginated, and the depression which occupies its place will hold an ounce and a half of water. The larger ring readily admits the forefinger. There is some tenderness.

December 2. Tincture of Cantharides was injected into the cavity formed by the invagination of the sac, in order to blister the surface and cause its adhesion.

December 18th. Liquor ammoniac (fort.) was injected and allowed to remain for several minutes.

December 26th. Tincture of iodine (one part to eight of water) was injected.

January 3d. The sac has lost its former tendency to protrude when the pad is removed.

January 21st. Considerable suppuration from the invaginated surfaces, and much pain.

February 8th. Liquor ammoniac (fort.) again injected. The invaginated surfaces of integument appear to be growing together.

March 1st. (One hundred and sixteen days after entrance.) Granulations are seen at the neck of the inverted sac.

March 19th. Liquor ammoniac (fort.) injected.

April 13th. Interior of the inversion touched with nitrate of silver. A sinus still admits a probe or port-caustic.

May 15th. A large, tight-fitting truss was applied over the ring.

May 25th. (Two hundred and two days after entrance.) The patient sits up for a short time. There is no tendency in the hernia to protrusion. The cavity formed by the invagination of the sac is entirely obliterated.

June 1st. The patient walks about the ward.

June 6th. (Two hundred and fourteen days after entrance.) Discharged well, although directed to wear the truss at present as a matter of precaution. The obliterated sac has evidently formed a pad upon the inside of the abdominal wall which occludes the umbilical ring.

## Reports of Societies.

### NEW YORK SURGICAL SOCIETY.

STATED meeting, NOVEMBER 8, 1881. DR. SANDS, president, in the chair.

A MODIFICATION OF LISTER'S ANTISEPTIC DRESSING.

DR. JAMES L. LITTLE read a paper on the above subject, first directing attention to a paper which he published in the American Clinical Lectures for 1878, Vol. III., No. 11, on Lister's antiseptic method of treating surgical injuries. He there called the attention of the profession to a modification of this procedure which he had been using in the treatment of simple wounds, especially those of the hands and fingers. He had since continued its use, and had found the results in a large number of cases so satisfactory that he had deemed it of sufficient interest and importance to justify his calling attention to it again in a short paper. Although having full confidence in Mr. Lister's antiseptic method he, like many others, had long recognized a great difficulty that was encountered by the general practitioner in attempting to carry out the minute details of the dressing, and he had for a long time hoped that a more simple method, equally efficacious, might be devised. Dr. Markoe's "through drainage" was a decided step in that direction, antiseptic in character, simple, and successful in results. It was, however, appropriate only where drainage was necessary, and simple and efficient as it was it required a certain degree of attention which, while easy for a hospital surgeon, was not sufficiently so to guarantee its extended use by the general practitioner. Dr. Little then directed attention to the difficulty in procuring good antiseptic gauze to be used in Mr. Lister's dressing, and also directed attention to observations made by Dr. R. F. Weir to the effect that even when the gauze was well wrapped up in rubber cloth it

would deteriorate in a few months. He had noticed several times that the gauze used in surgical operations had no odor whatever of carbolic acid, although it had just been purchased from a responsible store.

During the last six years he had been using the following simple antiseptic dressing in small injuries, such as those inflicted by machinery, cog-wheels, and the like. Having put the parts in a condition for dressing, he washed the wound in a solution of carbolic acid, of a strength of one to twenty, then covered the parts with a thick layer of borated cotton, and then snugly and evenly applied a simple bandage, the plain, uncarbolized cheese cloth usually being used. The patient was instructed to keep the dressing wet with a solution of carbolic acid, of a strength of one to one hundred. He usually employed Squibb's solution of impure carbolic acid, of a strength of one to fifty, and diluted it with an equal bulk of water. The parts should be kept at rest, and the dressings be left undisturbed for several days unless there was pain, rise of temperature, or discharge through the dressings. Those conditions were always to be regarded as indications for redressing. In many cases where rubber drainage tubes had been used they might be removed at the second dressing, and if catgut had been used for sutures a second dressing might be allowed to remain for an indefinite period. In a number of cases of lacerated wounds he had allowed the first dressing to remain until the wound had entirely healed. He had treated nearly three hundred cases of open wounds in this manner, and not one of this number had been followed by inflammatory symptoms. Extensive lacerated wounds had healed, and dead tissue had sloughed away without giving rise to any of the so-called symptoms of inflammation. In no case had there been reddening of the skin along the course of the lymphatics or tenderness of the glands, and no counter-opening had been necessary. Anodynes had not been needed save in a single case, and then for only a single night to control slight restlessness. Recently he had used this modified dressing in St. Vincent's Hospital in a case of amputation of the leg. The method of amputation was that by lateral skin flaps and circular incision through the muscle. All the details of Lister were employed except the spray. Catgut was used for ligatures and sutures. Short drainage tubes were placed in the anterior and posterior angles of the wound. After the wound was washed with a solution of carbolic acid, strength one to twenty, it was dressed with several layers of dry borated cotton, and the gauze bandage applied. The outside dressing was kept constantly wet with a solution of one to forty of carbolic acid. Four days after the operation there had been no unfavorable symptoms, and on removing the dressing the cotton was found not to have been wet through by the carbolic acid lotion. The layer in immediate contact with the wound was saturated with a watery discharge. The wound was perfectly aseptic. Eight days after the operation the dressing was removed, and the wound was entirely healed except at a small point at the lower angle. The value of cotton-wool as an antiseptic dressing, he thought, was not fully appreciated by the profession. M. Guerin, of Paris, in 1872, and since then Mr. Gamgee, of Birmingham, England, had called attention to its great value. Used in the way he had indicated it seemed to Dr. Little to be as perfect an antiseptic dressing as gauze and other materials recommended by Mr. Lister, while at the same time it was free from all of the objections that per-

tained to the latter, and which materially prevented its use by the general practitioner. If applied in sufficient quantities around an open wound it protected it thoroughly from the "floating matter of the air," which was supposed to be the real cause of suppuration. It was the best germ filter known, as had been proven by Tyndall.

Dr. Little uses borated cotton containing fifteen per cent. of boric acid, keeping it wet externally with a solution of carbolic acid, which renders it more surely antiseptic. Full precautions to render instruments, sponges, and the hands of the surgeon antiseptic should not be neglected, and drainage tubes, if necessary, should be used. Catgut or torsion should be used to arrest hemorrhage. The spray might be resorted to if thought necessary. The borated cotton remained unchanged for months. The fact that this dressing need not be made oftener than once in several days especially recommended it to the country physician. At the second dressing he usually applied carbolized oil to the surface of the wound to facilitate removal of the cotton. He had used this method of dressing in one case of compound fracture, and although the case had not yet terminated, it seemed to be doing as well as it would under full Lister dressing.

Dr. MASON had used salicylated cotton covered with an ordinary bandage, and had been as much gratified with the results as with the regular Lister dressing. He had used ordinary cotton in two cases of amputation, one did well and the other not. He had also used salicylated cotton in two cases of removal of the breast; in one case the wound was healed in four days, and on the twelfth day the patient was about the house. Eight months afterwards the other breast was removed for the same disease—cancer—and the wound healed as rapidly as did that after the first operation. He had had the same result after the removal of a large, fatty tumor of the back, but in all of these cases he first applied a protective—a piece of oiled silk—to prevent the cotton from adhering to the surface of the wound. He did not keep the parts wet with carbolic acid, but simply washed the wound with a solution of carbolic acid, and then applied the dressing.

Dr. L. A. STIMSON thought that the results obtained by Guerin's dressing could not be used as an argument in favor of the antiseptic Lister dressing, because the two differed radically in their methods. The Lister aimed to keep the wound absolutely aseptic, while with the Guerin dressing putrefaction of the discharges was invariably present, and its value depended upon other factors. Not a few attempts had been made to simplify the Lister antiseptic dressing, and one which resembled Dr. Little's quite closely was that used by Verneuil in the treatment of compound fractures and amputation wounds, and consisted of purifying the wound in the first place, then covering it with a thin layer of material charged with an antiseptic agent, and over the whole was placed a thick layer of cotton, forming almost the permanent dressing adopted by Heuter. Dr. Stimson regarded it as probable that in the treatment of a wound the essential thing was to purify it before any dressing was applied, and afterwards the character of the dressing employed was of a somewhat secondary importance, provided only that there was free discharge for the secretions, and that the wound was left comparatively undisturbed.

Dr. A. C. POST had treated open wounds, where he was unable to use Lister dressing, by applying lint

soaked in carbolic oil and securing it with a bandage. He had found that wounds dressed in this manner could be left for many days without either suppuration or irritation ensuing.

DR. LANGE asked Dr. Little if he had observed carbolic acid poisoning in any of his cases.

DR. LITTLE replied that he had not. He had not seen any inconvenience whatever from its use. He had seen only one case of carbolic acid poisoning after the use of Lister's method, and that was in a large wound. The wound, however, healed almost entirely by first intention. It was washed out freely with a solution of carbolic acid.

DR. LANGE said that he did not refer to poisoning after washing out wounds with carbolic acid, but to that produced by keeping the skin constantly wet with carbolic acid.

DR. LITTLE remarked that in the case of amputation which he reported the dressings next the skin were not wet, but in all the other cases, as a rule, the solution penetrated all the dressings. He had tried the dry dressing and had found it painful in several cases, and the patients had gone back voluntarily to the moist dressings which had been kept on until the granulations were well established, and no unfavorable results had followed.

DR. LANGE remarked that he had seen unfavorable results following the application of disinfected jute which was constantly kept wet with carbolic acid. At the clinic in Kiel poisoning to a slight degree by carbolic acid was a very common occurrence, and there was scarcely a case of large wound dressed with carbolic dressings in which there were not some symptoms of slight poisoning. In small children he regarded such toxic effects as very dangerous.

DR. MARKOE remarked that he had had the question of carbolic acid poisoning before his mind for a long time, and especially in connection with his plan of through drainage. In that plan the internal parts are kept constantly wet with carbolic acid, usually with a weak solution, and he had not yet seen a case of poisoning produced by it. On the other hand, in cases treated in such a way that the surface of the skin is kept constantly exposed to the carbolic acid, its use had been followed by toxic effects. From these facts he had come to conclude that the chief danger in the use of carbolic acid arose from the application of the agent to the skin, and that the application of it to wounded or granulating surfaces was comparatively innocuous. He asked for the experience of the members of the Society in that direction.

DR. LANGE referred to experiments performed by Hueter, in which the application of wet dressings with carbolic acid solutions to the skin was soon followed by appearance of the acid in the urine and that the degree of absorption depended upon the quality of the skin. In children absorption took place very quickly. He thought that perpetual contact of the skin with carbolic acid was more apt to give rise to poisonous symptoms than when carbolic acid was injected into drainage tubes in through drainage; for, in the latter, the solution to a very great extent drained away and there was only a temporary contact with the wound. He had tried the borated cotton somewhat extensively and in large wounds. He had never applied it directly to the surface of the wound, as he did not any cotton dressing, because it adhered to the surface of a fresh wound, and was difficult to remove. He always first applied

layers of gauze, and then used the cotton as a kind of padding. He thought that the borated cotton was not so completely deodorizing as salicylated cotton. He had seen several wounds where a copious discharge occurred and where there was a kind of disagreeable odor that occurred after the use of borated cotton within a comparatively short time. Despite that, however, he had in a number of cases left the dressing for weeks even. He believed that the ultimate result after every wound was very much influenced by those procedures to which it had been subjected at the time of the operation or immediately after the operation, and that altogether it was rather insignificant as to what kind of antiseptic dressing was subsequently applied. Of course to a certain extent from those wounds which had a large suppurating surface absorption of decomposed secretions might occur and produce a bad effect, but in a case where there had been union by first intention to a great extent, as was in these days usually secured, it was rather an insignificant matter whether the subsequent dressings were kept entirely without decomposition or not. So far as he had been able to determine the wounds in Dr. Little's cases, many of them healed by first intention, and he thought that it could be accepted that all such wounds did very well under almost any dressing. He thought that a better test of the value of the dressing would be obtained in cases of large wounds in which union took place largely by granulation.

DR. LITTLE remarked that in most of his cases the wound healed by granulation.

DR. LANGE remarked that if the wound was actually healed in the deeper parts and only a small granulating surface left it was not so apt to become affected by the poison. In reply to a question he said that he had not seen any injurious effects follow the use of the borated cotton.

DR. POOLE said that the objection to the cotton on account of its adhering to the surface of the wound could be overcome by using picked lint. With reference to poisoning from carbolic acid following its injection into drainage tubes, he had used through drainage in excision of large joints in five cases, and had not seen any unfavorable results.

DR. STIMSON in reply to Dr. Markoe's question referred to a case in which he had removed a portion of bone from the elbow joint. The wound was offensive, and it was washed out four times a day with a solution of carbolic acid, and between the washings the dry Lister dressing was employed. On the fourth day there were distinct evidences of carbolic acid poisoning. The urine was green, the temperature was lowered, and the pupils were contracted. The temperature subsequently fell to 92.5° F., the pupils contracted to pin-holes, and the respirations were reduced to six in number. The patient, however, rallied nicely and made a good recovery.

DR. MASON had had some experience in the use of through drainage; had employed a weak solution of carbolic acid, and had not seen any poisonous effects follow its use.

DR. LANGE remarked that slight degrees of carbolic acid poisoning could be easily overlooked. There were many patients who in the first days after the operation suffered from gastric catarrh and from headache, and in whose urine carbolic acid could be detected, although it had not produced any change in the color of the urine. Sometimes the color of the urine



was changed only after it had been exposed to the air a number of hours. Headache and gastric catarrh were of very common occurrence in such cases and persisted longer than they usually did when due simply to the effect of the ether or chloroform. Besides, the power to resist the action of the poison varied in different persons.

Dr. BRIDGEMAN thought that the benefit derived from the Lister dressing depended upon the infrequency with which it was applied, thus avoiding disturbance of the parts involved in the operation or injury. He thought that symptoms of carbolic acid poisoning were more apt to be produced when a weak solution was used than when a strong one was employed. He thought that strong injections of carbolic acid would be apt to produce a cauterizing effect, and in that way prevent absorption. He had noticed that carbolized oil, one to twelve, when applied to the skin produced a good deal of irritation and destruction of the superficial epidermal layers. A much weaker solution answered all practical purposes. With reference to the absence of odor in the antiseptic gauze referred to by Dr. Little, he thought that in many fresh samples produced at the stores no odor could be detected, and yet the article was efficient. The odor of carbolic acid could not be detected in any recently prepared gauze, no more than it could be in carbolized oil. He believed that the objection urged by Dr. Lange to the use of cotton on account of its adhering to the surface of the wound did not hold good, as it was improper to attempt to remove the cotton until it was loosened by the discharges. He believed that the less wounds were dressed the better would be the progress made in them. Any means which did away with the necessity for frequent dressings contributed to antiseptic and to the healing process.

Dr. LANGE believed that the longer the cotton remained in contact with the wound the firmer it became united with the granulations and the more difficult it was to remove, and when removed small hemorrhages were liable to occur. All of that could be prevented by first applying several layers of gauze.

Dr. LITTLE remarked that he had had but little trouble in removing the cotton, the parts being kept wet, and besides the carbolic acid gave rise to a watery discharge which facilitated its removal. After the first dressing the cotton usually adhered to the surface of the wound, but before attempting its removal he always had it well soaked and then had experienced no special difficulty. After granulations had appeared it had been loosened by the slight discharge and was nowhere adherent except at the edges of the wound, and there on account of the drying of the secretion.

Dr. MARKOE said that it might be interesting to refer to some experience dating before the days of antiseptics. Barron Larrey, in the Egyptian campaign, gives his experience in connection with operations performed far away from the basis of supplies, in the desert, where he was obliged to dress the wounds of the French soldiers, and then send them to Alexandria and different places on the coast. They were removed, and necessarily without much care, and he subsequently found that many of the cases of trephining and of compound fracture, amputations, and operations of various kinds had been without dressing for many weeks, and that while some of them were exceedingly foul and filled with maggots, he was astonished to find how perfectly well they all had done. Perhaps there

was something in that experience which, to a certain extent, had been overlooked.

Dr. LITTLE remarked that before using the dressing which he had described in his paper he used dry picked lint, and the wounds did very well, but there were constant exceptions. Under the dressing recommended he had not found any cases in which the wounds did not heal without signs of inflammation.

Dr. SIMMONS thought that we could hardly speak of cotton or lint when kept moist as an air-filter.

Dr. HUTCHISON said that for several years he had dressed finger wounds with a very weak solution of carbolic acid — a drachm to a quart, that is, 1 to 250. Pieces of lint were saturated with the solution and wrapped about the finger, covered with a cot of oiled silk, and the patient was directed to remove the cot and wet the dressing three or four times a day. For larger wounds he had used instead of cotton pieces of oiled silk dipped in the above solution of carbolic acid, laying them over the wound and covering it with oakum and retaining it with a bandage. This dressing was not disturbed until it was absolutely necessary, and in the majority of cases it was not disturbed until the wound had entirely healed. He had always had the impression that carbolic acid had been used unnecessarily strong. In 1867 he saw it used by Maisonneuve in the wards of the Hotel Dieu, in Paris, and soon afterwards it was used by Mr. Lister. Subsequently he asked Dr. Squibb to ascertain how weak a solution would preserve meat, and it was found that meat was perfectly preserved in a solution of the strength of 1 to 250, that is, a drachm to a quart. Dr. Hutchison then began to use a solution of that strength and had continued to employ it ever since. He had used it extensively upon the surface of large burns involving as much as one half the entire body. His method had been to saturate lint in a solution and apply it over the burn, and the effect had been to almost instantaneously relieve the suffering of the patient, and he had not seen carbolic acid poisoning following its use. Its local effects are anæsthetic and antiphlogistic as well as antiseptic. He had not seen toxic effects produced by this weak solution except in one case, that of an abdominal abscess where there was a large cavity. After the discharge of the pus the cavity was injected with the solution, all of which was not removed. In that case carbolic acid poisoning occurred. But he supposed that it was due, however, to the fact that the solution used was so weak. A solution of a strength of one to twenty was quite caustic, and absorption would not be so likely to occur as after the use of the weaker solution. The oakum dressing in his hand had proved very satisfactory. Its good effects are due to the carbolic acid, creosote, and various empyreumatic oils contained in the tar in the oakum.

Dr. BRIDGEMAN, on bearing upon the action of the carbolic acid upon the skin, referred to a case of confluent small-pox, in which, to destroy the odor, the patient was anointed from head to foot with carbolized oil, of a strength of one drachm to eight ounces. The patient recovered, and did not exhibit any symptoms of carbolic acid poisoning.

Dr. LANGE doubted whether a disposition to absorption was very great in cases where the skin had been elevated, and the secretions laid between the epidermis and the cutis.

Dr. BRIDGEMAN thought that absorption could take place in these cases as evidenced by the rise of tem-

perature which usually occurred at about that period in the disease.

DR. SIMMONS referred to three fatal cases mentioned by Langenbeck, in which carbolic acid poisoning took place from washing the body for the cure of scabies. Only one washing was made, and the strength used was one to forty.

DR. LANGE remarked that it had been stated that assistants and nurses were poisoned by constant contact with the spray.

DR. POST asked if any instance of carbolic acid poisoning were upon record in which carbolized oil had been used. He had used Dr. Markoe's plan of through drainage quite extensively, and had not seen any cases in which toxic effects had been produced.

THE PRESIDENT said it seemed to him that two questions were suggested by the paper: one was the cause of the success which Dr. Little had obtained with the dressing advocated, and the other the value of this as a substitute for Lister's dressing in the treatment of wounds. With regard to the *modus operandi* of the dressing, he thought it had been shown that whatever of success had been obtained could hardly be ascribed to the boracic acid, inasmuch as the boracic acid was in contact with the wound for so short a time, being washed out by the carbolic acid solution. Neither could the success be ascribed to the action of the cotton as a filter, for when the cotton became wet it lost its power in this respect. He thought it might be a question whether success was not largely due to the infrequent renewal of the dressings, and to their being saturated with a solution of carbolic acid. With reference to the substitution of this mode of dressing for that used by Lister, he should hardly be willing to recommend it without further testimony, as the wounds treated were not such as would test the efficacy of the method. If such a dressing were found to insure success after major amputations or operations for the removal of large tumors, he thought its claims to superiority would be acknowledged.

DR. POST remarked that lacerated wounds of the fingers were frequently followed by suppurative.

THE PRESIDENT remarked that in his experience they usually did well under any ordinary dressing. He further remarked that the known poisonous properties of carbolic acid, and its tendency to keep up suppuration and retard the healing of wounds would stimulate surgeons to seek for some substitute for it.

Within the last few months he had been much interested in the use of iodoform as an antiseptic dressing. His attention was called to its use about six months ago in a German journal, where he read that iodoform had been proposed by Dr. Mosetig-Moorhof as an antiseptic dressing in gangrenous and unhealthy ulcers. It was claimed that the application of iodoform changed the character of the ulcers, and promoted speedy cure. He began its use in the Roosevelt Hospital, and was pleased with its action. During his recent visit to Vienna he saw the agent used in Billroth's clinic, and had since adopted it. The method of application varied in different cases. In wounds which had a surface which could not be covered, such as that left after extirpation of the tongue, iodoform was simply dusted on the wound with an ordinary dredging-box. In the treatment of amputations and of large wounds generally, as well as small ones, the mode of procedure was the following: The wound was freely irrigated with a solution of carbolic acid during the operation, a drain-

age tube was inserted, and after being closed with sutures the wound was covered with about six or eight pieces of cheese cloth upon which had been sprinkled a quantity of iodoform sufficient to cover it; over this gauze was placed a large quantity of ordinary absorbent cotton, then a piece of oiled muslin, and finally a gauze bandage. That was the method which had been employed in Billroth's clinic during the present year, and the results, it was stated, had been excellent. Dr. Sands had had good success with it in two amputations, in several compound fractures, and in a number of lacerated wounds of the hands and feet. The iodoform seemed to act as a deodorizer quite as well as carbolic acid, and he had witnessed no ill effects from its use. It had been claimed for iodoform dressing that although iodine was absorbed, and appeared in the urine, no ill effects ensued, and that the method was free from the dangers which attended the use of carbolic acid.

DR. G. A. PETERS had treated lacerated wounds of the hands and feet with good results by the use of lint saturated with laudanum, and changed but seldom.

DR. MASON said that the surgeons at Charity Hospital at one time used iodoform in the treatment of all sloughing venereal sores, and with good results.

DR. MARKOE said that he had used iodoform with great freedom, and without bad consequences.

The Society then proceeded to the transaction of miscellaneous business.

## PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. W. SWAN, M. D., SECRETARY.

BILATERAL LACERATION OF THE UTERINE CERVIX, OF FIVE YEARS' STANDING, COMPLICATED WITH PROCDENTIA; RECOVERY.

APRIL 9, 1881. Paper on Bilateral Laceration of the Uterine Cervix, read by DR. BIXBY. Reserved for publication.

DR. STEDMAN inquired why the operation performed by Dr. Bixby was preferable to amputation and uniting the edges of the mucous membrane over the stump.

DR. BIXBY replied that the cervix was very large and the lacerations deep.

DR. BOARDMAN asked Dr. Stedman what advantage there was in amputation.

DR. STEDMAN replied to [Dr. Boardman] that there was plainly no advantage in Dr. Bixby's case, but that in a case of his own where there was plenty of room, and especially in case of elongated cervix, there was a gain in the simpler procedure.

DR. BOARDMAN said he did not believe in elongated cervix, the so-called elongation being apparent rather than real, and due to a telescopic dragging out of the parietal tissues around the cervix as the uterus becomes thrust into the cavity of the vagina.

DR. BOARDMAN also took exception to the method by amputation, believing it to be better practice to restore the parts to their normal relation, and so to avoid the risk of future miscarriage and other ills known to be incident to the condition resulting after amputation of the cervix.

DR. BOARDMAN stated that he had formerly considered silk sutures good in cases where there was little tension, but the result in a recent case had convinced

him that they cannot always be relied upon in such cases.

Dr. BIXBY stated that he had used catgut in one case and had never looked at his sutures again, — these had been left to take care of themselves. The union was perfect and the woman had subsequently given birth without accident.

#### THE NECESSITY OF USING THE LONG NOZZLE IN MAKING INTRA-UTERINE INJECTIONS AFTER CONFINEMENT.<sup>1</sup>

A paper was read by Dr. FORSTER at the preceding meeting.

Dr. Forster stated that the carbolic solution referred to as having been used in the case first detailed was of the strength of about five per cent.

The discussion on this paper was adjourned to the present meeting.

Dr. FORSTER reiterated his firm belief in the necessity of using the long nozzle, in intra-uterine injections. He had used carbolic acid, but on account of the possibility of the acid not being dissolved by the water, and thus perhaps accounting for some fatal cases, he should in future use permanganate of potash, or thymol, the objection to the expense of the latter being met by the relatively small quantity necessary for disinfection. During the past winter he had used large quantities of thymol in surgical cases of the strength of one part to 2000 water, and was much pleased with it.

Dr. MINOT related the case of a patient, primipara, who had had a perfectly normal labor. Intra-vaginal injections of a solution of carbolic acid were given daily with care, by an experienced nurse. On the fourteenth day, while an injection was being given, the patient suddenly cried out with pain, became very pale, and fell into a kind of collapse with very rapid pulse. She recovered in an hour, and did not appear to have suffered any permanent injury, though her convalescence was somewhat protracted, and the milk, which was abundant at first, almost disappeared in the course of six or eight weeks. A similar case was reported by Dr. W. T. Smith, of Hanover, N. H.<sup>2</sup> Dr. Minot stated that in his own case the injections were used blood-warm, without force, in amount not exceeding two ounces, and by the aid of an ordinary Davidson's syringe with a central aperture. The strength of the solution was about two per cent.

Dr. RICHARDSON said he would confirm the point as brought out by Dr. Forster, — the use of the long tube and the thorough washing out of the uterus. The one was not possible without the other. Short tubes had no effect. At the hospital whenever there had appeared the least suspicion of trouble the intra-uterine injections were immediately employed. There was no doubt that this procedure had saved lives. Dr. Richardson gave the temperature records of three cases, showing a remarkable improvement in almost every instance, the washing out, whether by a two to two and a half per cent solution of carbolic acid or a weak solution of permanganate of potash, having been followed by a marked reduction of temperature which was either permanent and requiring no further attention, or slowly rose again, necessitating the occasional repetition of the process.

Dr. Richardson remarked that when this antiseptic treatment first started the risk of poisoning by carbolic

acid was urged as an objection, but he had never seen the slightest unpleasant effects from hundreds of intra-uterine injections. Cases of poisoning by this agent, such as have been reported, he thought were due to a careless use, especially from a failure to shake thoroughly before using a solution of some strength, in which the acid is more or less separate and falls to the bottom, whence it is liable to be taken up by the syringe in undue quantity. It was necessary also to have the water a little hotter at the start than the temperature designed at the moment of injection on account of the necessary cooling during preparations. With these precautions Dr. Richardson repeated his belief that there was not the slightest danger to be feared from the use of intra-uterine injections. In one instance in which the inner os was closed Dr. Richardson had used a double catheter to insure ready exit of the injected fluid. It was astonishing to see the amount of putrid, shreddy, very offensive debris of decomposed matter brought away by the proper method even after the repeated use of the vaginal douche. In one such case there had not been the slightest offensive discharge preceding the washing out, a chill and high temperature alone having been the indications for the procedure.

Dr. ABBOT remarked upon the value of chlorinated soda in empyema, and its decided advantage in a given case over a one per cent. solution of carbolic acid, a one fifth of one per cent. solution of thymol, and a solution of permanganate of potash, which had been successively tried without effect upon the excessively fetid discharge. Water containing ten per cent. of the liquor sodæ chlorinate was then employed with the most complete success, and the pus diminished so rapidly that at the end of ten days not a drop could be obtained, nor was any found in the pleural cavity at the autopsy. Dr. Abbot observed that there was no question of the safety of the soda solution, and thought it would be well worth trying as a material for intra-uterine injection.

Dr. BOARDMAN said he would confirm the remarks already made, and referred to his unpleasant experience with a series of cases of septicæmia in the Lying-In Hospital, several resulting in death, while the recovery of others was greatly due to intra-uterine injections, whose immediate as well as remote effects were very marked. Dr. Boardman thought that it might in some cases be advisable to use thymol, a more agreeable substance than carbolic acid, and in cases of organic diseases of the uterus quite as effective. Its greater expense is somewhat offset by the less quantity required, while a more general use would increase the production, and diminish the cost.

Dr. LYMAN stated that intra-uterine injections had been followed up at the City Hospital with a good deal of advantage. He had used them in cases of sloughing fibroids and after abortions, of which there had been a considerable number at the hospital. Reduction of the temperature and arrest of the septic symptoms had been a very uniform result. A chill had followed in some cases, but this did not seem to have been of serious import. In one case of retained placenta with foul discharges he had not been quite sure whether the reduction of the temperature had been due to the injection or to the large dose (thirty grains) of quinine, given at the same time. Dr. Lyman was entirely of the opinion that many so-called intra-uterine injections were simply vaginal from the imperfect methods and appliances used, whereby the fluid failed to reach the

<sup>1</sup> See JOURNAL of May 12, 1881, page 436.

<sup>2</sup> See The Medical Record, January 22, 1881, page 112.

uterine cavity. He had seen no harm, on the contrary, he could look back upon one or two cases of his own, in which the autopsy revealed lymphangitis, which he believed might have been saved had the uterine been thoroughly washed out early in the disease. It was not worth while to wait for offensive discharges before beginning this treatment, as sepsis may be thoroughly established, the discharges remaining free from odor. Dr. Lyman referred to some remarkable cases which had been under the care of Dr. Chadwick many years ago in which this treatment was successfully followed. He thought that if a diagnosis, as between lymphangitis, general sepsis, and phlegmasia alba dolens, could be made in advance, cases suitable for washing out could be selected with more discrimination, and those could be indicated in which injections would be of questionable advantage. In cases of pelvic abscess he would almost invariably use the injections.

Dr. Lyman detailed the case of a prostitute brought to the hospital in a state of collapse, with foul discharges from the vagina, the results of a criminal abortion. The relief to the patient's whole appearance upon the first thorough washing out of the uterus was something marvelous. The day following there was a chill, resulting probably from either reaccumulation or a separate collection, and it was then discovered that some instrument had penetrated Douglas's pouch. The washings were continued every two hours with a three per cent. solution of permanganate of potash, and the patient's life was eventually saved after a most unpromising beginning. Dr. Lyman declared that there was nothing more important in obstetrics than a thorough knowledge of the subject of uterine injections. Dr. Lyman cited another case, seen with Dr. Chadwick, that of a woman in whom an abortion had been committed by a man with no pretense to a medical education. The patient was in a very critical condition. Dr. Draper was called in with reference to an ante-mortem statement. The woman recovered, however, and apparently from the persistent use of intra-uterine injections.

Dr. RICHARDSON stated that the same fall of temperature had taken place in cases in which no quinine whatever had been given; whether quinine had been given in the three cases charted he could not say.

Dr. DRAPER asked whether in hospital or in private obstetric practice any observations had been made concerning the effects of simple warm-water injections, or, to put the question in another form, what evidence there was that medicated or disinfectant injections were superior to non-medicated lotions, since the chief object of the local treatment has been stated to be the removal of the decomposing contents of the uterine cavity?

Dr. RICHARDSON replied to this question that injection of warm water had been tried at the Lying-In Hospital in some half dozen cases with the result that although the temperature fell in each case much as in the others, yet it very soon rose again, which it did not in the cases in which the carbolic acid had been used, as if this had had a beneficial action upon matters not at the time washed out.

Dr. SINCLAIR said that intra-uterine injections had been used the last fifteen months at the Boston Lying-In Hospital, and that there was little or no danger except in case of dilated uterus with constricted neck. If it were found that the fluid did not return it was

pretty good evidence of this condition, and uterine colic was likely to ensue.

Dr. C. E. STEDMAN said he could confirm in the highest degree the value of intra-uterine injections. He had used for this purpose a common male catheter with the curve modified. Soon after this subject began to be discussed he reported to this Society a case under his observation where quinine in large doses was used with hot carbolized intra-uterine injections, with the happiest results, although the patient was in the most hope-less condition for days.

Dr. Stedman inquired of Dr. Richardson the mortality from septicæmia at the Lying-In Hospital as affected by the procedure in comparison with results of the old methods of treating these cases.

Dr. RICHARDSON stated that in the last epidemic of puerperal septicæmia at the hospital eight out of eleven cases recovered under this treatment.

Dr. SINCLAIR said he remembered two cases of typhoid fever occurring at the South End in a house whose soil pipe failed by the space of six inches to reach the drain, leaving a perfectly free opening by which the gases entered the house. A case of typhoid fever which occurred in the next house was supposed to be referable to the same cause.

#### THE MENOPAD. — THE SPECULUM.

Dr. BROWN exhibited and described a device invented and patented by a physician to take the place of the monthly napkins, and known as a menopad. In this apparatus the discharge is received and retained by a roll of absorbent cotton, which can be changed from time to time.

Dr. BIXBY said in answer to a question that he had used both Sims's and Cusco's specula, and that he considered the former for operations when held by an assistant the best speculum ever invented, while he preferred the Cusco for all ordinary work, and used it daily and almost exclusively except in the case of very young women. It was important that the instrument should be well lubricated in order to be introduced to the fullest extent. When properly done there is no possibility of unduly dilating the orifice of the vagina when the blades are expanded. In the dorsal position the Cusco is used with the handles upward.

Dr. BOARDMAN remarked that all must agree that no instrument can compete with the Sims speculum, but this requires the aid of an intelligent assistant, which it is the exception to have. After an extended trial of all forms he had come now to employ almost exclusively the Higbee bivalve, the principal advantages of which are to be found in its short upper blade and minimum expansion at the vulva. With Cusco's speculum there is more expansion at the vulva than with any size of the other, and its upper blade, equal in length to the lower, is very likely to get behind, and lift the cervix so as to prevent the proper view without special adjustment. With Higbee's this never occurs. Dr. Boardman had long discarded all forms of the cylindrical speculum.

Dr. RICHARDSON said he agreed with Dr. Boardman, and in the women's room at the Massachusetts General Hospital had used Higbee's speculum exclusively.

Dr. BIXBY further said that he had used Cusco's speculum for fifteen years, sometimes with the patient on her side, or, if the organ were anteverted, by preference with the patient on her back.

Dr. FORSTER exhibited and described a new form

of Davidson's syringe, called The Victor, by which the amount of injection can be accurately measured, and the possibility of injecting air obviated. The force is obtained by compressing the air in the top of the reservoir bottle by means of an air bulb.

Dr. BOARDMAN directed attention to certain objections to Nengebauer's speculum, as he had done many times before. On tilting the instrument to improve the view there was danger of injury from the pointed and sharply curved extremities, either in the way of painful pressure or actual lesion of the vaginal wall. Moreover, the constant use of the blades gives them in time a sharp cutting edge, from which he had actually seen in the vaginal mucous membrane a sharp, clean cut, two inches in length. Aside from these forms of injury nipping by the two blades was likely to occur.

### Recent Literature.

*Transactions of the American Gynecological Society.*  
Volume V., 1880. Boston: Houghton, Millin & Co.

It is greatly to be regretted that there is such a delay in the appearance of a book of so much value to the gynecologist, as these volumes from year to year become. We had hoped that after two or three years, as the work of the Society became more systematized, this great disadvantage would be overcome, but the present number is later than ever.

The papers read at the fifth annual meeting of this Society open with the Annual Address of the President, Dr. J. Marion Sims, the subject of which is various changes in the constitution which he suggests; a rather unpleasant, and generally thankless, task, yet it is done most conscientiously. Of whatever value this may be to the Society, the general reader will undoubtedly be disappointed that the time was not devoted to the consideration of some one of the many subjects in gynecology which the honored President was most fitted to discuss, and which always come with so much force and interest from him.

Dr. Batten contributes a short paper on The Proper Field for Battey's Operation, and very wisely inclines to conservatism. In the enthusiasm with which abdominal surgery is cultivated it is certainly in danger of being too often performed, and the writer very properly lays considerable emphasis on the moral considerations, which should never be lost sight of.

The paper by Dr. A. Reeves Jackson on Uterine Massage as a Means of Treating Certain Forms of Enlargement of the Womb is valuable as helping to define the proper field of this comparatively new method of treatment. It might have been enlarged, according to our experience, to include those cases of lateral flexion and version due to old pelvic cellulitis, where there is thickening of the broad ligament on one side or the other. In such cases, where pessaries can accomplish so little, massage, especially directed to the thickened part, will favor absorption and materially increase the mobility of the organ.

The paper by Dr. H. P. C. Wilson on Ovariectomy during Pregnancy called forth considerable discussion, and the conclusions to be drawn both from the paper itself and the subsequent debate seem to be pretty clearly these: If the tumor is small, and not likely to prevent the woman going safely to full term, non-

interference; if large, operate for the sake both of mother and child, ovariectomy being much safer than producing abortion. Statistics emphasize these conclusions.

Dr. George J. Engelmann contributes a most interesting and exhaustive paper on Posture in Labor, endeavoring, by observation of the methods of delivery among savage and half-civilized people, to determine what position instinct would lead a woman to assume, and, if possible, to adduce some useful hints for obstetric practice. The painstaking research, the exhaustive use of old material and the diligent acquisition of new, the graphic wood-cuts which illustrate the paper, and the careful arrangement of the various facts are beyond praise. Naturally a large part of what is new is with regard to the North American Indians, and a very complete account of their customs is the result. It is doubtful whether, if the customs of the savage tribes of other countries could be as carefully investigated, the logical deductions would be materially different. These deductions are in the main the following: That in the earlier stages of labor the woman must be guided in her actions, and in the positions assumed, by her own comfort and by the dictates of her instinct; that the dorsal decubitus (flat on the back) at the termination of labor is a most undesirable position; that an *inclined* position, kneeling, squatting, or semi-recumbent in bed, on the chair, or lap, is the one which a woman would instinctively assume; and that of these the semi-recumbent is the most serviceable. The discussion, while suggesting some minor points to be considered, in the main confirmed these views.

The paper by Dr. James R. Chadwick on The Hot Rectal Douche is a valuable contribution to our methods of treatment in certain forms of diarrhoea and in pelvic inflammations. For the first-named class of cases it has, of course, no rival in the vaginal douche. As regards the cases of pelvic inflammation, while as a rule the hot vaginal injection is readily given, and acts most satisfactorily, yet there are cases where the rectal symptoms, or those referred to the back, are prominent, in which the rectal douche would undoubtedly do better.

Dr. W. L. Richardson's paper on Manual Dilatation of the Os Uteri as a Means of Inducing Premature Labor brings again before the profession a method which seems to have certain decided advantages over any other, but which has been strangely overlooked by writers in general.

Other papers were contributed by Dr. W. H. Byford, on The Successful Extirpation of an Encephaloid Kidney; by Dr. Theophilus Parvin, on Secondary Puerperal Metrorrhagia; by Dr. W. T. Howard, of Three Fatal Cases of Rupture of the Uterus, with Laparotomy; by Dr. J. A. Eve, on Occlusion of the Gravid Uterus; by Dr. H. F. Campbell, on The Prophylactic and Therapeutic Value of Quinine in Gynecic and Obstetric Practice; and by Dr. C. D. Palmer, on Laparotomy and Laparo-Hysterotomy, their Indications and Statistics, for Fibroid Tumors of the Uterus.

This volume of Transactions, if not perhaps as remarkable for the breadth and importance of the articles as some which have preceded it, is yet a worthy successor of those of former years, and like them forms a most valuable contribution to our gynecological literature. Its letterpress and binding show the same good taste.

# Medical and Surgical Journal.

THURSDAY, JANUARY 5, 1882.

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## INTRODUCTORY TO 1882.

THE beginning of a new year again brings round to us the occasion to thank our readers and contributors for their support and encouragement in the past, to express our hopes of a steady increase in the numbers of both in the future, to offer them the greetings of the season and many good wishes.

In so far as the JOURNAL has been true to the standard which it set for itself, and to the promises made to its readers when its form was changed, and again at the beginning of the past year, in just so far those charged with its management feel that they have established a legitimate claim upon the consideration of a constituency which should embrace all who are interested in the progress and dissemination of sound medical learning and information, in the advocacy and vindication of the highest professional and social interests. Such consideration, though naturally manifesting itself most promptly and strongly in the part of the country where the JOURNAL is published, from the cosmopolitan character impressed upon the publication at the out-set, need not be, as in fact it is not, restricted by local limits. As is well known, though perhaps not as widely as it should be, the JOURNAL is the organ or property of no individual, or clique, or publishing house. Its almost unique position in this respect, at least in this country, gives it peculiar advantages for candid and impartial discussion and publication.

In addressing its readers last year allusion was made to the marked revival of activity and interest in medical society work, at least locally, being simultaneous with increased facilities for promptly making public the papers and proceedings of the meetings. Such activity and interest doubtless have their natural periods of ebb and flow, but we do not doubt that we then picked out one chief factor in the production of a season of high tides, and that the interest of the participants is in a pretty direct ratio to the size of the audience. Whenever the principal medical societies in various parts of the country are ripe for a more general report of their proceedings the JOURNAL will be found ready to coöperate in bringing about a result which it can scarcely be questioned must sooner or later be reached in the United States, as elsewhere.

In the mean time, to such medical societies as have always found their natural outlet in the columns of the JOURNAL, which has given them in the past, and stands ready to offer them in the future, every reason-

able facility, we heartily wish a renewal and increase of vigor from year to year. It is, however, quite possible that medical societies, in Boston, at least, have not yet assumed their best, most practical, and final form, and periods do occur in their history which lead to the belief that this is even probable.

With the advent of the new year we find ourselves called upon to welcome the appearance of a new medical weekly so like in form and feature to ourselves that were it not for its tender age we should involuntarily have said, — a twin brother. We take it as a compliment to our sagacious prevision of the tastes and needs of the professional public that our new confrère, of Philadelphia, the *Medical News*, should start forth to pursue the same cosmopolitan objects, and to foster the same departments of a medical newspaper which it has been the aim of the JOURNAL to establish and develop. We are more than ever convinced that we were on the right road, a road which is broad enough for all honest travelers.

## A CONVICTION FOR CRIMINAL ABORTION.

THE recent trial in the Superior Court of Suffolk County, Massachusetts, for criminal abortion, in which a verdict of guilty was rendered, is of special interest to physicians from several points of view. The defendant, an individual of fifty or more, styling himself a homeopathic physician and prefixing "doctor" to his name, though not claiming the privilege of affixing M. D., was tried on the charge of attempting to procure an abortion upon a young, unmarried colored woman, by forcibly separating the membranes from the inner surface of the uterus over a considerable area by means of some blunt instrument, thereby opening the uterine sinuses and permitting the introduction of air into the circulation, death ensuing from air embolism. A complete account of this case, viewed in the medical and medico-legal aspects, will be given in our next issue.

In no case that has come to our notice have the advantages of the system of medical examiners over that of coroners been more forcibly shown than in this. As is well known, under the old coroner *régime*, convictions for criminal abortion were almost unknown; nor is this strange, when one considers the ample loop-holes afforded by that dangerous, but now happily obsolete, system for the escape of this as well as of other classes of offenders. Under the medical examiners, who have now been in existence four years, there have been four cases of criminal abortion brought to trial in this city, followed in three by conviction. Failure to convict in the fourth cannot be accounted for by lack of evidence of guilt, for this was by no means wholly circumstantial, but apparently its only explanation is to be found in the uncertainty of jury trials and in the influence of testimony which claimed to be and was accepted as expert, but which was not expert at all.

In the case at issue, the evidence on which the verdict was rendered was not only wholly circum-

stantial, but rested entirely on that derived from the autopsy, the data of which were so carefully and admirably worked up by Medical Examiner Draper, and the sequence of probable events rendered so certain to the jury by his clear testimony, that to this must be ascribed the verdict.

That a conviction like this will be of great value to the community cannot for a moment be doubted. For as long as such offenders against public morals and society go unpunished, they will not only pursue and enlarge their nefarious business, but it will give ample encouragement to still others to try a hand in a game where the risk is small and the pecuniary gain large. When such individuals are made to feel that five, ten, or twenty years' imprisonment is the certain result of attempting to procure a criminal abortion, then, and not till then, will the business which has reached such proportions in Boston begin to diminish. Perhaps then American women from necessity, if not from choice, may agree with their European sisters that it is better to carry children to term, and allow Nature her sway instead of rudely interfering with her, as is so common at present. To credit this conviction to the medical examiner system is to put the praise where it belongs, for we speak advisedly in saying that a like result would have been impossible under a coroner.

The sentence will not be declared until certain exceptions shall have been argued before the court, but there is every reason to hope that justice will be rendered.

A criticism that may be made of similar trials, but which was strikingly applicable in this one, is in reference to the unbridled license, if the term may be allowed, with which counsel question the experts, and compel them to disclose to an audience composed of any and all who choose to come the exact methods by which abortions can be procured, the best instruments to use, and the time in pregnancy at which the operation can be done with the greatest safety to the mother. What is to prevent any unprincipled man or woman from gaining from such a source the necessary information for beginning and successfully carrying out the trade of an abortionist? Certainly students in a medical school rarely get better instruction in this branch than can be obtained at a trial like this.

Considering, too, how rarely fatal an abortion is when produced by a trained physician, it becomes all the more dangerous to put such instruction into the hands of individuals whose prime object in using it is not the saving of life, but the filling of their pockets.

In conclusion, it is suggested to the States which are still struggling with the insufficient coroner system, in regard to which complaints have been numerous in the medical journals of late, that they follow the example of Massachusetts in establishing medical examiners, and by this means have the cases requiring it investigated by men who at the same time are learned physicians and persons of the strictest integrity.

—The first ambulance to be used in London has recently been built for the London Hospital.

## MEDICAL NOTES.

—Two additional cases of small-pox have been reported to the Board of Health during the past week. One case is that of Samuel W. Piercy, the leading support of Edwin Booth during his late engagement at the Park Theatre.

—The Stratford District (N. H.) Medical Society held its Seventy-Fourth Annual Meeting at the American House, Dover, December 21st. A large number of members were present. Dr. Ham, president of the Society, delivered the annual address, subject, A Review of the Medical Facts of the Old Testament Scriptures. Dr. T. A. Rogers, Kennebunkport, Me., delivered an oration on The Duties of a Physician. Dr. E. S. Berry, of Dover, delivered an oration on Rational *versus* Pretentious Medicine. The following officers were elected for the ensuing year: president, S. C. Whittier, Portsmouth; secretary, C. A. Fairbanks, Dover; treasurer, C. A. Tufts, Dover; council, J. R. Ham, of Dover, E. Q. Adams, of Kittery Point, and J. W. Parsons, of Portsmouth; orators, Drs. J. O. Robbins, Salmon Falls, and J. G. Hayes, Dover.

—The Danish Society for the Protection of Animals has offered two prizes for the best essays on Vivisection. The question to be treated is specially as to the replacing for medical experiments of living animals by those freshly killed.

—At a meeting of the Harveian Society, of London, on November 17th, the following resolution was passed unanimously: "That the Harveian Society of London tender a very hearty vote of congratulation to Dr. Ferrier on the happy result of the fanatical prosecution to which he has been subjected."

—Professor Pirogoff, whose death was lately announced, had for many years withdrawn from the active pursuit of his profession, and had lived on his estate in the country, where he gave his valuable advice gratuitously to the numerous patients who flocked to him from the surrounding districts. In America his name is chiefly known in connection with an amputation at the ankle-joint, in which the tuberosity of the os calcis is left in the heel flap. He was the author of a Medical History of the Crimean War, and of treatises on Orthopædic Surgery, the Surgery of Arteries, and an Atlas of Topographical Anatomy. He was the principal medical officer of the General Hospital in Sebastopol, during the Crimean War and took an active part in the introduction of plaster-of-Paris bandages.

—M. Bédard, Professor of Physiology, has succeeded M. Vulpian as Dean of the Paris Faculty of Medicine. The latter resigned the position when M. Paul Best was appointed Minister of Public Instruction.

—The Prince of Wales has lately sent presents of game for the use of the patients in several of the hospitals of London and the provinces.

—The medical world of Paris is somewhat startled by the report that the Minister of the Interior will shortly publish a decree, according to lady medical students the right to compete for the house-surgeonships hitherto denied to them.

## Miscellany.

### DR. EDWARD REYNOLDS.

It is seldom that a more useful though uneventful life has closed than that of Dr. Edward Reynolds, who died on Christmas Day. Outliving most of his contemporaries, and secluded from general society for several years by the infirmity of deafness, he will yet be remembered with respect and affection by many of the present generation who are indebted to his skill for the preservation of life and health, or for the restoration of the blessing of sight, while those whose privilege it was to know him in the intimacy of domestic life feel the loss of one whose serenity, cheerfulness, and delightful conversation have seldom been equaled.

Dr. Reynolds began the study of his profession at a period when the opportunities of obtaining a good medical education were very limited in this country, but he enjoyed the unusual advantage of spending several years in Europe, where he followed the teaching of some of the most eminent surgeons and lecturers of London and Paris, such as Abernethy, Sir Astley Cooper, Lawrence, Travers, Farre, Dupuytren, and Bichat. It was perhaps owing to the influence of these men that he acquired a preference for surgery, in which he especially excelled, although he always enjoyed an extensive general practice. He was one of the pioneers of ophthalmic surgery in this city, and his first operation for cataract was performed upon his own father, both of whose eyes he had the happiness of restoring to sight. For many years he was the leading surgeon in diseases of the eye in Boston and throughout New England. It was our privilege, while a student of medicine, to witness many of his operations for cataract, iridectomy, strabismus, etc., and we can testify both to his skill as a surgeon and to the large number of successful results which he accomplished.

To Dr. Reynolds, in conjunction with the late Dr. John Jeffries, our State as well as city owes one of its most useful and beneficent institutions, the Massachusetts Charitable Eye and Ear Infirmary. In 1824 these gentlemen opened a private dispensary, for the gratuitous treatment of the poor afflicted with diseases of the eye, in Scollay's Building, which then stood in the centre of what is now known as Scollay Square. During a period of sixteen months no less than eight hundred and eighty-six patients had applied for advice and treatment, although the population of Boston at that time did not exceed fifty thousand. The usefulness and importance of this charity being thus demonstrated, they made a successful appeal to the benevolent for the contribution of funds for the establishment of a permanent institution, which was organized under the title of the Boston Eye Infirmary, and afterwards incorporated by the legislature under its present title. After various changes of location, incident to the increasing demand for accommodation, the present Infirmary building was completed, and occupied in July, 1850, Dr. Reynolds delivering the address at its dedication. Let us hope that the State will continue to foster an institution which saves it annually from some hundreds, if not more, of paupers, for in few things is prevention better than cure than in blindness, especially among the poor, where neglect entails not only hardship to the individual but expense to the government.

During Dr. John C. Warren's absence in Europe

Dr. Reynolds was appointed to deliver the lectures on anatomy and surgery to the students of the Harvard Medical School. He was also the teacher of surgery in the Tremont Medical School.

Dr. Reynolds will be remembered with kindness by many of the profession for his sympathy with young physicians, and his ready aid and advice to them. He was unusually free from professional jealousy, and was on cordial terms with almost all his professional brethren in days when controversies between medical men were more common than is happily the case at the present time. He was a man of deep religious convictions, and was esteemed and respected by the community during the whole of his long life. He was spared many of the infirmities of old age, and his mental faculties were preserved intact. He died peacefully at the age of eighty-eight, possessing to the full "that which should accompany old age, as honor, love, obedience, troops of friends."

### RESOLUTIONS OF RESPECT TO THE MEMORY OF DR. EDWARD REYNOLDS.

At a meeting of the Surgeons of the Massachusetts Charitable Eye and Ear Infirmary, held Tuesday, December 27, 1881, the following resolutions were passed:—

*Resolved*, That we learn with unfeigned sorrow of the death of Dr. Edward Reynolds, the venerated founder of this Institution.

*Resolved*, That his early conception of the needs of such a charity and his long-continued and successful efforts to establish it, entitle him to the warmest praise and gratitude from all friends of humanity.

*Resolved*, That we recall with sincere admiration that he labored for upwards of thirty years in gratuitous ministrations to the poor, and in seeking to advance the knowledge of the treatment of diseases of the eye and ear, and that his interest in this Institution remained unabated up to the time of his death.

*Resolved*, That we feel that the example of such a long, useful, and honorable career must be of inestimable value to the community in which he lived and to the profession of which he was a distinguished member.

*Resolved*, That a copy of these resolutions be transmitted to his family with our profound sympathy for them in their great affliction.

|                |                    |
|----------------|--------------------|
| HASKET DERRY,  | B. JOY JEFFRIES,   |
| HENRY L. SHAW, | ROBERT WILLARD,    |
| F. P. SPRAGUE, | CLARENCE J. BLAKE. |

### LETTER FROM PHILADELPHIA.

MR. EDITOR,—The meetings of the Philadelphia County Medical Society recently have exhibited an increasing interest on the part of its members, and commendable activity of the committees who provide material for discussion. In addition to the regular bi-weekly conversational meetings for the consideration of papers on special subjects presented under the auspices of the board of directors, a third meeting is held each month by direction of the committee on clinical pathology, at which cases, specimens, and clinical reports are presented, ten minutes being allowed for each, thus permitting a great variety of topics to be brought before



the Society. For instance, at the special meeting of December 21st Dr. Wm. S. Little exhibited a case of persistent hyaline artery in an adult; Dr. J. R. Evans one of supposed elephantiasis of the leg; Prof. H. C. Wood reported a case of peculiar respiratory neurosis; and Dr. C. H. Thomas one of patulous Fallopian tubes (a multipara, suffering with hamorrhage after abortion, was etherized in order to scrape mucous surface, using a wire-loop, long-handled curette, which absolutely passed into the peritoneal cavity through the Fallopian-tube of each side; no bad symptoms; pregnancy subsequently, with delivery at full term); Dr. J. Solis Cohen showed a specimen, drawings and sections, from a case of so-called primary tuberculosis of the larynx, and Dr. C. Seiler exhibited the microscopic sections of the same case; Dr. H. E. Dwight reported an instance of pregnancy complicated with cancer of the cervix, breech presentation, with successful delivery, and presented the uterus obtained at the autopsy eight months later; Dr. John Hearn made some remarks upon a rapid method of checking or reducing gonorrhoeal discharge by an old remedy formerly used by Prof. Jos. Pancoast (powdered cubeb and alum); and Dr. W. B. Atkinson exhibited a model of a gynecological chair made in New York. Such an abundant bill of fare has proved quite an attraction for these special meetings, while the new committee find themselves embarrassed with the quantity of material offered. The last two regular conversational meetings have been devoted, according to announcement, to the discussion upon Syphilis; the Clinical History of Chancere and Chancroid; the Relation of Syphilis to Scrofula; the Prevention of Syphilis by Legislative Enactment; and, finally, the Treatment of Syphilis in its Different Stages. The last-named paper was presented by Dr. E. S. Keyes, of New York, in response to an invitation from the directors. After the reading and discussion of the essay, a social meeting of the Society was held to enable the members to meet Dr. Keyes. The Library and Mutter Museum of the College of Physicians were thrown open in honor of the occasion, and some of the Fellows of the College were present. Although the evening was a stormy one a very large number was in attendance, and the informal reception passed off very agreeably.

As may be inferred the County Medical Society is in a flourishing condition, its membership amounting nearly to three hundred and fifty. It has now issued three annual volumes of Proceedings, which are more than creditable. To one not "to the manor born" the demands upon the leisure hours by the number of medical and scientific societies in Philadelphia would almost exceed belief; of course no one attends all the meetings, but most medical men, especially the younger ones, belong to several. Here is a list of the prominent ones: College of Physicians meets on the first Wednesday of each month; Philadelphia County Medical Society, second and fourth Wednesday, special meeting on third Wednesday; Philadelphia Academy of Surgery, first Monday; Pathological, second and fourth Thursdays; Obstetrical, first Thursday; Medico-Legal, third Tuesday; also the Northern Medical, second and fourth Fridays; and a number of smaller organizations in the different parts of the city. To these may be added the Academy of Natural Sciences (every Tuesday), whose biological and microscopical section many physicians attend (which holds its meetings on the first Monday of each month); the Histor-

ical Society, the American Philosophical Society, and the Franklin Institute might be added without completing the list. It is evident that the Philadelphian is a "medical society man" as well as an "*Index Medicus* man."

Medical education also seems flourishing, but, liberally supplied with hospitals as we are, the large amount of clinical material is not as fully utilized for medical instruction as is desirable for special instruction and practice. In this connection, as a sign of progress, it is noticed that the Presbyterian Hospital has recently established a dispensary service for the diseases of the ear, which is in charge of Dr. Chas. H. Burnett, who announces that he will improve the opportunity presented by giving a special course on otology. A few months ago a similar service was instituted at the Episcopal Hospital under Dr. H. A. Wilson. An illustrated course is also regularly given during the winter at the Wills' Hospital upon diseases of the eye and correction of optical defects. The public clinics on surgery and medicine are continued twice a week, as usual, at the Pennsylvania and Philadelphia Hospitals, which are of course quite independent of the clinical instruction at the ho-pitals and dispensaries of the two large colleges.

The question of mixed classes at clinics has been again precipitated at the Pennsylvania Hospital by the appearance of some females, presumably medical students, at the regular clinics early in the session, it is said by invitation of some one connected with the hospital in an official capacity. It appears that the separate, Tuesday clinics, given especially to the female students by the courtesy of the medical staff for more than ten years, have now failed to satisfy some of the more advanced advocates of women's (usurpation of men's) rights. It is assigned as a reason that the women are jealous because they entertain the opinion that the men are advanced farther in the Eleusinian mysteries than themselves, and, not satisfied to follow the Æsculapian example of having a day to themselves, they insist upon sharing the rites with the others. The medical staff unfortunately are not as united in their views of the subject as they were when the famous struggle occurred a decade ago, and the day may be lost by the assumed indifference of some influential members. Should the innovation be carried out successfully it may lead to resignations from the staff of some of its most esteemed members who are conscientiously opposed to lecturing upon medical topics to mixed classes of men and women. The whole question will probably be hotly discussed at the next annual meeting of the contributors.

The University of Pennsylvania established this winter a course for post-graduate instruction, which thus far promises well. Two courses are to be given annually, the first commenced October 31, 1881, and the second will commence early in March, 1882. A certificate is given to each person taking the course, which includes bedside and dispensary instruction in the following branches: Physical Diagnosis and Clinical Medicine by Prof. William Pepper and Dr. E. T. Bruen; Nervous Diseases and Electro Therapeutics, Prof. H. C. Wood; Dermatology, Prof. L. A. Duhring; Otology, Prof. George Strawbridge; Ophthalmology, Dr. S. D. Risley; Gynecology, Dr. B. F. Baer; and Laryngoscopy, Dr. Carl Seiler.

The number of students in attendance upon lectures at the two schools is about the same, or a little larger

than last year. The Medico-Chirurgical College is said to have nearly thirty matriculates. The Women's Medical College is thriving and has a good-sized class. Dr. William H. Parish was recently appointed Professor of Anatomy at this institution. It may be noticed as passing strange that while the ladies at the Women's Medical College are eager to have mixed clinics at the Pennsylvania Hospital, yet they are not in favor of inviting the sterner sex to their own clinics.

The fact that the County Medical Society had declared women practitioners eligible for membership was announced in a former letter; at the quarterly meeting in January several female candidates will be balloted for, and an interesting and largely attended meeting is anticipated.

PHILADELPHIA, December, 1881.

#### REFLEX CONTRACTION OF THE CORPORA CAVERNOSA.

At the meeting of the Tri-State Medical Society, recently held in St. Louis, Dr. Jno. T. Hodgen of that city presented a series of nine cases of Reflex Contraction of the Corpora Cavernosa. The main features in these cases are as follows: The presence at some portion of the cavernous body of a circumscribed area of depressed induration with distinctly marked boundaries; not painful on direct pressure, but sensitive when compressed laterally. Pain was generally present from the commencement, and both it and the hardness of the indurated patch were increased by cold and relieved by warmth. Erection was painful and accompanied by a feeling of tension in the affected portions, which became more depressed and harder, while the organ itself was bent upward or toward the right or left according to the site and extent of the induration. These cases are peculiar in that the induration was limited to certain portions of the corpora cavernosa. A generally contracted and painful condition of the penis is not uncommon, depending upon some irritation in the neighboring parts, such as results from fissure of the anus, hemorrhoids, and other painful affections of the lower bowel. The cases of Circumscribed Inflammation of the Penis reported by Professor Van Buren resemble in many points the cases here spoken of, but in his record no mention is made of the influence of cold in increasing the trouble, and the inference is that the spots were painful only upon erection. In presenting Dr. Hodgen's explanation of these cases we shall quote his own words as reported in the *St. Louis Courier of Medicine* for November, premising that syphilis was carefully excluded in them all. He says: "In seeking an explanation of the anomalous symptoms, I would call attention to the structure of the cavernous bodies. These are composed of a strong fibrous envelope, with cords running in every direction, from wall to wall, and joining one with another at every imaginable angle, leaving spaces lined with squamous epithelium. Communicating with these spaces are the arteries and veins, through which the blood is admitted to the spaces and returned from them. Besides these spaces the vessels themselves are exceedingly tortuous and capable of much distention. These vessels permit an enlargement of the organ limited only by the resistance of the fibrous envelope, which is also sustained in its resistance by the fibrous cords that pass from point to point. The fibrous envelope as also the trabeculae, are composed

of white fibres, yellow, elastic, and plain muscular tissue. Now the great hardness which may be presented by the penis during erection, is not observed when the organ has reached its extreme dimensions, and this extreme firmness cannot be due to the presence of the blood driven by the heart's action, but is due to the blood being prevented from returning to the general circulation by the erector penis, accelerator urinae, and compressor urethrae muscles, and these muscles compress the arteries as well as the veins terminating in the body of the organ. Now when the part has reached its condition of extreme distention the organic muscular tissue entering into the structure of the fibrous envelope and trabeculae of the organ contracting gives the penis the hardness and stiffness which fits it for penetration in the performance of its special function. So that while distention with blood is important in increasing the size of the organ, the peculiar hardness of extreme erection is due to contraction of the cavernous structures. Perhaps it is the personal experience of every one that when much chilled, and especially when suddenly chilled, as when taking a cold bath, the penis becomes very firm and small and much retracted, while it retains little blood. The condition here presented is due to the tonic spasm of the plain muscular tissue of the organ, as the skin under like circumstances becomes shriveled from the contraction of its muscular element, and the serotum particularly presents marked corrugations from the same cause. It has occurred to me to suggest that the contracted, indurated patches found in the penis in the cases reported are due to a tonic contraction of a limited part of the plain muscular tissue, and the depressed contractions presented during erection are the result of the closure of the trabecular inter-spaces so that little blood could enter them during erection. The influence of cold in increasing temporarily the pain and hardness indicates the probable truth of the above explanation." This contraction of the muscular element of the corpora cavernosa is supposed to be of reflex origin, and in all of the cases reported the peripheral source of irritation was found, except in one, which is still under observation. In three cases it was cold applied to the general cutaneous surface, the patients having been exposed to cold, damp weather. Why this should result in a localized contraction of the cavernous body is not satisfactorily explained, but the author suggests that it is due to an unusual excitability of the centres with which the nerve fibres of that particular spot are connected, which excitability may be owing to an unnatural stimulation of passion, which being long continued may have resulted in a hyper-irritability of certain parts of those centres whose united and properly coordinated action would have resulted in complete erection. Some show of probability is given to this explanation from the fact that these patients were all past middle life, where it is fair to presume that the ardor of youth was failing and a resort to abnormal stimulation would be very natural. In one case the cause of the trouble was found in irritable preputial ulcers. These being cured the induration gradually disappeared. In another the source was pruritus ani; in two the irritation was prostatic and in one urethral. The origin of the irritation in the remaining case has not yet been determined. The treatment pursued was to detect the source of the peripheral irritation and remove it. Where this could be done the result was very satisfactory.

## DISCHARGE OF CEREBRO-SPINAL FLUID FROM THE NARES.

THE case lately quoted from the *Lancet* was the occasion of the following communication on the same subject:—

Some time since a gentleman, in crossing from Cork to Bristol, fell down the cabin stairs of a steamer, alighting on his head. I saw him some fourteen days subsequently on his return to this city. He was then nearly quite blind; there existed the remains of severe ecchymosis of both orbits, and, on examination with the ophthalmoscope, I found hemorrhagic eruption on both retinae, more particularly the right; the pupils were unequally dilated, but responded equally to atropine; he had a discharge of clear straw-colored fluid from the nose, evidently cerebro-spinal; at times this was profuse; he was both amnesic and aphasic, and his mental faculties were seriously impaired. For example, though apparently recognizing me, whom he had known for years, he called me Dr. —, naming a connection of mine in the profession, and this he con-

tinued to do until he had partially recovered. He did everything in a half mechanical manner; his taste was affected. After a few weeks the vision of one eye improved greatly, so much so that he could walk out, shave himself, and see ordinary objects. He lost a great deal of the confusion he had regarding names, and his memory recovered itself to a certain extent. There were remissions of these attacks. He would then relapse into a stupid, drowsy condition, the fluid coming more profusely from the nares; his appetite was not much affected. Suddenly, about eight weeks after the injury, a great discharge of the nasal fluid took place, he became drowsy and comatose, and having remained in that state for a few days, he died. He was attended, with me, by Professor O'Connor, of Cork. The discharge of the fluid from the nares in this case is one of the peculiar features of it, as the instances are very few where such has been observed."

I am, sir, yours faithfully,

H. MACNAUGHTON JONES.

CORK, December 6, 1881.

## REPORTED MORTALITY FOR THE WEEK ENDING DECEMBER 21, 1881.

| Cities.                      | Population by Census of 1880. | Reported Deaths in each. | Deaths under Five Years. | The Principal "Zymotic" Diseases. | Percentage of Deaths from |                       |                |                      |  |
|------------------------------|-------------------------------|--------------------------|--------------------------|-----------------------------------|---------------------------|-----------------------|----------------|----------------------|--|
|                              |                               |                          |                          |                                   | Lung Diseases.            | Diphtheria and Croup. | Typhoid Fever. | Diarrhoeal Diseases. |  |
| New York                     | 1,206,590                     | 762                      | 353                      | 33.07                             | 18.11                     | 11.15                 | 1.83           | 2.10                 |  |
| Philadelphia                 | 846,984                       | 350                      | 95                       | 17.14                             | 10.00                     | 7.42                  | 4.00           | —                    |  |
| Brooklyn                     | 566,689                       | 278                      | 124                      | 26.98                             | 18.35                     | 14.02                 | —              | 1.43                 |  |
| Chicago                      | 503,304                       | 204                      | 98                       | 34.80                             | 10.78                     | 11.76                 | 4.90           | 1.47                 |  |
| Boston                       | 362,335                       | 165                      | 51                       | 12.72                             | 16.36                     | 7.27                  | 1.21           | .60                  |  |
| St. Louis                    | 330,522                       | —                        | —                        | —                                 | —                         | —                     | —              | —                    |  |
| Baltimore                    | 332,190                       | 152                      | 51                       | 6.58                              | 7.23                      | 1.31                  | 1.31           | 1.31                 |  |
| Cincinnati                   | 235,708                       | 95                       | 26                       | 22.10                             | 15.79                     | 2.10                  | 3.15           | 1.05                 |  |
| New Orleans                  | 216,140                       | —                        | —                        | —                                 | —                         | —                     | —              | —                    |  |
| District of Columbia         | 177,638                       | —                        | —                        | —                                 | —                         | —                     | —              | —                    |  |
| Pittsburgh                   | 156,381                       | 90                       | 31                       | 46.66                             | 6.66                      | 5.55                  | 5.55           | 2.22                 |  |
| Buffalo                      | 155,137                       | —                        | —                        | —                                 | —                         | —                     | —              | —                    |  |
| Milwaukee                    | 115,578                       | 40                       | 15                       | 20.00                             | 7.50                      | 10.00                 | 5.00           | —                    |  |
| Providence                   | 104,857                       | 35                       | 10                       | 17.14                             | 14.28                     | 5.71                  | 5.71           | —                    |  |
| New Haven                    | 62,882                        | —                        | —                        | —                                 | —                         | —                     | —              | —                    |  |
| Charleston                   | 49,999                        | 29                       | 1                        | 3.45                              | 3.45                      | —                     | —              | 3.45                 |  |
| Nashville                    | 43,461                        | 23                       | 9                        | 13.05                             | —                         | 8.70                  | —              | 4.35                 |  |
| Lowell                       | 59,485                        | 25                       | 7                        | 12.00                             | 28.00                     | 4.00                  | —              | 8.00                 |  |
| Worcester                    | 58,295                        | 24                       | 5                        | 8.33                              | 25.00                     | 4.16                  | —              | —                    |  |
| Cambridge                    | 52,740                        | 13                       | 5                        | —                                 | 23.07                     | —                     | —              | —                    |  |
| Fall River                   | 49,006                        | 18                       | 9                        | 27.78                             | —                         | 27.78                 | —              | —                    |  |
| Lawrence                     | 39,178                        | 17                       | 4                        | 17.64                             | 11.76                     | —                     | 17.64          | —                    |  |
| Lynn                         | 38,284                        | 18                       | 4                        | 16.66                             | 5.55                      | 5.55                  | 5.55           | —                    |  |
| Springfield                  | 33,340                        | 13                       | 3                        | 15.38                             | 7.69                      | —                     | —              | —                    |  |
| Salem                        | 27,598                        | 8                        | 3                        | 25.00                             | —                         | 12.50                 | 12.50          | —                    |  |
| New Bedford                  | 26,875                        | 7                        | 1                        | —                                 | —                         | —                     | —              | —                    |  |
| Somerville                   | 24,985                        | 5                        | 1                        | 40.00                             | 40.00                     | —                     | —              | —                    |  |
| Holyoke                      | 21,851                        | 8                        | 1                        | 37.50                             | 12.50                     | 12.50                 | 12.50          | —                    |  |
| Chelsea                      | 21,785                        | —                        | —                        | —                                 | —                         | —                     | —              | —                    |  |
| Taunton                      | 21,213                        | 14                       | 4                        | 50.00                             | —                         | 28.57                 | 21.43          | —                    |  |
| Gloucester                   | 19,329                        | 4                        | 1                        | —                                 | —                         | —                     | —              | —                    |  |
| Haverhill                    | 18,475                        | 2                        | 1                        | 50.00                             | 50.00                     | 50.00                 | —              | —                    |  |
| Newton                       | 16,995                        | —                        | —                        | —                                 | —                         | —                     | —              | —                    |  |
| Newburyport                  | 13,537                        | —                        | —                        | —                                 | —                         | —                     | —              | —                    |  |
| Fitchburg                    | 12,405                        | —                        | —                        | —                                 | —                         | —                     | —              | —                    |  |
| Eighteen Massachusetts towns | 142,254                       | —                        | —                        | —                                 | —                         | —                     | —              | —                    |  |

Deaths reported 2399 (no reports from St. Louis and New Orleans, Buffalo, or New Haven): 913 under five years of age; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 603, consumption 337, lung diseases 333, typhoid fever 63, diphtheria 218, scarlet fever 1.6, small-pox 90, typhoid fever 21, diarrhoeal diseases 33, whooping-cough 22, malarial fevers 21, measles 15, erysipelas 12, cerebro-spinal meningitis 10, puerperal

fever three. From *scarlet fever*, New York 82, Brooklyn 17, Philadelphia six, Chicago and Pittsburgh three each, Boston, Milwaukee, Providence, Lynn, and Springfield one each. From *small-pox*, Chicago 27, Pittsburgh 25, Cincinnati 14, New York and Philadelphia 11 each, Brooklyn and Holyoke one each. From *whooping-cough*, New York 10, Brooklyn three, Chicago, Boston, and Baltimore two each, Philadelphia, Cincinnati, and Providence one each. From *malarial fevers*, New York 13

Brooklyn eight. From *measles*, New York 11, Brooklyn two, Chicago and Pittsburg one each. From *erysipelas*, New York four, Boston three, Philadelphia two, Chicago, Baltimore, and Somerville one each. From *cerebro-spinal meningitis*, New York six, Baltimore, Worcester, Springfield, and Somerville one each. From *puerperal fever*, Brooklyn, Pittsburg and Milwaukee one each. Seventy-six cases of small-pox were reported in Pittsburg, 60 in Cincinnati, eight in Brooklyn, five in Holyoke, four in Baltimore, two in Lawrence. Diphtheria 21 cases, typhoid fever nine, scarlet fever six, in Boston; diphtheria 11 cases, typhoid fever four, in Providence; diphtheria eight, scarlet fever seven, in Milwaukee.

In 33 cities and towns of Massachusetts, with a population of 955,443 (population of the State 1,783,086), the total death-rate for the week was 19.55, against 20.69 and 21.61 for the previous two weeks.

For the week ending December 31, in 149 German cities and towns, with an estimated population of 7,864,667, the death-rate was 22.7. Deaths reported 3427; under five 1591; pulmonary consumption 490; acute diseases of the respiratory organs 258, diphtheria and croup 195, diarrheal diseases 123, scar-

let fever 113, whooping-cough 59, typhoid fever 50, measles and 1 röteln 42, puerperal fever 20. The death-rates ranged from 12.9 in Potsdam to 33.8 in Erfurt; Königsberg 29.5; Breslau 22.5; Munich 26; Dresden 18.9; Berlin 25; Leipzig 17.8; Hamburg 23.5; Hanover 14.8; Bremen 16.9; Cologne 22.3; Frankfurt 16.7; Strasburg 28.1.

For the week ending December 31, in the 21 chief towns of Switzerland, population 479,934, there were 23 deaths from pulmonary consumption, acute diseases of respiratory organs 22, diarrheal diseases seven, diphtheria and croup five, whooping-cough five, typhoid fever two, puerperal fever one, scarlet fever one. The death-rates were, Geneva 19.7; Zurich —; Basle 19.3; Berne 23.4.

For the week ending December 10th, in the same towns, there were 32 deaths from pulmonary consumption, acute diseases of the respiratory organs 26, diarrheal diseases 13, whooping-cough nine, diphtheria and croup five, typhoid fever two, measles one. The death-rates were, Geneva 20.5; Zurich 22.3; Basle 15.1; Berne 18.7.

The meteorological record for the week ending December 24th, in Boston, was as follows:—

| Date.               | Baromet-<br>eter. | Thermom-<br>eter. |       |          |          | Relative<br>Humidity. |            |             |       | Direction of<br>Wind. |            |             | Velocity of<br>Wind. |            |             | State of<br>Weather. <sup>1</sup> |            |             | Rainfall.                |                      |
|---------------------|-------------------|-------------------|-------|----------|----------|-----------------------|------------|-------------|-------|-----------------------|------------|-------------|----------------------|------------|-------------|-----------------------------------|------------|-------------|--------------------------|----------------------|
|                     |                   | Mean.             | Mean. | Maximum. | Minimum. | 7.23 A. M.            | 3.23 P. M. | 11.23 P. M. | Mean. | 7.23 A. M.            | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.           | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.                        | 3.23 P. M. | 11.23 P. M. | Duration,<br>Hrs. & Min. | Amount in<br>inches. |
| December,<br>1881   |                   |                   |       |          |          |                       |            |             |       |                       |            |             |                      |            |             |                                   |            |             |                          |                      |
| Sun., 18            | 30.221            | 39                | 52    | 32       | 71       | 50                    | 69         | 63          | SW    | W                     | W          | 5           | 11                   | 10         | C           | C                                 | C          | —           | —                        | —                    |
| Mon., 19            | 30.439            | 38                | 50    | 32       | 78       | 56                    | 74         | 69          | W     | SE                    | SW         | 10          | 3                    | 8          | C           | C                                 | C          | —           | —                        | —                    |
| Tues., 20           | 30.273            | 43                | 55    | 33       | 89       | 47                    | 65         | 67          | W     | SW                    | W          | 8           | 8                    | 7          | C           | F                                 | O          | —           | —                        | —                    |
| Wed., 21            | 30.450            | 37                | 49    | 34       | 64       | 33                    | 69         | 55          | NW    | SE                    | S          | 8           | 7                    | 3          | F           | F                                 | C          | —           | —                        | —                    |
| Thurs., 22          | 29.044            | 45                | 55    | 33       | 89       | 93                    | 96         | 93          | SE    | S                     | SW         | 6           | 8                    | 10         | C           | F                                 | O          | —           | —                        | —                    |
| Fri., 23            | 29.616            | 38                | 55    | 25       | 100      | 100                   | 88         | 96          | SE    | N                     | NW         | 4           | 23                   | 12         | R           | R                                 | O          | —           | —                        | —                    |
| Sat., 24            | 30.304            | 32                | 29    | 16       | 73       | 37                    | 61         | 57          | NW    | W                     | S          | 17          | 12                   | 4          | C           | C                                 | O          | —           | —                        | —                    |
| Means, the<br>week. | 30.192            | 36.7              | 55    | 16       |          |                       | 71.4       |             |       |                       |            |             |                      |            |             |                                   |            | 16.00       | .63                      |                      |

<sup>1</sup> O, cloudy; C, clear; F, fair; G, fog; H, hazy; S, smoky; R, rain; T, threatening; X, clearing.

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM DECEMBER 24, 1881, TO DECEMBER 30, 1881.

SUMMERS, JOHN E., lieutenant-colonel and surgeon, medical director, Department of the Platte. The leave of absence granted him in paragraph 6 S. O. 123, Department of the Platte, December 1, 1881, is extended one month, S. O. 135 Military Division of the Missouri, December 28, 1881.

HAYARD, V., captain and assistant surgeon. Now en route from Fort Davis to San Antonio, Texas, assigned to temporary duty at headquarters, Department of Texas, and to report to the medical director for instructions. S. O. 154, Department of Texas, December 12, 1881.

RAYMOND, HENRY L., first lieutenant and assistant surgeon. Relieved temporarily from duty at Alcatraz Island, Cal., and to report to the commanding officer of the Presidio of San Francisco for duty at that post. S. O. 214, Military Division of the Pacific and Department of California, December 9, 1881.

CORRECTION.—In the necrology of the Suffolk District Medical Society, in the JOURNAL of December 29th, the name of Dr. Spafford should be omitted. Dr. Cahill resided in Lynn, not in Salem. In addition should have been noted the deaths of J. P. Foley, of Fitchburg, September 18th, aged forty one, H. P. Phillips, of North Adams, November 24th, aged seventy-four, J. G. Thomas, of Worcester, November 29th, aged thirty-five.

MASSACHUSETTS COLLEGE OF PHARMACY.—The regular monthly pharmaceutical meeting of the College will be held at 7.30 P. M., on Tuesday, January 10, 1882, in the College Hall, No. 1151 Washington Street. William W. Bartlett, Ph. G., will

read a paper upon Pepsin, Methods of Preparation and of Assaying. All persons interested in pharmacy and collateral pursuits are invited to be present.

DR. B. F. DAVENPORT, *Registrar*.

BOOKS AND PAMPHLETS RECEIVED.—A Manual of Organic Materia Medica, being a Guide to Materia Medica of the Vegetable and Animal Kingdoms, for the Use of Students, Druggists, Pharmacists, and Physicians. By John M. Maisch, Ph.D., Professor of Materia Medica and Botany in the Philadelphia College of Pharmacy. With many Illustrations on Wood. Philadelphia: Henry C. Lea's Son & Co., 1882.

Student's Aid Series. Aids to Diagnosis. Part III. What to Ask. By J. M.ner Fothergill, M. D., M. R. C. P. New York: G. P. Putnam's Sons.

Suppression of Urine. Clinical Descriptions and Analysis of Symptoms. By E. P. Fowler, M. D. Ninety-three Clinical Cases, with Illustrations, Tables, and Diagrams. New York: William Wood & Co., 1881.

A Manual of Midwifery. By Alfred Meadows, M. D. Lond., F. R. C. P., assisted by Albert Venn, M. D., M. R. C. P. The Fourth Edition, revised and enlarged and illustrated with one hundred and thirty-seven Wood Engravings. New York: G. P. Putnam's Sons, 1882.

A Study of the Tumors of the Bladder, with Original Contributions and Drawings. By Alexander W. Stein, M. D., Surgeon to Charity Hospital, Genito-Urinary and Venereal Division. New York: William Wood & Co., 1881.

Transactions of the American Dermatological Association, with the President's Address, at the Fifth Annual Meeting, Newport, R. I. Official Report of the Proceedings. By the Secretary, Dr. Arthur Van Harlingen. Chicago. 1881.

The Hygiene of the Eye. An Address to Physicians. By Charles A. Oliver, A. M., M. D. Read before the Northern Medical Association, October 28, 1881. (Reprint.)

## Original Articles.

HEATON'S OPERATION FOR THE RADICAL CURE OF HERNIA.<sup>1</sup>

BY GEORGE W. GAY, M. D.,  
Surgeon to the Boston City Hospital.

THE Heaton method of treating inguinal hernia for a radical cure consists in moistening the fibrous tissues of the inguinal canal and rings with a preparation of white oak bark, and applying pressure by means of a compress and bandage to keep the canal closed, and prevent the descent of the hernia until the contracted tissues become strong enough to support the strain imposed upon them. The originator of the treatment claimed that by this method of "tendinous irritation" a permanent contraction of the fibrous structures was produced, which resulted in a lasting cure of the affection.

The fluid recommended for injection is composed of fourteen grains of the solid extract of white oak bark thoroughly rubbed up with half an ounce of the fluid extract of the same drug by the aid of gentle heat. The mixture is thick and muddy, and requires thorough shaking before using.

The operation is performed as follows: The hernia having been reduced, and the sac also, if possible, an instrument, resembling the hypodermic syringe, charged with the astringent, is thrust directly down through the skin into the external abdominal ring, and the point of the needle carried up the inguinal canal in front of the spermatic cord to the internal ring. The fluid is deposited slowly while withdrawing the instrument, the point of which is to be moved about in all directions, in order that the astringent may be distributed as evenly as possible throughout the canal. A compress and bandage are applied at once, and worn for a few weeks, when, in the successful cases, the rupture is cured, and requires no further support.

Twenty-four hours after the operation there is usually present some effusion and tenderness in the inguinal region at the seat of injection. The former may remain for an indefinite period, the latter commonly subsides in a few days, except in those unfortunate cases which terminate in suppuration. In some instances no thickening or effusion can be detected after the operation, while in other cases complete absorption of the exudation takes place after a time, and the parts return to their former condition. At the end of a fortnight, in the favorable cases, when the patient is allowed to leave the bed, the external ring will be found much reduced in size, and it is with difficulty that the finger can be introduced into the canal, where, previous to the operation, it passed easily.

Should any of the fluid be allowed to escape into the areolar structure outside the canal it is apt to produce a mass of induration in the loose tissues, which may persist for some time, but which, from its location, size, mobility, and gradual absorption, can seldom serve in any degree to prevent the hernia from coming down. Furthermore, cellulitis and abscess may result from this cause. Suppuration occurred in two of our patients. The abscesses were deep-seated, apparently extending through the anterior wall of the inguinal canal. The resulting infiltration entirely disappeared

in a few weeks after the abscesses closed, and in one case the hernia returned. These complications increase the suffering, prolong convalescence, and, in our opinion, add nothing to the success of the operation.

Dr. Davenport, who edited Dr. Heaton's book, and who was a careful and conscientious observer, always strongly insisted to the writer upon the importance of setting up only a very moderate local action by the injection; anything like severe inflammation was to be avoided if possible. He believed that white oak bark had a mild yet persistent astringent effect upon fibrous tissues, which was more lasting and less violent than that resulting from ordinary inflammation. Hence it is the fibrous and not the cellular structures which require the application of the astringent.

Where is the fluid deposited in this operation?

This is an inquiry that has often been made, but to which, in the absence of any examination upon the cadaver, it is difficult to give a satisfactory answer. Theoretically it should bathe the fibrous structures in contact with the neck of the sac. Practically, the surgeon, depending largely upon his anatomical knowledge of the parts, carries the needle up to the vicinity of the internal ring, and slowly empties the syringe during its withdrawal. Whether the sac is penetrated or not is probably largely a matter of luck rather than of skill, for in cases of old hernia it would seem hardly practicable to guide a needle between the sac and walls of the canal without penetrating one or the other. In some cases the needle moves about in the canal with great freedom, giving one the impression that it has entered the cavity of the peritoneum; yet in twenty-seven operations I have never seen anything like peritonitis. With few exceptions there has been only a moderate local disturbance, which did not require treatment, and which subsided in a few days. Although the pain of the operation is not severe, yet in children an anæsthetic is required to prevent the struggling and straining from forcing out the contents of the rupture before the bandage is applied; timid and nervous people also need it to enable them to keep still. Opiates are not usually called for during the after-treatment.

Below will be found a brief report of *all* the cases operated upon by me, both in hospital and private practice, with the exception of two, which have been under treatment but a few weeks. The results are stated as fully as possible, and no patient is reported *cured* who has not remained well for at least a year after discarding all support to the rupture.

CASE I. A waiter, aged twenty-four years, entered the hospital suffering from an inguinal hernia of moderate size on the left side; a truss had been worn. September 9, 1877, the patient was etherized, rupture reduced, and ten drops of the Heaton mixture injected into the inguinal canal. A compress and bandage were applied, and the patient remained in bed two weeks. He was discharged, wearing a bandage, at the end of five weeks. The external ring had been reduced to one half its former size by the operation, and the rupture had not returned.

CASE II. A sailor, thirty-four years of age, with a reducible inguinal rupture of seven months' duration, was operated on at the same time, and in the same manner as the previous case. He was discharged in four weeks, wearing a truss; the ring was contracted somewhat, but not sufficiently to control the hernia.

CASE III. A harness maker, aged forty-five, subject

<sup>1</sup> Read before the surgical section of the Suffolk District Medical Society, November 19, 1881.

to asthma and bronchitis, had a right inguinal hernia of some years' duration; the ring was large, and rupture uncontrolled by a truss. Operation June 10, 1878. Although the size of the ring was somewhat reduced, the intestine came down during an attack of severe coughing, and he was discharged not relieved.

CASE IV. A policeman had an ommental rupture of two years' duration, which extended half way to the bottom of the scrotum, and could not be controlled by a truss. The operation by injection was performed twice in as many months, with the result of reducing the ring to the size of a pipe stem, but a strand of the omentum still came down, though it could easily be kept up by a truss. Being very anxious to obtain a radical cure, he afterward submitted to an operation for the removal of the protruding omentum, but with only a partial success. He is now wearing a truss.

CASE V. A boy, a year and a half old, with a double inguinal hernia, was operated upon in 1878, in the out-patient department of the hospital. The after-treatment was neglected, as the mother failed to bring him back to have the bandage readjusted. The operation did no good, and the child now wears a truss.

CASE VI. James, twenty-one months old, right inguinal hernia; injected with three drops of the oak bark; wore bandage only a week; remained well at the end of fourteen months.

CASE VII. Michael, two and a half years of age, had a right inguinal hernia which had lasted six months; the ring was large, and two operations were performed. Three years later the rupture came down, only after great straining; he had worn no support.<sup>1</sup> It seems fair to consider him much relieved by the injection.

CASE VIII. A house painter, aged twenty-four, subject to convulsions, was injected for an inguinal rupture. The fits returned three days after the operation, when he jumped out of bed, pulled off his bandage, and the rupture returned. No benefit was received from the operation.

CASE IX. Daniel, aged twelve, a thin, spare boy, had a scrotal hernia with large rings, and loose pillars. Was injected twice within two months. He remains well at the present time, and has not worn a support for nearly two years.

CASE X. A boy, four years of age, was operated upon for an ommental hernia running into the scrotum, with little if any relief.

CASE XI. John, six years old, inguinal rupture, which had come down only a few times; it was reduced under ether about a week before the operation by injection. The ring was small, and hence peculiarly adapted to this operation. The little fellow was running about in a week, and has had no return of his rupture. It is now nearly two years since the operation. This patient would very probably have recovered by wearing a well-fitting truss.

CASE XII. For a year Miss —, aged thirty-eight years, had suffered a good deal from an ommental hernia, which came down into the right labium in spite of any truss she could apply. The operation was performed as in the male, and she remained in bed about a month. The resulting inflammation in this, as in all the cases narrated thus far, was very moderate, never threatening suppuration. She wore an abdominal supporter for several weeks. Fourteen months after the operation she remained well.

CASE XIII. A man, fifty-eight years of age, en-

tered the hospital, suffering from the early symptoms of strangulation of an inguinal hernia. It was reduced under ether, and the operation for a radical cure performed some weeks later. When he left the hospital, at the end of three weeks, the hernia had not returned, and the little finger could not be passed into the external ring. As the rupture was intestinal the operation promises to be successful.

CASE XIV. A baby, ten months old, was brought to me with double inguinal hernia, which trusses did not keep in place. Both were operated upon for the first time over a year ago; as the child has since had measles and whooping cough without bringing down the left rupture, we may safely call that one cured. Suppuration followed the injection upon the right side, and the operation has been repeated twice without success. The rings are large, the inguinal canal is short, and thus far no truss has been found to control the hernia. The operation is to be repeated after the child has fully recovered from whooping cough.

CASE XV. Mr. F., aged twenty-three, suffered a good deal from inguinal hernia, which could not be controlled by trusses. The rings were large, pillars thin, and abdomen flat. Both ruptures were operated upon without ether a year ago. Large effusion followed the injection, resulting in an abscess on each side, which was a long time in closing. Neither hernia has returned; the patient wears a double truss, and has been greatly relieved by the operation.

#### RECAPITULATION.

Number of patients 15; cured 4; relieved 8; not relieved 3. Number of ruptures 18; cured 5; relieved 8; not relieved 5. Number of operations 23.

With two exceptions the above cases seemed to be favorable ones for the operation. That it was not more successful may very likely be due, in part, to the lack of skill and experience in the operator; in part to the imperfect after-treatment, especially in several instances, occurring in the out-patient department of the hospital; and finally to the fact that a second operation could not be obtained in several cases, in which not quite sufficient contraction resulted from the first.

While I do not feel justified from my limited experience, extending over only four years, in expressing a decided opinion as to the real value of the oak bark treatment of hernia, yet my impression is that in the inguinal variety of the affection it is often a good method, and is worthy of further trial and study at the hands of competent surgeons. It would seem peculiarly adapted to cases with small rings, and to cases occurring in children, when Nature herself is making a constant effort to correct the deformity, and requires but little assistance to enable her to accomplish the result.

I know nothing of the merits of the operation in other kinds of hernia; but in the one under consideration I can but conclude that it is safe; it is not very painful; it is not very difficult to perform; it does little harm, even if it does no good; it will cure a certain number, and will relieve others.

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— In a recent case in England the opinion was given that a surgeon who attended a duel to prevent a man from dying was to be held equally guilty with the person who fired the shot, because by his mere presence he forwarded the duel.

<sup>1</sup> I have lately repeated the operation upon this child.

A PENETRATING PISTOL-WOUND OF THE BRAIN.<sup>1</sup>

BY J. FOSTER BUSH, M. D. (HARV.)

G. B., a stout German lad, sixteen years old, weighing one hundred and sixty pounds, had always been well, previous to receiving the injury about to be described.

On June 29th, while playing with a younger companion, the patient was shot in the head, and immediately fell to the ground insensible. I saw him within ten minutes after receipt of the injury. He was lying upon a sofa, breathing heavily, with a slow pulse, the mouth drawn to the left and the left arm and leg paralyzed. It was with difficulty that he could be roused.

Upon examination a small round wound, with inverted edges, was found in the forehead, above the centre of the right eye and an inch above the eyebrow. Blood was oozing from the wound. Without the use of force, simply by its own weight, a probe passed into the wound, penetrated backwards to the depth of two inches. The opening in the skin was then enlarged so as to admit the tip of the little finger, and with this a circular hole could be felt in the skull. Further interference was deemed unwise, and the patient was put to bed, cloths wet in ice-water applied to the head, and the wound dressed with a two and a half per cent. solution of carbolic acid.

Two hours after the receipt of the injury he became perfectly unconscious, and could not be roused. Both pupils were dilated, the right fixed, the left responding to light. Later in the day, five hours after the receipt of the injury, Dr. H. H. A. Beach saw the patient in consultation. His condition was about the same as when last seen, the only new symptom being vomiting. Cerebral substance in masses as large as a split pea were noticed coming away with the blood. Upon examining the opening in the skull with a probe, small particles of lead were removed. Dr. Beach concurred in the opinion that non-interference was the best course to pursue. Absolute quiet and rest were enjoined; liquid diet in small quantities ordered; dry cold, in the form of an ice-cap, was applied in the place of the wet compresses; and a one per cent. solution of phenyle was used in place of the carbolic dressing.

The next day, June 30th, the pulse was 90, the temperature 101.2° F., the tongue coated, and the mind sluggish, but he would respond when spoken to. He complained of pain in the head, which was intensified by motion. Vomiting occurred at intervals. The right pupil was largely dilated and did not respond to light. He stated that he could not see out of his right eye. Ten grains of bromide of potassium were given every three hours.

On July 2d, attempts having been made for two days to obtain an action of the bowels, rhubarb powder, jalap, and scammony, and castor oil having been given without any effect, the desired result was finally brought about by a large injection of warm water, molasses, and olive oil.

On July 3d there was a sero-purulent discharge from the wound, the pulse was 100, the temperature was 102.4° F., and the pain in the head was increasing. The wound was oedematous and its mouth was covered by a slough; a flaxseed-meal poultice was therefore substituted for the phenyle, for twenty-four hours, after which it was discontinued, the wound having cleared up, and the phenyle was again resorted to.

<sup>1</sup> Read before the Surgical Section of the Suffolk District Medical Society, November 19, 1881.

On July 5th, one week from the time he was shot, the headache was of periodic character, and was only noticed over the right side of the forehead. With the right eye he could now just distinguish objects, but could not see clearly, things appearing as if seen through a mist. A two-grain pill of bisulphate of quinine was given every four hours.

On July 8th sight in the right eye was perfect, the headache was slight and local. For the first time since the accident he felt hungry.

On July 10th the seat of the cephalalgia changed from the front to the back part of the head. Up to this day the slightest motion of the head caused pain and nausea, but on this morning movement produced neither. The bromide of potassium was discontinued.

I have previously stated there was hemiplegia; there was loss of both motion and sensation, and the skin of this side was colder than the other. Upon tickling the sole of the left foot the right leg would be drawn up. He also experienced spasmodic pain from left hip to the heel, and was able to move the leg, for the first time since the receipt of the injury. The right pupil was still not so sensitive to light as the left, and the mouth not so much drawn to the left as before. Flannel bandages were applied from the toes to the hip of the affected side, and five-grain doses of the iodide of potassium were given three times a day, in place of the quinine. From this time on his condition was such that I will not continue to give the dates. He gained in strength constantly, relished his food and, if he kept quiet, felt nicely. It was forty-one days from the time of the accident before he could move his arm, and up to this time he could not sit up in bed without experiencing nausea, or feeling as if "something was rolling about in his head."

The bowels were regular after the first ten days, and at that time micturition ceased to be difficult. In seven weeks he was able to be taken in a hack a distance of three miles. The journey was well borne, the only discomfort being nausea just after starting, but as soon as he became accustomed to the motion of the carriage the sickness subsided.

Now, four months after the injury, he has no cerebral symptoms, the paralysis has disappeared, save in the flexors and extensors of the hand, but there is yet little strength in the muscles of the arm and leg, so that he cannot walk far, for fear of falling; he creeps about the floor, and even goes up and down stairs on his hands and knees. He can walk when any one supports him.<sup>2</sup> His appetite is good and he is especially fond of fruit, which was not the case previously. For a long time his sleep was accompanied with disagreeable dreams, and he would wake up screaming and frightened. The skin, which up to quite recently was cold and clammy, has now become warm and natural. The highest pulse was 100, and the thermometer never showed a temperature higher than 102.4° F. There is hyperaesthesia of the skin of the affected side. The tongue deviates slightly to the left, and both pupils are still dilated. Vertigo, at first, was a marked symptom. Now he experiences none of it, and can look from a height to the ground without feeling the slightest dizziness. There is loss of memory.

Although the symptoms and progress have been

<sup>2</sup> It is seven months since the receipt of injury and the patient now has perfect use of both the arm and the leg of the side which was affected. He can walk without any support, and has complete control of the muscles of the arm and hand.

favorable, and there are now no alarming circumstances, I do not feel that we can give a favorable prognosis, for although wounds in the anterior and upper portion of the hemispheres are least dangerous, yet the risk of continued cerebral symptoms, epilepsy, abscess of the brain, and death from acute cerebral disease are great. A case somewhat similar to mine happened some years ago in Vineland, N. J., which created quite a sensation at the time. The patient apparently recovered, but eventually died suddenly with cerebral symptoms, and after death a large abscess, with the ball in the centre, was found in the brain.<sup>1</sup> Concerning gun-shot wounds of the cranium where penetration has taken place and the ball has remained within, a recent writer<sup>2</sup> has said, "The foreign body never becomes a harmless tenant, its presence always furnishes a potential source of mischief, and recovery can only be held to take place in a limited sense, for notwithstanding the absence of symptoms speedy dissolution may ensue with little or no warning."

In some cases of apparent recovery where foreign bodies have remained in the brain the patient did well till cerebral excitement was experienced. In several cases spoken of in Holmes, "Five died suddenly after excessive drinking, one by the excitement produced by playing cards, and one on account of a slight injury received upon the head."

In the second surgical volume of the Medical and Surgical History of the War of the Rebellion, there are found reports of one hundred and eighty-six cases of balls penetrating the cranial cavity, of which number one hundred and one were fatal. In eighty-five cases of removal of the foreign body there were forty-three recoveries. In one hundred and one cases in which the foreign body was not removed fifty-nine were fatal.

The same authority under the head of Balls Lodged within the Cranium gives nineteen cases in detail, the analysis of which shows that they were nearly all more or less troubled in after life, or rather, as long as they were kept under observation, which was in all the cases at least ten years. Of the nineteen cases, two were subject to epilepsy, four affected with marked vertigo, four with other cerebral symptoms, in one no report covering the subsequent history is given, one was paralyzed, one had continuous pain in the head, in one the wound had not healed, and concerning four there were no bad symptoms recorded.

In another series of four hundred and eighty-six recorded cases of penetrating gun-shot wounds of the skull four hundred and two died, sixty-five were discharged from service, and nineteen were returned to duty.

The weapon which was used in this case was the oft-mentioned "toy pistol," of the "Magic" pattern, and is only intended for blank cartridges to be used simply for explosion, but in this case it was loaded with a shell carrying a number twenty-two conical projectile. The distance between the boys at the time of firing was twenty-one feet.

— Nearly one twelfth of the Esquimaux inhabitants of the Labrador coast have been carried off by an epidemic which appears to be a malignant type of measles.

## A CASE OF CRIMINAL ABORTION RESULTING IN DEATH FROM AIR-EMBOLISM.

REPORTED BY W. W. GANNETT, M. D.

ALTHOUGH death from criminal abortion is by no means uncommon, ample opportunity being afforded the medical jurist for observation of the pathological processes by which death is brought about, yet it must be conceded as rare for the fatal result to be produced by the entrance of air into the circulation through opened uterine sinuses.

The rarity of cases of air-embolism from a pathological point of view, together with their greater rarity from a medico-legal stand-point, coupled also with the fact that the medical examiner was enabled indirectly to bring about the conviction of an abortionist, lends interest to the case given below, both to the pathologist and medical jurist.

It has long been known as a fact in surgery that wounding of veins in the region of the neck was an extremely dangerous accident, from the liability of air being sucked in by the action of respiration and its accumulation in the heart; death usually ensuing instantaneously. More recently it was discovered that pregnant, parturient, and puerperal women were liable to a similar catastrophe, the factors requisite to produce such a result being open uterine sinuses in communication with air. Position of the woman was also considered of importance, the knee-elbow being the most favorable to the entrance of air into the uterus, from the negative pressure produced by the weight of the abdominal viscera acting in the opposite direction to that either in the dorsal or erect positions. Again, cases of death from air-embolism have been observed to follow intra-uterine injections in the puerperal condition, air gaining entrance into the uterus with the infecting fluid, either through carelessness of the operator or defect in the instrument used.

The history of the case to be at present considered is as follows: An unmarried mulatto woman, twenty-one years old, whose health, previous to January, 1881, had been good, consulted in that month an irregular practitioner living in Boston for some indefinite symptoms, among which backache was prominent. This doctor examined her, said she had prolapse and retroflexion of the womb, and gave her medicine. A few months later she again saw him, this time on account of suppression of the menses; for this he gave her some drug. At a visit in June he suspected, from the continued absence of menstruation, that she might be pregnant; finding on examination that this was the case he charged her with it, and, on her confessing the whole affair, advised her to take legal measures to recover from the father. Four months later, on the 26th October, she went with a sister to this doctor's office by appointment, the object being, as stated by the girl to her sister, that as she was in trouble she was going to have something done, and that Dr. T. was going to do it. Immediately on their arrival the girl went into a small room with the doctor, the sister remaining in the office. After being in this room about fifteen minutes, during which he was two or three times interrupted by callers at the outside door, this doctor suddenly rushed out of the small room, saying that the girl had fainted, and asking the sister to come in. He worked over her a few minutes, sent for a physician, who arrived shortly after, but she was already dead.

Medical Examiner Draper was summoned, and on his

<sup>1</sup> Gross.

<sup>2</sup> Holmes' System of Surgery: Am. Ed.



reaching the house Dr. T. stated to him that he supposed the case to be one of heart disease; that he had made no examination whatever; that he was simply sitting beside the patient on the bed, when she suddenly threw up her arms, uttered a moan, and fell backwards in a convulsion, from which all efforts to resuscitate her were of no avail. It may be here stated that the girl's drawers, which had been previously removed, were replaced by Dr. T. after her death. On the following day an autopsy was made by Dr. Draper, his report of which is as follows:—

External examination. The body was that of a well-nourished, apparently healthy, colored woman. Rigidity of limbs was well marked. There were patches of livid discoloration in the posterior parts of the body, on the sides of the neck and chest, and in the loins. There was no odor or other sign of decomposition.

Upon the posterior or lower parts of the external genitals and upon the buttocks were stains of blood.

Red stains, resembling blood stains in their appearance, were found upon the underclothing removed from the body at the time of the autopsy.

Internal examination: When the primary incision was made from the neck along the front of the body to the genitals, bubbles of air were observed to issue from the blood-vessels in the parts over the breast bone. The right side of the heart was fully inflated with air; and when a small puncture was made in this distended side of the heart air escaped, at first in a free jet, then in the form of bloody bubbles, and the walls of the heart collapsed. The left side of the heart was firmly contracted and empty. The structure of the organ was entirely healthy. The superficial veins of the heart were seen to contain air as well as blood. The blood in all parts of the body was thin and of a dark color; there were no clots.

Both lungs contained an excess of blood. In other respects they showed no change from a healthy condition.

The spleen was normal in size, color, and consistency.

The kidneys were engorged with blood, and were larger than natural, but their structure presented no indication of disease.

The liver was healthy. Bubbles escaped from the mouths of the vessels when the organ was cut.

The stomach was of natural appearance. It contained between half a pint and a pint of partially digested food taken (by estimate) within three hours before death.

The intestines were healthy. The veins leading from them were seen to contain air as well as blood.

The brain and its membranes presented nothing remarkable except the presence of air in the vessels.

The lower region of the abdomen was occupied by the enlarged womb and its contents. The highest point of the womb was about two inches above the navel. Its color was natural throughout its anterior portions, but the posterior and lateral regions were reddened. The various sinuses in the walls of the organ were fully inflated with air, and stood out from the surface as tortuous elevations distributed in all directions. The left lateral region of the cavity of the womb was felt to contain air outside the sac holding the child. The enlarged vein on the left side of the organ contained air, with blood.

The womb, lower intestine, bladder, and vagina were removed together from the body, and upon dissection the following appearances were disclosed:—

The vagina was five inches long. Its lining membrane was white, thickened, and rough. Its calibre was very little, if any, in excess of that of the vagina of an unimpregnated woman. There was a little staining of a reddish thin fluid along the posterior wall.

At the anterior part of the external opening of the vagina there was a bruise-discoloration half an inch long and one eighth of an inch wide at its widest, the ends of the bruise being more deeply discolored than the middle part.

The womb was ten and a half inches in length and eight inches wide (outside measurement). The entrance to its cavity was opened to an unusual degree, admitting the thumb easily. The margin of this opening showed the effects of recent irritation by some foreign body. Just within the entrance, the membrane lining the cervical canal was reddened; and at the upper part of this canal on its posterior surface was a reddened area three eighths of an inch long and one quarter of an inch wide.

The cavity of the womb contained a child enveloped in its membranous sac and surrounded by its natural fluid. This child was a female, of light color, and well developed; it measured fourteen inches in length and weighed two pounds; its hair and nails were well grown; there was no bony centre in the lower end of the thigh bone.

The membranes enveloping the child had been forcibly separated before death from the left lateral region of the inner surface of the womb, so that fully one half of that surface was denuded and between it and the membranes there was air and a small quantity of liquid blood. This denuded area was reddened in all directions and was in marked contrast with the paler surface left by the separation of the remainder of the membranous adhesions at the time of the autopsy. Along the posterior portion of the inner surface of the womb, in the middle line of that region, the discoloration was much deeper, presenting an area of bruised and roughened uterine tissue five inches long and in width from half an inch (at its lower extremity) to one inch and a half (at its upper end). A less defined but distinct region of bruised and reddened uterine tissue was found a little to the right of that described and extending upward, like that, from the upper end of the cervical canal.

In various parts of that region of the womb which had been denuded of the membranes before death, the open mouths of many of the venous sinuses in the walls of the organ were seen and were further demonstrated with the blow-pipe; air could freely enter these openings and thence pass into the general circulation.

The bladder was empty and healthy.

The ovaries were well-developed. The right ovary contained a corpus luteum.

In conclusion Dr. Draper states as his opinion, that the said individual came to her death by the admission of air into her blood-vessels and heart through ruptured venous sinuses in the walls of her impregnated womb, in consequence of the introduction of a blunt instrument into the cavity of the womb.

An inquest was held later, and Dr. T. was indicted on the charge of attempting to procure a criminal abortion. In default of twenty thousand dollars bail he was remitted to jail to await trial.

At this trial, which occurred in December, the facts above stated were brought out. The remainder of the

testimony was that of the medical experts, and it not only constitutes the part of most interest to physicians, but it was of most importance in the case from a legal stand-point.

Medical Examiner Draper testified to what has already been mentioned in connection with the view and the autopsy, and gave also in his direct examination a very clear account of what is known of air embolism in general, and its special application in this case. His testimony may be summarized as follows:—

Admission of air into veins is a very serious accident. The effect of air so admitted varies according to the amount; if large, and its introduction rapid, death immediately follows; if small, or the introduction be slow, only a temporary circulatory disturbance, as shown by the fainting and distress, may result. The amount of air and its manner of introduction can be determined by a post-mortem examination, provided such examination be made soon after death, before decomposition has developed gases. If death follows rapidly after the introduction of air, the right side of the heart would be fully inflated with air, with comparatively few bloody bubbles; if the fatal result were slower the right cavities would still be expanded, but the contents might consist almost wholly of bloody bubbles, from the churning action of the heart. Instant death has resulted from entrance of air through the uterine sinuses in delivery at term and in instrumentally induced abortion. The anatomical structure of the uterus is such that under favoring circumstances air can enter rapidly and in large quantities into the uterine sinuses, and so make its way to the heart. Such favoring circumstances are: an open cervical canal; a separation of the fetal membranes, exposing orifices of uterine sinuses; unusually large sinuses; imperfect plugging of sinuses by clots; the structure of the canals themselves, being intimately adherent to the wall of the uterus so that they remain open when divided.

Dr. Draper then explained the way in which death is brought about in such cases. When the external air has free entrance to the cavity of the uterus, either through a tube like a catheter, or by being forced with a syringe, or by admission through the natural passages, and when the orifices of the uterine sinuses are open, then the uterus, alternately contracting and expanding under any stimulus (a foreign body like the air itself), will act like a rubber bulb to suck into its cavity and into its sinuses this external air, while the heart and lungs meanwhile act also as a suction force to draw air through the veins leading from the uterus to the heart; its rapid accumulation in the right side of the heart distends these cavities instantly, so that the heart's muscle becomes paralyzed and unable to contract. Whatever blood mingled with air the heart can propel goes to the lungs, and from the bubbles of air lodging in the capillaries the pulmonary circulation is seriously interfered with. A convulsion with this form of death is the rule. Death may result instantly, where the amount of air is large, by paralysis of the heart and asphyxia, or it may result from the consecutive effects of the air, as a pneumonia; this in cases where only a smaller quantity enters the circulation.

In regard to the case at issue Dr. Draper further testified that the autopsy showed all the anatomical conditions to be favorable to the rapid entrance of a large amount of air by way of the uterine veins to the heart; that the passages to the uterus were open, the fetal membranes had been separated from the inner

surface of the uterus, over half its area, and the orifices of the sinuses were thus exposed; very little hemorrhage had occurred to plug these orifices with clots; the sinuses were larger than usual. In addition the autopsy showed, as a matter of fact, that air had been admitted to the cavity of the uterus, to the sinuses, to the uterine veins and inferior vena cava, and to the heart itself.

The amount of air and its distribution as found at the autopsy were wholly incompatible with the theory that any considerable time had elapsed between the entrance of air to the heart and the death of the patient.

The post-mortem examination of the body was made so soon after death that sufficient time had not elapsed for any decomposition to have developed,—indeed, the deeper parts of the abdominal cavity were still warm; the heart was inflated by air without odor, and not by the fetid gas of decomposition. There was not the slightest odor or appearance of putrefaction about any part of the body.

The wounds observed on the inner surface of the uterus were recent; they might have been and probably were made immediately before death; they could not have been made so long as twenty-four hours before death.

The separation of the fetal membranes from the uterine surface was not a natural, spontaneous result of the normal action of the uterus, because if it had been the separation would have been in a transverse direction near the cervix, and not in a longitudinal direction involving fully one half the inner surface of the organ. Moreover, bruising could not result from a natural process, but the reddening would have been uniform.

The bruises on the orifice of the vagina, on the os, in the cervical canal, and on the inner surface of the uterus all indicate the introduction of a blunt instrument into the cavity of the uterus.

The small amount of blood found and its fluid condition indicate the suddenness of the death after the injuries which set the blood free.

The witness further stated it to be his opinion that the deceased could not herself have produced the appearances found in the uterus by the introduction of an instrument in her own hand, for the reasons that she could not pass an elastic instrument into her vagina through the os and up the posterior wall of the uterus to a depth of at least ten inches so as to separate the membranes as they were found; further, that she could not pass an inelastic instrument into her uterus without doing much more damage than the autopsy disclosed to the tissues of the os, cervical canal, and inner surface of uterus. The chances are decidedly in favor of the view that with either an elastic or stiff instrument, if no other injury were done, she would have ruptured the fetal membranes, and let out the fluid within. Again, death resulted too suddenly to be accounted for on the hypothesis of the self-infliction of the injuries found.

The operation was done by some person other than the deceased and was done just before death.

Knowledge of the pregnant condition of the woman being admitted by the person accused, the purpose of the operation was to induce miscarriage and that only.

Dr. Draper's cross-examination lasted four hours, but failed to shake him in the least, in his testimony.

Dr. W. L. Richardson testified, that the pelvic organs of the woman had been brought to him a few hours after the autopsy; that he examined them and,

as a consequence, believed that the individual came to her death from the introduction of air into the circulation. He further corroborated the testimony of Dr. Draper in all particulars.

The defendant, Dr. T., testified, among other matters, that he had made a digital examination of the woman and that it was during this examination that she fell back in a convulsion. This is in direct contradiction to the statement made to Dr. Draper at the view, at which time he stated that he had made no examination whatever. Defendant further testified that the object of this examination was simply to touch the os to determine whether there were any ulcerations about it, and that, with the exception of his finger, he introduced nothing into the vagina or uterus of this woman.

The experts for the defense, Drs. H. G. Clark and H. M. Jernegan, agreed with Drs. Draper and Richardson that death could only have resulted from air embolism, but differed from them in supposing it to be possible for the individual to have carried about in her uterus a certain amount of air, for a period varying from a few hours to two or three days; that either this air, in consequence of its gradual expansion by the heat of the body, separated the membranes from the uterine surface, thus opening the uterine sinuses and so gained entrance to the circulation; or, that as a result of some slight irritation, like that of the finger touching the os, the uterus suddenly contracted on this mass of air contained within its cavity and that the forcibly compressed air tore away the membranes and so entered the circulation. As to the method by which the air originally entered the uterus, it was thought by the experts for the defense that it might have been the result of a douche, for cleansing purposes, either improperly given or else from a leaky syringe, in the hands of the woman herself.

To sum up the case; both sides agreed that death resulted from air embolism. The defense maintained that the air did not enter the uterus from any measures taken by Dr. T.; that it was already in the uterus at the time she came to his office, and that the innocent digital examination was enough to make it explode, as it were, and enter the circulation; and further, the fact that air was found in the veins beyond the heart was evidence that the air had entered the circulation slowly, and that death must have been gradual. The prosecution declared that the various steps in the whole series, from the separation of the membranes to the death of the individual, must have followed one another rapidly, occupying in all less than five minutes, and that said separation must have been done by an instrument in the hands of the accused, in his office, immediately before her death.

The judge, in his charge to the jury, stated that they could not find a verdict of guilty unless the government had proved that the child was alive at the time of the attempted abortion.<sup>1</sup> This is a question of considerable importance from a medico-legal point of view, from the fact that it is impossible for the pathologist to determine in many cases whether a child in the dead mother's uterus was alive or not at the time the mother died. The District Attorney is authority for the statement, that the opinion of the highest English courts, is a contrary one.

The jury returned a verdict, in three hours, of guilty.

## RECENT PROGRESS IN OBSTETRICS.

BY W. L. RICHARDSON, M. D.

### PUERPERAL HAMATOCELE.

Dr. R. SOMERVILLE reports<sup>2</sup> two cases of this rare complication of the puerperal state. In the first case the effusion was in the septum between the vagina and the rectum, while in the second case it was in one of the labia. The mechanism of the production of the hemorrhage would seem to have been that in the first place the pressure of the child exerted on the upper part of the vessels prevents the free return of the blood, and so causes them to become turgid. In the second place, owing to the descent of the fetus, pressure of a severe kind is also made on the distended part of the vessel or vessels, thus causing a rupture. Finally, when this pressure is removed free hemorrhage from the ruptured vein or veins occurs, and this will go on until the tension of the effused blood equals that of the blood inside of the vessel. Fortunately, the pressure restraining the hemorrhage is not usually taken off until after the child is born, and therefore the development of the hamatocele is delayed until after the labor is concluded. If, however, the pains cease, or there are long intermissions, and the fetus recedes, and pressure is removed, then the bleeding will occur before birth, and may seriously interfere with the labor.

As regards treatment, Dr. Somerville advises that whenever the hamatocele is developed after the termination of the labor, the pain should be soothed by opiates. Then, where practicable, a pad of some soft material should be applied, that its support may do something to prevent a rupture of the thrombus, and the consequent danger of an increased hamorrhage. After the tumor has ceased to enlarge, and when there is a likelihood of the injured vessels being sealed up, it is a question whether the tumor should be at once incised or not. Dr. Somerville decidedly favors waiting as long as possible, with a view of avoiding the danger of that peculiar sensibility which all puerperal women have to septic influences.

In cases where the hamatocele develops during the progress of the labor, immediate delivery is the safest course, for by waiting the swelling may become a most serious obstruction to the passage of the child, and the thrombus is liable at any moment to burst, giving rise to a frightful hamorrhage.

### ELECTRICITY IN OBSTETRIC PRACTICE.

Dr. G. Apostoli reports<sup>2</sup> that during the last two years he has been in the habit of using the electric current in his obstetric practice, with a view of hastening the completion of the involution of the uterus. Immediately after delivery an induced current is applied to the uterus, and its intensity is gradually increased. The application is made from eight to ten times during the first six days after the termination of a natural labor. If the labor has been premature or an abortion has taken place, the application of the electricity is made from fifteen to twenty times. He is convinced that this method of applying electricity has yielded most marked and favorable results.

<sup>1</sup> We have reason to believe that his honor has subsequently modified this opinion. — Ed.

<sup>2</sup> Edinburgh Medical Journal, July, 1881.

<sup>2</sup> Annales de Gynécologie, May, 1881.

## MANAGEMENT OF THE THIRD STAGE OF LABOR.

Dr. Kabischeke gives an account<sup>1</sup> of the method in which the third stage of labor is conducted in Professor Freund's obstetrical clinique at Strasburg. It is there considered that the expulsion of the placenta is just as much a physiological process as the expulsion of the child, and therefore it should be left to nature, and not hurried, as has of late become the custom, owing to the teaching of Credé. By waiting the membranes are more perfectly separated from the uterine wall. There is much less danger from hæmorrhage than where the uterus is immediately forcibly compressed. In the majority of cases the spontaneous expulsion of the placenta takes place within three hours, and then the vagina is washed out with a five per cent. solution of carbolic acid. A wad of jute steeped in the carbolic solution is applied to the vulva. During the convalescence no vaginal or uterine injections are used. Where there is a threatening of post-partum hæmorrhage the hand is kept over the fundus of the uterus so as to follow its contractions, but if there is no sign of bleeding the uterus is left alone. The case is watched for from an hour to an hour and a half, and if no bleeding has yet taken place the expulsion of the placenta is left to nature. If necessity demands the immediate removal of the placenta Credé's method is adopted. If any portion of the membranes or placenta is left behind it is removed by the hand, and the uterus washed out with a two per cent. carbolic solution. In these cases the vagina is washed out three times daily with the same solution during the whole period of the convalescence.

## CLINICAL OBSERVATIONS ON PUERPERAL TEMPERATURE.

Dr. A. D. L. Napier gives the following summary<sup>2</sup> of four papers which he has contributed on the above subject:—

(1.) Temperature varies in the normal puerperal condition from 97° F. to 99.5° F. The average for three or four days succeeding parturition is 98.5° F. to 99° F. The healthy puerperal range is 2.5° F.

(2.) No temperature over 99° F. is normal after four days. The healthy patient may have an *occasional* night temperature of 100° F. or 101° F. within the first four or five days, but a continuing, or even a morning record like this requires explanation.

(3.) Slight causes, for example, constipation, retention of urine, etc., give a rise to 99° F. to 100.5° F., sometimes more.

(4.) Retention of clots or secundines, 99° F. to 101° F. or upwards, 103° F. at times.

(5.) Woid has a sudden late temperature of 103.5 F. with rapid pulse; the heat falls quickly with the development of the local affection. Other cases of mastitis are mildly febrile for several days.

(6.) Metritis (endo- and peri-) gives record of 103.5° F. with slow pulse.

(7.) Peritonitis has a single rigor, and a sudden early temperature of 101° F. or upwards; the pulse is wiry. General peritonitis, if severe, 105.5° F. to 106° F.

(8.) Pelvic cellulitis, oöphoritis, parametritis, etc., have a heat of 101° F. to 102.5° F.; the pulse is weak and irritable. Recurrent rigors mark fresh deposits of pus, and are followed by temporary increased heat, 101.5° F.

(9.) Pyæmia and uterine phlebitis average 103° F., perhaps more. Cases in which the veins are rapidly affected are soon 104.5° F. to 106° F., and end speedily. Pyæmia is frequently late in development, seven to ten days.

(10.) Septicæmia varies from 102.5° F. to 107° F. The heat is never less, at least for some period of the twenty-four hours, than 102.5° F. There is no security from remission till the night temperature is under 100° F. Recovery may take place after 106° F., but is rare.

(11.) Mental emotion may show 104° F. or even 106° F., and we may sometimes have in addition symptoms resembling metro-peritonitis. These cases do not persist, and are generally normal in less than forty-eight hours.

(12.) If the temperature does not rise within ten days from delivery there is little risk of grave disease unless from imprudence in exposure to cold or zymotic influences.

(13.) Although the temperature is moderately low, 100° F. to 101° F., so long as the pulse continues 120 or more we are not safe from relapse; no anxiety need be felt so long as the temperature is kept under 102° F. However fast the pulse, if the temperature is low the prognosis is favorable, except of course where the lowness of the temperature is due to a collapse. If the temperature is persistent at 102° F. or frequently recurs to this point there must be an abnormal organic condition.

(14.) Temperature should be observed night and morning for the first seven days, and daily for three to seven days after, more especially if instrumentation has been required for delivery, or if zymotic or epidemic disease prevails. When an abnormal temperature prevails it should be reduced to normal as early as possible. It is of the highest moment to bring it down to 100° F. and keep it there or lower.

## PELVIC ARTICULATIONS.

Dr. Korsch (St. Petersburg) reports<sup>3</sup> the results of a series of experimental investigations made by him with reference to the mobility of the pelvic articulations. The measurements were made by means of dilators so constructed that not only the extent of the separation of the two blades was measured but also the amount of the force required to separate them. This dilator he applied to various parts of the pelvis of the bodies of recently-delivered women, of pregnant women, and non-pregnant women, and men. The following results were arrived at: (1.) During pregnancy and in patients who have large ovarian or uterine tumors there is a widening of the diameters of the pelvis. (2.) At the inlet the greatest widening is that which occurs in the transverse diameter; while at the outlet the antero-posterior diameter is increased. (3.) Nearly twice as much force is required to increase the diameter of the inlet as to change that of the outlet. (4.) Whenever the transverse diameter of the inlet is widened, there is a shortening of the antero-posterior diameter; but an increase in the antero-posterior diameter does not affect the transverse measurement. (5.) Even if the transverse diameter of the brim be lengthened to its maximum, the conjugate may still be further extended; but the transverse diameter cannot be altered after the maximum length of the conjugate has been reached. (6.) If the transverse and antero-poste-

<sup>1</sup> Centralblatt für Gynäkologie, 1881, No. 7.

<sup>2</sup> Edinburgh Medical Journal, November, 1881.

<sup>3</sup> Zeitschrift für Geburtshülfe u. Gynäkologie, 1881.

rior diameters of the inlet are increased simultaneously the amount of increase in each is not so much as when either is alone extended. (7.) Widening of the outlet slightly diminishes the conjugate, while the transverse diameter of the brim remains either unaffected or is slightly lengthened. (8.) If the inlet is widened the reverse is true. (9.) On the average the greatest amount of mobility is in the sacro-iliac synchondrosis. (10.) The amount of synovial fluid was increased in those joints where mobility was most noticeable. (11.) Any increase of the antero-posterior diameters depends upon the movements of the sacrum; while that of the transverse measurements is due to a yielding of the symphysis pubis. (12.) Any increase in the size of the synovial cavity of the pubic articulation leads to a greater mobility of the joint. (13.) The mobility of the pelvic articulations does not depend on the previous number of deliveries.

## Reports of Societies.

### PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

H. C. HAVEN, SECRETARY PRO TEM.

SPECIAL MEETING, DECEMBER 27, 1881. In calling the Society to order, the President said:—

This unusual meeting is held that the Society may take such action as shall seem fit to honor the memory of one of its oldest and most distinguished members, Dr. Edward Reynolds, who died on Sunday last, at the age of eighty-eight years.

Identified, socially and professionally, with a generation which is fast passing away, the younger men of this Society will recall the stately presence and genial manner of Dr. Reynolds in this hall, but a short time ago, when with unabated strength and animation he interested large audiences by his charming reminiscences of by-gone medical men who had practiced in this vicinity.

Founder of one of the noblest charities of Boston, the Eye and Ear Infirmary; distinguished as an ophthalmologist in the days when there were no specialists; actively engaged in medical teaching up to a comparatively recent period; holding fast to all the best interests of the profession, he retained the universal esteem of his medical brethren throughout his long career. This Society will therefore gladly show by its action the respect which the example of a life like that of Dr. Reynolds so richly deserves.

Dr. H. W. WILLIAMS offered the following resolutions:—

*Resolved*, That this Society deeply regrets the loss it has sustained in the death of Dr. Edward Reynolds, as one exemplifying in his own character and practice all the noblest traditions of our profession.

None who knew him could forget the dignified urbanity of his manners, or fail to note his extensive acquirements, or doubt the heartiness of his friendship. Among the many distinguished men of his generation he held a foremost place as a diligent student and admirable teacher, an honorable and courteous confidant, and a judicious, faithful, and sympathetic practitioner—uniting all the qualities which could make him highly esteemed as a physician, as a citizen, and as a friend.

Retaining until nearly fourscore and ten years the fresh geniality of his youth, and the ripe wisdom of his

manhood, his presence was always welcome, and his life an example to us all.

*Resolved*, That while we feel that he rests from his labors but his good works abide with us, we tender to the family of Dr. Reynolds our sincerest sympathies in their bereavement.

Dr. D. H. STORER spoke as follows:—

Mr. President,—In rising to second these just and appropriate resolutions, as the oldest professional associate of our deceased brother, I would add a few very brief remarks. For more than half of a century I enjoyed the privilege of an uninterrupted intimacy with Dr. Reynolds. I knew him well, and admired him. He was a true man; his character was irreproachable.

For many years, until increasing infirmities compelled him to withdraw from the duties of his calling, he stood in the front rank of the profession. He was endeared to an extensive circle of friends by his sympathy and kindness and fidelity in their hours of sorrow. He was esteemed by the entire profession for his courtesy, the liberality of his views, and his honorable bearing. His memory is worthy of our homage,—I rejoice that we have assembled to render it.

Dr. BETHUNE said that as a former colleague of Dr. Reynolds at the Eye and Ear Infirmary, he always preserved the most delightful recollection of their old association.

Dr. Reynolds was ever genial and charming in manner, and always ready and anxious to obviate difficulty and smooth the path of men younger than himself. His death will be felt acutely by all who in those days were in intimate and most friendly relations.

Dr. SHATTUCK spoke as follows:—

I thank you, Mr. President, for the opportunity of bearing testimony to the worth, kindness, and courtesy of our departed colleague. He had been a score of years in the profession when I commenced the practice, and his knowledge, skill, and success were widely recognized. He was an example of conscientiousness, fidelity to duty, kindness, and courtesy to all the younger brethren. His religious faith and belief were evident in his conduct and bearing. His success as a teacher in the Eye and Ear Infirmary and in the Tremont Medical School was well known.

Dr. John C. Warren, the Professor of Anatomy, having leave of absence for a year, Dr. Reynolds was called upon to assume his duties. In listening to the lectures of our present Professor, it may seem an easy matter to discourse upon that subject, so easily and with so little effort are they delivered. But to a busy practitioner of twenty-five years to acquire a sufficient familiarity with the innumerable details of anatomy, and with new truths and views in physiology is no slight task, and here Dr. Reynolds exhibited his intellectual powers and industry to the admiration of all for whom his work was done. With advancing age and infirmity he gradually laid aside his duties, and in his retirement his cheerfulness, courtesy, knowledge, and wisdom were still conspicuous. We all felt it a privilege to be in his company, and especially those of us who are growing old found much to learn in our intercourse with him during his last years. We part from him with regret. We shall miss his hearty greeting and his words of knowledge and experience, whilst we may regard his death as a happy one with such a record of a long life filled with good works, and leaving a memory to be cherished by all who knew him.

Dr. HOLMES said: My early recollections of Dr.

Reynolds go back to the time when he was a surgeon of the Eye and Ear Infirmary, where I with my fellow-students enjoyed the privilege of his instruction. But my more intimate relations with him began with the formation of the Tremont Medical School. This school owed its origin to the active mind and stirring energy of Dr. David Humphreys Storer. He succeeded in interesting Dr. Jacob Bigelow and Dr. Reynolds in the project, and I was subsequently added to the association. I may allude incidentally to the combination of elements which this school presented in my three colleagues. Dr. Bigelow shrewd, eminently practical, full of sagacious common sense; Dr. Reynolds genial, expansive, the best natured of men; Dr. Storer, — who will pardon, I trust, my use of his name, — enthusiastic, sometimes to incandescence, in defatigable in caring for the students, whom he looked upon almost as if they were his own children.

Dr. Reynolds would have harmonized less accordant natures than were here combined, by the charm of his presence and the infinite good nature which belonged to him. From the time I became his associate I have counted him as my friend, and have known him better than most of his professional brethren of a somewhat later period can have known him. I do not think his mental proportions were so generally recognized as was the majestic aspect of his bodily presentment. He was modest and sensitive, and few were aware of his varied accomplishments. He was best known to the profession and to the public as a practitioner in the specialty of diseases affecting the eye and ear, in which he, with Dr. Jeffries, was long the leading authority among us. But he was also a skilful surgeon, an esteemed physician, and a most acceptable teacher. He had a natural artistic turn which most persons knew nothing of. I have never forgotten a drawing of his, shown in a popular lecture, illustrating the way in which corpulent persons, in their instinctive efforts to preserve the centre of gravity, are supposed to be strutting in the complacency of self-admiration. He kept his scholarly tendencies, also, rather in the background. He once took a fancy for learning the German language, which was little known or studied in this community at the time. He began with Faust and a German dictionary, and made a complete translation of the poem as his first essay. His conversation was full of interesting recollections and anecdotes. One could hardly meet him and go away without retaining not only the after-glow of his hearty greeting, but the remembrance of some story, some quaint saying, illuminated by a beaming smile or emphasised with a cheery laugh, — some personal impression that stamped the moment into a medallion of memory.

My last visits to Dr. Reynolds, within the present year, have left a delightful record of themselves in my recollections. The infirmity of his far advanced years betrayed itself in many ways, but rarely has any human figure illustrated more strikingly that fine expression of Wordsworth,

"The monumental pomp of age,"

once happily applied, as I well remember, by Mr. Winthrop, to the late President Quincy. The failure of the organ of hearing, the maladies of which he had so often remedied in others, rendered sustained conversation with him somewhat difficult. But it was pleasant enough to listen to his reminiscences of men and things as they were in the past, and to his larger dis-

course on those deeper themes which old men love to talk of as voyagers approaching their harbor to speak of the land to which they are drawing near. Always a man of strong religious feelings and convictions, he rested in the faith of the fathers like a ship which rides quietly at anchor, and lets the fleets bound for unexplored regions sail by where their own charts and compasses may direct them. The portion of the Book of Books which came nearest and remained dearest to him, as the scenes of earth faded from his sight, was the Gospel of St. John. It was the one fullest of tenderness; "Love one another" was its precept and its spirit. Age is blessed in many ways in the midst of its trials, — most of all, perhaps, that it so often brings with it the divine gift of charity, that apostolic charity which suffereth long and is kind. If it seems sometimes that age endureth all things, it also hopeth all things, always trusting that its own kind impulses come from a fountain of infinite love. So has this venerated friend, our elder brother, been gently called away from us, dying in peace and hope at the happiest season of the Christian year, and leaving with us an honored name and a precious memory.

Dr. H. I. Bowditch followed, saying: —

Mr. President, — I am glad that you ask me to say a few words in reference to our deceased associate. Yet I can scarcely add anything to what Dr. Holmes has uttered. In one respect, however, Dr. Reynolds was peculiar. I have never met one in our profession of a more joyous disposition. It continued bright even to the last moments of life. He could have no sympathy with that morbid disposition which leads many of our youths to question, "Is life worth living?"

In 1834 or 1835, when I had just returned from student life in Europe, and I daily plodded around on foot in search of patients, he often invited me to take the vacant seat in his chaise in which he was making his professional calls. This was always a signal for me to be sure of listening to a fund of anecdotes, which kept us both full of boisterous laughter as he rather carelessly drove along the streets. Meanwhile his horse would fall into a sluggish gait and often almost come to a stand-still, while we two seemed, to passers-by, like persons quite forgetful of that dignity which should have been preserved by people engaged in the quiet duties of the medical profession. I wish we had many such in our profession now; but I know of none to take his place. His hilarity arose from his happy, contented nature, and it spread sunshine on all who met him. It continued to the last. It was most delightfully shown to me a few weeks only since. When I called at his house I found him in his chamber sitting in his chair as he might have been often in former days. He arose with but little effort, and extending his hand to me with the old bright smile I had been long accustomed to, said: "Well Dr., you have come to see how pleasant it is to grow old." He then commenced a series of remarks like the following: "I found myself happy in having no patients, for I do not want them." "I can't walk about much, but I enjoy keeping still." His mind was as clear as ever, and he seemed to enjoy showing to me all the various pleasures of growing old. He could enjoy a laugh, execute one as easily as formerly; and now, as we learn that in the last few days he was beginning to lose this charm, I cannot help sympathizing with Bryant in his *Old Man's Funeral*. Dr. Reynolds has left as beautiful an example of cheerfulness under all circumstances — an

example that cannot now be lost, at least by all those who knew and loved him. Permit me, as most appropriate to this occasion, and as expressing my own thoughts better than I could were I to speak longer, to read a few lines from the poem above alluded to:—

"His youth was innocent; his ripper age  
Marked with some act of goodness every day;  
And watched by eyes that loved him, calm and sage,  
Faded his late declining years away.  
Cheerful he gave his being up, and went  
To share the holy rest that waits a life well spent.

"That life was happy; every day he gave  
Thanks for the fair existence that was his;  
For a sick fancy made him not her slave,  
To mock him with her phantom miseries.  
No chronic tortures racked his aged limb,  
For luxury and sloth had nourished none for him.

"And I am glad that he has lived thus long,  
And glad that he has gone to his reward;  
Nor deem that kindly nature did him wrong,  
Softly to disengage the vital cord.  
When his weak hand grew palsied, and his eye  
Dark with the mists of age, it was his time to die."

DR. C. J. BLAKE spoke as follows:—

It is but just and meet that in behalf of the gentlemen constituting the Board of Surgeons of the Massachusetts Charitable Eye and Ear Infirmary, whom I have the honor to represent on this occasion, a sincere and earnest tribute should be paid to the memory of the man who fifty-seven years ago founded the institution whose professional benefits it is our privilege to now administer. The spirit which animated Dr. Reynolds in the inception of this institution, and his early labors in its behalf, is well evidenced in his address to the patrons of the Infirmary, delivered, at the dedication of the building at present occupied, in 1850.

In November, 1824, Dr. Reynolds, in connection with Dr. John Jeffries, established the first gratuitous clinic in this city. Furnished with limited means, and commencing with a single room, the benefits conferred by their labors were nevertheless strikingly apparent. Eighteen months later, at a meeting convened for the purpose, a report of their proceedings was considered, and so impressed were those present with the humanity and success of the enterprise that a subscription was at once undertaken to give it permanency.

To Dr. Reynolds and Dr. Jeffries alone, therefore, is due the credit of having, unaided, first discovered and then so well supplied a need as to entitle them to the right to demand the generous continuance of its relief.

In March, 1826, at a meeting of subscribers the institution was regularly organized under the name of the Boston Eye Infirmary, and a board of managers appointed. In February of the following year it was incorporated by the legislature of the State as the Massachusetts Charitable Eye and Ear Infirmary.

During the following ten years its location was thrice changed, the last removal being to the Gore Mansion House in Green Street, where, with increased accommodations and facilities, it not only enlarged its sphere of usefulness to the suffering, but threw open its doors to medical students, and established a course of lectures. For fourteen years the institution continued its good work in Green Street, the number of its patients steadily increasing until, in 1850, nearly twenty-five thousand patients had received relief. Before this date it was found indispensable to again increase its capacity, the State and private individuals again came to its support, and in 1850 the present building in Charles Street was ready for occupation. Recently

the building has of need been further enlarged, and now nearly ten thousand patients annually reap the benefits of a clinic which has been uninterruptedly continued since, with an earnest faith in the perpetual value of good works, it was first opened by Dr. Reynolds.

The resolutions were adopted, and it was voted that they be entered on the Records, and a copy sent to the family of Dr. Reynolds.

Adjourned.

#### PROCEEDINGS OF THE SURGICAL SECTION OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

H. C. HAVEN, M. D., SECRETARY PRO TEM.

NOVEMBER 19, 1881. DR. R. M. HODGES in the chair.

DR. GEORGE W. GAY read a paper entitled

#### HEATON'S OPERATION FOR THE RADICAL CURE OF INGUINAL HERNIA.

Vide page 25 of the JOURNAL.

DR. D. W. CHEEVER, in opening the discussion, spoke as follows:—

"I have operated two or three times by Heaton's method without much success. I have also done Wood's operation many times with varying results. I have brought the pillars of the ring together by subcutaneous sutures, both wire and catgut, and have cut down upon the rings and sewed them up, as well as closed them after herniotomy for strangulation. None of these operations answered the requirements in all cases. The essence of success consists in setting up peritonitis in the sac, and in the ability to control the inflammation when started. As long as the external ring is merely closed by adhesions, the serous canal remains open, and the same causes acting may reproduce the hernia. Wood's operation seems to me unphilosophical, since it aims to draw together the pillars of the ring, structures which are firm, fibrous, and immovable, yet the site is more favorable for this operation in inguinal than in femoral hernia, for the borders of the ring are more flexible. When I first did Wood's operation Dr. J. B. S. Jackson, who was present, asked me if I was sure that I was going to obliterate the serous canal. I have come to believe that this is essential to the cure of hernia, and the obliteration can only be accomplished by peritonitis. In children, if they are not too fat, it is possible, by a little manipulation, to lodge the point of the syringe in the inguinal canal, and produce so-called tendinous irritation, that is, the exudation of plastic material between the cord and the inner borders of the ring. This was accomplished in the ancient cure by the hot iron, castration being followed by a canterization of the cut ends of the cord and vessels. Wood's operation is somewhat dangerous, first, from the burrowing of pus into the iliac fossa; second, from pyæmia. Heaton's method, so far as our experience goes, seems safe. But inasmuch as its success depends on a peritonitis being set up in the sac, I do not see how the possible danger of lighting up a general peritonitis can be avoided. The chance of cure by this operation is better in children and young persons, but it must be remembered that some children are cured by wearing trusses if they are well applied, and kept in position for a long time: one descent of the hernia, however, will undo all that may have been gained in months.

"On the whole we may conclude that when a truss has failed to cure, and the child has reached the age of about six years, this is the best time to operate. Injections can be tried first, this failing I should resort to sutures or blister and cauterization, followed by a truss. Wood's flat box-wood *horse-shoe pad* truss is an extremely valuable adjunct to a cure. It avoids dilating the ring as conical pads do, exercises flat and firm pressure over the inner ring, and leaves room for the cord to escape pressure by a slot."

Dr. H. J. BIGELOW followed:—

"The operation under discussion was comparatively new when I commenced the practice of surgery; at that time the operation was held as a secret by Dr. Heaton, who was censured by the Society for his course in this respect. Although it was not known exactly what the injection was, it varied at different times; being sometimes white oak bark, sometimes a solution of tartrized antimony, tincture of iodine, or an essential oil, in fact anything that would produce irritation. Enough time has elapsed to enable us to judge of its merits. The testimony is of two sorts: First, cases of which we have knowledge personally. Of this class I have known several patients with large inguinal hernia, who have been benefited by the operation to this extent, that whereas before the hernia could not be controlled by a truss, it afterwards could. I think in one of these cases the mental influence of the operation had a certain effect; however, the patient was more comfortable, and we must give the operation the credit of it. The second class of testimony is that given by the truss makers. They say that as a rule the majority of hernia considered as cured by this operation return after a lapse of one or two years. I formerly tried Heaton's method, and did not find it satisfactory.

"In discussing this question we should look at the theory as well as the practice of the operation. Whenever the tendon of the abdomen is open, whether from injury or otherwise, there we may have a hernia. If we plug up this opening with plastic material that may suffice for a time, but plastic lymph is always absorbed, and when absorbed the hernia is liable to return. Practically I could never feel certain where the injection went, although if it does not go into the sac itself the irritation may produce enough exudation to occlude the ring for a time. But when the lymph is absorbed the old condition tends to re-establish itself. The difficulty is to find an efficient substitute for the deficient tendinous material.

"When Wood's operation came along I tried it several times, but never could see how drawing the pillars together could make them adhere permanently under great pressure. Wood, in his book, pays great attention to minor details, such as the character of the knot, but that is not the main question. I do not think that the operation has met with the success in other surgeons' hands that Wood claimed for it in his own. In former years cures were effected in young subjects by the long-continued wearing of a hard pad, the irritation produced by this causing an exudation of lymph which plugged the ring, while the tendinous opening was gradually reduced in size.

"I operated some time since on a large strangulated umbilical hernia in rather a new way, with complete success." (The case here reported was published in the JOURNAL of January 5th.)

Dr. E. H. BRADFORD mentioned a case operated on by Heaton's method, with rather an unfortunate re-

sult. A laboring man entered the out-patient department at the City Hospital with a reducible inguinal hernia. The hernia was reduced, Heaton's operation performed, a pad and bandage applied, and the man sent home. He returned the next day, having removed the bandage in the mean time, with a return of the hernia. Dr. Bradford could not reduce it, and advised the patient to enter the hospital. This advice was not followed, however, and the termination of the case was unknown to the speaker. Dr. Bradford thought the operation should never be done unless the patient was under absolute control.

Dr. GAY said he had never operated on out-patients unless children in arms. It was most important to keep the patient from walking. Dr. Gay had heard from Dr. Robert F. Weir, of New York, that he had operated thirty times by this method, with eight cures, although he thought hardly enough time had elapsed to consider the cure absolute. Dr. W. F. Bull had also operated about thirty times, but was not ready to report results. Dr. Weir thinks if the patient can be entirely under his control one half of the children or of those with small rings can be cured. Dr. Gay tells patients they can perhaps be cured, that the operation will require two or three weeks of absolute rest, and may have to be repeated. He considered a patient cured if the hernia had not returned at the end of a year; this time, perhaps, was too short, but it seemed to him fair.

Dr. T. DWIGHT asked if in any cases there had been any inflammation, either sympathetic or otherwise, of the testis.

Dr. GAY replied that he had not met with it. Dr. Bull had seen orchitis in one case.

Dr. POST asked if the results seemed better in those cases where the injection had seemed to enter a cavity, and therefore presumably the sac of the hernia.

Dr. GAY thought not, but his experience was not yet large enough to say definitely.

Dr. HODGES, in closing the discussion, said that he thought it strange in the very community where the operation originated there were so few cases seen where it was claimed a cure had been effected. He remembered several cases shown as cured at one of the medical societies some years since; one of these persons in returning home the same evening slipped down stairs, and reproduced the hernia.

Dr. J. F. BUSH read a paper entitled

#### A PISTOL WOUND OF THE BRAIN.

Vide page 27.

Dr. T. DWIGHT opened the discussion, and spoke as follows:—

I imagine the first thought which occurs to a practitioner when called to a case of this nature is, 'Where is the ball?' Our principal guide in deciding this point is the location of the paralysis. Dr. Lucas Championnière has recently published a book, giving rules for locating the injury by the symptoms. The difficulty is, however, that we cannot tell if they are the direct result of a lesion or of irritation of the brain substance. The results of physiological investigations on this point are still so uncertain that localization of functions in the brain cannot as yet offer any very trustworthy guide to the surgeon. I think it would be profitable to have all cases of wounds by toy pistols reported, the number seems so large.

Dr. C. D. HOMANS said that during the past summer many of this class of wounds had been treated at



the City Hospital. In one case where the ball was supposed to have penetrated the forehead, it afterwards descended into the eyelid, and was removed, it having lodged in the frontal sinus.

Dr. CHEEVER reported two cases of head injury.

First. A girl, six years old, while sitting in a swing, was accidentally shot in the centre of the forehead by some boys who were firing at a mark. The child walked to the house, but soon became unconscious. When seen air was bubbling in and out of the wound, showing that the frontal sinus was opened. Ether was given, and the wound enlarged; the front wall of the sinus being shattered, several pieces of bone were extracted, and the posterior wall of the sinus was then also found to be shattered, as well as both tables. The fragments of bone were cleared away, and the membranes came into view, showing a wound about the centre of the hemispheres. A probe was carefully introduced three inches, but nothing was felt. No farther interference was deemed advisable, and in a comparatively short time the wound was entirely healed. For some time the girl suffered from severe headaches, but now, six years after the injury, her health seems perfect.

The second case was that of a little girl, aged five years, who was shot in the *meatus auditorius* by a drunken father, the pistol being held very near. Complete facial hemiplegia ensued. There was very considerable suppurative, but no severe cerebral symptoms. The wound healed well, but the hemiplegia and a persistent carache remained. Five years after I was called to her again. She seemed very healthy, but the hemiplegia was present. Her mother had sent for me on account of a sore throat, but a short time previously an abscess in the tonsil had opened spontaneously, and the bullet had been discharged from it.

Dr. C. D. HOMANS mentioned a case of a girl treated at the City Hospital for bullet wound of the brain. The missile was never found. Recovery was speedy and complete.

Dr. HODGES thought the number of recoveries from penetrating wounds of the brain suggested the thought that a patient was safer with a bullet in his brain if let alone than he was if endeavors were made to ascertain its locality, and remove it. This is practically hopeless, and therein lies the secret of the large percentage of recoveries.

#### A NEW STEAM SPRAY.

Dr. J. C. WARREN exhibited a new steam spray having a number of useful modifications. One of the disadvantages of most sprays is the time consumed in getting up steam. This is obviated by only a very small amount of water being in the boiler, which is fed by a pump from two reservoirs, these as well as the boiler being heated by the lamp; thus water can be gradually introduced into the boiler without stopping the spray. Another advantage is the absence of the usual bottle for the antiseptic solution; this is contained in a reservoir at the base of the instrument, a glass window being introduced through which the amount present can be seen. There are two spray points, either of which can be shut off by a lateral movement; they have also a vertical movement. Spray was obtained from cold water in less than two minutes.

Dr. GAY spoke of the apparatus in use at the City Hospital, where a rubber pipe is connected with the steam pipes in the house. It works admirably.

Dr. Gay showed the kidneys from a child ten years of age; the history of the case is as follows:—

The child, being frightened, jumped out of a bathtub, and fell on the edge of a wooden pail, striking on her left side between the last rib and hip. A physician was not summoned till the following day, hematuria was then present, but gradually disappeared; peritonitis set in; tympanites, vomiting, pain, and sleeplessness were the principal symptoms. Rectal nutrition was resorted to, but it was very difficult to nourish the child. After two weeks the pus pointed in the left inguinal region; an incision was made, and drainage tube inserted about six inches. For some days there was a slight improvement, but she soon began to fail again. There was no evidence of blocked-up pus. Cutting down upon the kidney from behind was thought of, but abandoned on account of the extreme weakness of the patient. Death ensued two months after the injury.

At the autopsy the left kidney was found lying in a small pool of pus; the lower half of the organ had entirely disappeared; there was no extravasation around the kidney, and no bagging of pus, the opening to the groin being patent.

### THE HEALTH CONGRESS AT BRIGHTON.

#### SPECIAL REPORT FOR THE JOURNAL.

"LONDON-BY-THE-SEA" has recently been the seat of an important Congress of those interested in sanitary science, which convened on Tuesday, the 13th of December, and continued its sessions for a number of days following. The president was the distinguished Dr. Benjamin Ward Richardson, and the chairmen of the three sections, (1) health of towns, including sanitary legislation, (2) food in its connection with national and domestic economy, and (3) house sanitation, with its concomitant educational training, were respectively, Mr. Edwin Chadwick, C. B., Mr. John Robert Holland, M. A., M. P., and Dr. Alfred Carpenter. The proceedings were inaugurated on the 12th with the opening of a very complete sanitary exhibition at the Royal Pavilion, Brighton; on which occasion the chair was taken by the Earl of Chichester, Lord-Lieutenant of the County of Sussex, and there were present on the platform many persons of note, including Dr. Richardson, the Speaker, Mr. Brand, Mr. J. R. Holland, M. P., Sir Albert Sassoon, C. S. I., the Lord Bishop of Chichester, Sir Henry Cole, K. C. B., the Mayor of the city, and Mr. William Hamilton, with whom the scheme of the Congress took its rise. After the singing of God Save the Queen with fine effect by an immense choir composed of all the choral bodies in the town and district, and some religious exercises, the Earl of Chichester delivered the opening address, in which he remarked that those who imagined country houses to be exempt from the latent causes of disease which infect towns and cities were grievously in error. The germs of low fevers, he said, were as common in mansions as in hovels; and he instanced the dangerous illness of the Prince of Wales as a proof that even Royalty was not always shielded against pestilence by the precautions which science dictates. The Mayor of Brighton followed with a statement of particulars concerning the exhibition, and the Speaker, Mr. Brand, delivered the address of the day; which was brief and practical. One of the definitions that had been given of the present age, he remarked, was, that it is an age of great cities. The population of Great Britain was

increasing at the rate of a thousand daily, and this increase was taking place chiefly in London and the other great cities and towns. Brighton he considered to be setting a good example in holding this Congress, and in making necessary improvements throughout the town; but there remained much yet to be done for its sanitary condition, as the sight of the smoke-cloud which hung over it should remind them. This he held to be one of the greatest evils of growing cities. In London it had come to be nearly intolerable, and so it would be in this enormous seaside town, unless something were done to remove it. Next to the abatement of the smoke nuisance he valued the preservation of open spaces, and he had heard suggestions about a Brighton park which he hoped would meet with an assenting response. After a few remarks from Mr. Holland, M. P., Handel's Hallelujah Chorus was sung by the choir, and the exercises, which occupied only one hour altogether, were brought to a conclusion by the chairman finally declaring the exhibition open. The company then proceeded to inspect the array of classified objects in the temporary iron buildings adjoining the Dome, in the king's apartments of the Royal Pavilion, in the saloon, and in the Corn Exchange of the town. Added to the sanitary exhibition was a department of lighting, including all phases and systems of the electric light, and a department embracing a varied and curious display of horological instruments; while, lastly, there was a loan collection of decorative objects of great extent and value supplied by the South Kensington Museum.

The Congress itself was inaugurated on the evening of the 14th, when the President, Dr. Richardson, delivered an address in the presence of a distinguished company. His subject was the Seed-Time of Health, and he commenced by saying that in point of health the children of the present age were a reproach. He had never seen a perfectly healthy child, and it might safely be said that no one was born free from the taint of disease. It was these inherited defects which accounted in great measure for the enormous mortality which was found in juvenile life. The statistics which Dr. Richardson quoted showed that of every ten children born in England less than seven ever reached their twentieth year. It was a heavy percentage of child mortality, and a dread tax to be paid to the genius of hereditary or acquired disease. The statistics of some other nations were more alarming still. Thus, in France only one half of the children born reached the age twenty; while in Ireland the percentage of mortality was even greater. Dr. Richardson would have modern society converted to the Hellenic idea that immature death was a thing for which shame ought to be felt. "The gate of health," he continued, "is that which leads to the truly good in politics, art, science, letters,—ay, and religion. A long and perfect life can only be attained by perfection of life at its opening, in the seed-time of health." The perils environing ordinary mankind he described as two thirds inherited, accidental, inflicted, and acquired. The dangers from inheritance came in for his chief notice, and he was especially emphatic in his disapproval of what he termed "the inheritance of disease." He believed it was by carefully, earnestly, and perseveringly correcting the evils arising from the four influences referred to that the rising generation could be brought to the acquirement of successful and honorable vitality.

At present, he continued, we had not arrived at a scientific knowledge of what it is that constitutes such a disease as small-pox or scarlet fever. Vaccination or inoculation was merely a temporary expedient, adopted by medical art until the time came when we should be able to attack the very germs of such maladies. "Pure blood and a healthy life led in childhood and youth ought to banish the possibility of disease."

Dr. Richardson spoke strongly against corporal punishment in schools, contending that there was nothing more likely to injure the young both mentally and physically; and, after giving some very sound advice in regard to the proper care of infants and young children, concluded with an appeal to the people of Brighton to turn to a practical use in their own town the information which they would be able to derive from the proceedings of the Congress.

The actual proceedings of the Congress were opened on the morning of the 14th with an address by Mr. Edwin Chadwick, C. B., the chairman on the health of towns section, on the prevention of epidemics. He first detailed the measures taken with respect to the outbreaks of Asiatic cholera in 1848 and 1849, at which time he was the chief executive officer of the first general board of health. They found that the quarantine service as practiced on the continent as a defense was, like an attempt at shutting out the east wind, utterly futile and illusory. Although evidence pointed to the fact that great epidemics occurring at long intervals were chiefly climatic or affecting particular areas, they were also, as in the case of small-pox, largely communicable by infection. Speaking of the reasons which led to the abandonment of hospital treatment, he said that they found that in the stage of collapse in the disease the removal of the patients in many cases accelerated death, and that, on the whole, with all the defects of the houses where they lived and the difficulty of obtaining medical appliances in them, it was better to allow the sick to remain there. He strongly recommended frequent ablutions on the part of the people as a protection against epidemics, and also the appointment of experienced paid sanitary officers as the best means of economy. From the returns of the local government board he calculated that they had saved a quarter of a million of lives in the death-rate from infectious diseases.

The general conclusions that he arrived at were,—that cases of small-pox, typhus fever, and other zymotic diseases occurred in the greatest proportion in overcrowded, foul houses, deficient in water supply, and with bad drainage; and that the effective removal of these causes was to be striven after; and that when infectious diseases occurred, the best preventive treatment against their spreading would be effective home treatment, if possible, and otherwise by providing temporary accommodation, obviating the necessity of removing the sick to a distance, and the danger of aggregating such cases in large hospitals, which, he believed, tended to augment the death-rates.

Among the other papers read on this day was one by Dr. Mackey on The Geology and Climate of Brighton from a Health Point of View. The climate of Brighton, he said, resembled that of the best parts of France, and the mean winter night temperature was at least four degrees warmer than that of London. Referring to the climate in spring he observed that Sir James Clarke had doubtless set the fashion of forsaking Brighton at that time of year, and for some delicate

chests he thought the advice still good. In the summer the influence of the sea in equalizing the climate was apparent, and the freshness and coolness of the place was proverbial. Thus, in June the temperature of Brighton was no less than seven degrees cooler than that of Greenwich. Popular opinion was right, however, in pronouncing the autumn as the best season for Brighton.

In a paper on the correlation of public health and sanitary legislation, Dr. B. Browning, medical officer of health for Rotherhithe, gave a number of statistics to show that the sanitary improvements generally adopted throughout the county had resulted in a material advance in the public health.

A paper which elicited some interesting discussion was one on Reform in Slaughter-Houses, by Mr. H. F. Lester. After pointing out the evils attending the multiplicity of these places at present existing in London and other large towns, he advocated the establishment of public *abattoirs*, on the French pattern, in order to insure good sanitary arrangements, to prevent cattle being driven through the public streets, to render inspection of diseased meat more efficient, and to put a stop to cruelty. A model slaughter-house on improved principles, he thought, should be established, in order to introduce painless methods of killing, and to set an example of the most perfect structural and other arrangements possible. The chairman of the section, Mr. Chadwick, cordially indorsed these suggestions, from his own personal experience of the subject; as did also Dr. Richardson, who stated that he had often left off eating meat altogether for weeks on account of his disgust at what he had seen in private slaughter-houses.

In the evening a *soirée* for the members of the Congress was held by the mayor and mayoress of Brighton.

The session on Thursday, December 15th, was devoted to the section on food in relation to national and domestic economy, and the first address was that of the chairman, Mr. J. R. Holland, M. P. After stating that he would leave the discussion of the origin and chemical, physiological, and therapeutical character of food to scientific and medical men, he proceeded to speak of the production of food, its distribution, and its economic uses. In treating of the first head he deplored the fact that England was becoming less and less of a farm, and more of a meadow and playground, and quoted Lord Leicester and Mr. Lowe's opinion, that if the pastures of the United Kingdom were thoroughly drained and effectually farmed they would produce double the quantity of food that they did at present. He also mentioned Mr. Caird's view, which was opposed to this, and said that it was his own opinion that until the conditions under which land was held were modified, it was premature to speak of the limit of production being arrived at. In one particular, especially, he thought that the production of food might be materially increased and that was by more attention being devoted to rabbits, goats, and eggs, on which the peasantry of Belgium and France thrived so well.

With regard to the distribution of food, he pointed out that the comparatively small produce was hampered and filtered by the excessive charges of English railway companies, and contrasted this state of affairs with that existing in America and France. Coming to the third head, the speaker advocated the more general use of vegetable food, and deprecated the vast amount of material that was consumed in the production of

alcoholic drinks. In conclusion he strongly recommended the adoption of improved methods of cookery, by which food might be rendered so much more wholesome, as well as more economically used.

Dr. C. R. Drysdale, of London, read a paper on The Importance of Cheap Food to Longevity. He said that at the census of New Zealand it was lately found that the death-rate was as low as eleven and one fourth per thousand per annum, or not quite half the death-rate of London, twenty-three per thousand, or about one half that of England and Wales. The real cause of the low death-rate of New Zealand was not climate, for the richer classes in Great Britain had just as low a death-rate, eleven and one fourth per thousand; but he believed it was because the inhabitants of New Zealand were as a community so much better fed than the inhabitants of the United Kingdom, where the population pressed so severely upon the food supply.

Mr. A. F. Haleome followed with an address on New Zealand as a Source of Food Supply to Great Britain, and Miss Gates, of the National School of Cookery, read a paper on Bread Reform, in which she dwells on the relative qualities of white bread and wheat meal bread, and showed that the latter, while less expensive, contained far more nutriment than the former. Mr. Lightfoot's paper on The Preservation of Food by Cold, maintained that there need be no further difficulty in supplying all the demands that the country could put forth for cheap, wholesome, fresh food. Mr. Winter Blyth, medical officer for Marylebone, read a paper on Rational Feeding, in which he showed the necessity for modifying the kind and quantity of food according to the age, constitution, and habits of the individual; and Mr. Parker Rhodes read a paper on Water Reform, which pointed out the evils resulting from the use of hard water, even when used for the supply of steam engines.

On the morning of the 16th, the chairman of the section on domestic health, Dr. Alfred Carpenter, whom Dr. Richardson introduced as a well-known veteran in the cause of sanitation, delivered his address. Every individual, he thought, was entitled to live to the age of one hundred years, and if he did not, he was deprived of a portion of his birthright, either by his own act or by the acts of others. The conditions producing disease and death were, as a rule, of man's making, and could be removed by the action of man. Poisonous excreta were liable to exist in some shape or other in the blood, and they ought to be removed as rapidly as nature designed that they should be. Taking up the subject of want of ventilation in the homes of the people, he said that Dr. Farr had proved that mortality was progressive according to the extent of overcrowding; the influence of overcrowding being most fatal in its effects upon children under five. Such mortality was mainly caused by impure air, and it ought to be an established rule of architects in putting up buildings to provide entrances for fresh air as well as exits for foul air, which should be ample for the number of individuals likely to occupy the premises. Among the papers read afterwards were the following: The Prevention of Smoke, by the late Sir Antonio Brady (read by General Alexander); Home Sanitation, by Mr. H. H. Collins, secretary of the health department of the Social Science Association, who urged that more attention should be paid to drainage, ventilation, and cleanliness, and to the ques-

tion of dress; House Inspection, by Professor Fleeming Jenkin, advocating rigorous inspections by competent sanitary engineers; Hints on Domestic Sanitation, by Dr. Strong, of Croyden; Domestic Filtration, by Mr. E. Bailey Danton, who recommended the more general use of filters, especially in country houses, where the water was allowed to stand in tanks and become stagnant; The Aspect of Public Elementary Education in Relation to Health, by Mr. H. Stephens, F. C. S.; and Sanitation in Decoration, by Major Robert Edis, F. S. A.

In the evening a banquet was held in connection with the Congress, in the banquet hall of the Royal Pavilion; when the chair was occupied by Dr. Richardson supported by the Mayor of Brighton.

### Recent Literature.

*Rheumatism: Its Nature, its Pathology, and its Successful Treatment.* By T. J. MACLAGAN, M. D. London: Pickering & Co. 1881.

In November, 1874, Dr. MacLagan began to use salicin in the treatment of rheumatism. In March, 1876, he published some account of his experiences up to that date in the London *Lancet*.

Having been for some time convinced of the miasmatic origin of rheumatism, and being impressed with the action of quinine on the various forms of intermittent and remittent fever, and with the action of the cinchonacea generally on the diseases of tropical climates, it seemed to him that a remedy for rheumatism was most hopefully to be looked for among those plants and trees whose favorite habitat presented conditions analogous to those under which the rheumatic miasm seemed most to prevail.

Reflecting that a low-lying, damp locality, with a cold rather than a warm climate, are the conditions under which rheumatism is most likely to arise, and that the plants whose haunts best correspond to this description were those belonging to the natural order salicaceae, he had recourse to the bitter principle contained in the bark of many species of willow — salicin.

Almost at the same time that MacLagan published his results with salicin in England Stricker and Riess published theirs with salicylic acid, as manufactured from carbolic acid by Kolbe, in Germany.

The author's object in writing the present volume has mainly been to develop and expound his miasmatic theory of rheumatism, and to set forth at greater length his later views and experience in the use of salicin and the salicylic compounds in its treatment.

These are apparently but little modified from those to be found in his early articles.

After devoting a few short chapters to the duration, seat, and nature of rheumatism, the nature of the rheumatic poison is taken up. A long chapter is given to the lactic acid theory of rheumatism. Lactic acid the writer regards merely as an excess in the blood of a product of retrograde tissue metamorphosis, as an effect and not a cause; he therefore rejects it as the morbid agency which originates the disease, though recognizing its action and its share in the production of the phenomena of a rheumatic attack. The miasmatic theory of rheumatism is then taken up, and this, with a consideration of the nature and action of malarial, occupies several chapters in which the author's views

are well and ingeniously reasoned out. He considers it evident that the rheumatic poison, both in its history and in its effects on the system, bears a closer analogy to the poison of malarial fever than to any other morbid agency; sufficient grounds are advanced, he thinks, to show that there is reason to regard rheumatism as malarial in nature, and its poison as a miasm which enters the system from without.

The remaining chapters of the book are occupied with a consideration of the effects of the poison upon the various organs and tissues which it usually attacks; with some remarks upon the relation of rheumatism and chorea and upon rheumatic hyperpyrexia; and with the treatment of the disease. With patients who have had several previous attacks of rheumatism the writer has found potassic iodide a very useful, and often essential, supplement to the salicylic treatment, otherwise his confidence in and his success with that treatment seems unabated. In this we should say that his experience is rather more favorable than that of most other early enthusiasts. He finds salicin well borne in most of those cases where salicylic acid produces unpleasant symptoms, and expresses his belief that, as a rule, acute rheumatism is more severe as met with in private than in hospital practice.

Dr. MacLagan has written a candid and interesting book, to which we shall probably take occasion to refer again, and certainly has reasons to offer for his faith.

*A Text-Book of Practical Medicine with Particular Reference to Physiology and Pathological Anatomy.* By DR. FELIX VON NIEMEYER. Translated from the eighth German edition by special permission of the author. By GEORGE H. HUMPHREYS, M. D., and CHARLES E. HACKLEY, M. D. Revi-ed edition, two volumes. New York: D. Appleton & Co. 1881.

WHEN the last edition of the American translation of Niemeyer's *Lehrbuch der Speciellen Pathologie und Therapie* appeared in 1871, the original had already passed through eight editions in Germany. In that year Niemeyer died, and since his death his book has gone through another edition in Germany, edited by Dr. Eugene Seitz. Dr. Seitz made extensive changes in the text as well as inserted a large amount of new matter. In the present American edition the translators have reverted as nearly as possible to Niemeyer's original language, thinking that the style of the book had not been improved by Dr. Seitz's liberties with the text. They were doubtless wise in this, for few Germans would be likely to improve upon Niemeyer's style. At the same time the translators have drawn freely upon the new material incorporated in the last German edition, and have themselves made such additions from other sources as seemed to them calculated to render the work more useful to the American reader. Short articles have been inserted upon several subjects not treated of in the original, and a chapter has been added upon yellow fever.

A book made up in this way labors necessarily under many disadvantages, some of which were abundantly illustrated in a late edition of Reynold's *System of Medicine*; it is certainly not Niemeyer, nor has it on the other hand, some of the advantages of some of the best American text-books on the theory and practice of medicine.

In saying this we wish to be understood as criticising the inception, not the execution, of the present work.

**Medical and Surgical Journal.**

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**THE COLLECTIVE INVESTIGATION COMMITTEE OF THE BRITISH MEDICAL ASSOCIATION.**

THE amount of valuable information on various topics connected with medicine which might be furnished by the combined efforts of the physicians of so large a country as England, and which is now allowed to go to waste, is enormous. An effort for combined action in the preservation of such material was inaugurated at the Cambridge meeting of the British Medical Association two years ago by the appointment of a committee to organize a plan for carrying out such a work. The report of the committee giving the outline of the plan deserves notice on this side of the water.

The committee speak of the proposed work as capable of producing valuable results, yet as one which will require great and continuous effort to carry it on in an efficient and satisfactory manner. To combine a number of men in the systematic and careful observation and record of facts is difficult under any circumstances, and especially so in the case of medical men whose irregular and harassing avocations necessarily disincline them to enter upon and continue a labor of this kind.

It is obvious that success will much depend upon the energy, perseverance, ability, and judgment of the secretary to the committee which is proposed. The work that will devolve upon him will be laborious, and though it will, no doubt, to some extent, bring its own reward, the committee feel that such a task should not be undertaken gratuitously.

The committee also believe that it may be desirable to make some remuneration to those persons who shall be found to have given the time and attention which is requisite to make careful observations and record them well; and they think it will be agreed that a portion of the funds of the Association can scarcely be better employed than in inducing the individual members of the Association to contribute their share to the advancement of medical science by a careful and systematic observation and record of the facts which come under their notice.

The committee propose the appointment annually of a committee of seven, to be known as the Combined Observation Committee, to arrange, superintend, and direct the work; to meet when and where they please and report annually; the appointment of a paid secretary who shall attend such branch meetings

of the Association as may be desirable for explaining the nature and objects of the investigations and to interest and direct the members of the Association in the work; the appointment by the branches of registrars who may assist in the work, and that such registrars, shall, together with the "Combined Observation Committee," form a "General Committee" to determine from time to time the subjects for investigation, and the manner in which such investigation shall be conducted.

The following have been suggested as likely to form suitable subjects for combined observation. They are merely mentioned to indicate the kind of work which is contemplated. It would rest with the general committee to consider their suitability, or to select others.

(1.) Records of the medical life-history of patients, including the sequelæ of various diseases. (2.) Records of the relationship of certain specified diseases — as, cancer, tubercle, syphilitic degeneration, osteoarthritis, chorea, etc., to any other diseases. (3.) Observations respecting epidemic diseases in given districts. (4.) The incubation period of contagious diseases; and the duration of contagion. (5.) The origin of contagious diseases. (6.) The collection of evidence as to the effects of certain remedies. (7.) The geographical distribution of diseases. (8.) Anthropometrical observations, especially in relation to disease. (9.) The hereditary influence of race, climate, occupation, food, etc., in the production of diathesis or of tendencies to certain diseases.

These quotations give an idea of the work as far as it has been perfected.

The subject is one of great interest and may be made of great importance. The good to be obtained cannot be foreseen. Much may be accomplished in able hands. In idle or otherwise occupied hands the good intentions with which the work is commenced would probably simply serve to extend the plutonic pavement. What will be accomplished the future alone can determine, but the inception and the attempt does great credit to the Association, and is simply a continuation of its good works. We speak of it here not merely because it is interesting in itself but because it shows that there is something for societies to do beside listen to papers, elect officers, and eat dinners, however interesting such exercises may be and however well done.

**THE INTERNATIONAL COMMITTEE OF THE RED CROSS SOCIETY OF GENEVA.**

THE International Committee of the Red Cross Society of Geneva has just issued a circular and an announcement which should attract general attention. In the pursuit of the excellent objects of the Society, and profiting by the present happy state of peace, which liberates its funds and energies to prepare for wars which the future must inevitably bring, the committee offer prizes for the best original papers upon three subjects bearing upon methods of *improvising*

the means of succor for the sick and wounded of armies.

The first subject is The Improvisation of Means of Treatment; the second, Improvisation of Means of Transport; the third, Improvisation of an Ambulance or of a Campaign Hospital.

Although recognizing that the three subjects proposed for competition are but parts of one general subject, namely, The Improvisation of Means of Succor, the committee has thought it best to offer separate prizes rather than one general prize, feeling that in this way better and more varied contributions would result; that individuals, owing to special experience, might feel themselves competent to contribute suggestions of value and originality to one branch of the subject who would hesitate to discuss the whole. At the same time the committee distinctly states that nothing in the terms of their announcement is to be interpreted as preventing or discouraging the same individual from competing for and receiving the prizes offered on all three subjects. The richness of the material and the multiplicity of the requisite investigations offered additional reasons for the adoption of the form given to these prizes by the committee of the Society. In any case the successful monographs can eventually, at the option of the Society, be published together under the same covers, thus forming a single volume, and offering many of the advantages of one consecutive treatise.

Under the first head the committee mentions the following as some of the topics which naturally suggest themselves for consideration: the use of hæmostatics, of apparatus for fractures, of refrigerants, the most practical means of applying Listerism in an efficacious manner on the field of battle, etc., etc. It would also be proper for the writer on this subject to review the furniture, and the utensils in common use, the articles of linen and of apparel, the products of the soil, etc., all of which, though varying with the climate, the soil, and the surroundings, still offer many resources, and to suggest the advantages which the relieving party may derive from them according to the seat of a wound or the nature of a disease.

Under the second head, the Improvisation of Means of Transportation, the following topics are suggested: the best means of transporting the wounded or sick when neither litters, nor carriages, nor any kind of vehicle have been previously provided for the purpose, and the adaptation of railway carriages to this end when not previously prepared.

Under the third head, The Improvisation of an Ambulance or Provisional Hospital in the neighborhood of an army, are naturally to be considered the choice of situation, the appropriation or construction of a building or shelter, the organization of its service, its management, its furniture, and supplies.

The committee, while wishing to leave as much liberty as possible to competitors to treat the allotted subjects as they individually understand them, impose some conditions, as follows: 1. (a) the writers must confine themselves to the improvisation, strictly interpreted, of means of succor, and not wander off to the

previous preparation of such; (b) they must describe carefully the methods they propose (whether original or taken from others), and furnish, when possible, good drawings sufficiently intelligible to allow of the construction of the apparatus they represent; these papers should not be mere manuals, but scientific treatises from which the elements for manuals may be subsequently taken, if thought desirable; (c) the procedures proposed should, as far as possible, have been put to the test of personal trials, and not simply consist of theoretical ideas which are so apt to break down later in practical experience; it is not demanded that these trials should have been made in actual warfare, but only that they should be conclusive and described with accuracy.

(2.) The competitors' papers must be in manuscript and unpublished; they may be written in English, French, or German; they must be sent to the President of the International Committee of the Red Cross Society, No. 8 Rue de l'Athénée, Geneva, Switzerland, before April 1, 1883; each paper must be stamped with a motto, which shall be sent in a sealed envelope with the name and address of the author.

(3.) The examination of the papers shall be entrusted to a jury chosen by the International Committee, the members of which shall be selected from different nationalities.

(4.) The jury may award, in each of the three given subjects, a single first prize of two thousand francs, and supplementary prizes to the amount of five hundred francs; the right, however, is expressly reserved for the jury of not declaring any first prizes if, in its judgment, they have not been earned; in which case the jury may propose to the committee the augmentation of the supplementary prizes. The jury is to render its decisions with the reasons therefor to the international committee, which will publish them in its Bulletin.

(5.) Those monographs which gain the first prizes of two thousand francs shall become the property of the committee, which alone will possess the right of publication, whether in their original language, or in translations—a right, however, the committee agrees to waive unless it should, within a year after the announcement of the awards, have notified the writers of an early intention to publish.

(6.) Should the report of the jury select certain portions of the unsuccessful papers as worthy of honorable mention, the committee would publish such, with the consent of the authors, and over their names, after the successful papers.

The amount of these prizes is sufficiently considerable to be a temptation, the conditions are liberal, the time is long enough, and the subjects proposed for competition are both interesting and important. In addition, the successful competitors will be proclaimed to a very wide audience. The inducements, therefore, to compete are far from insignificant. It must be that our War of the Rebellion and life on the Western plains, united with the proverbial American resources in emergencies and readiness of invention, have offered ideas and experiences to officers in our

army or to men now in civil life which could be properly and profitably put to honorable use in the direction indicated by the announcement of the International Committee of the Red Cross.

### MEDICAL NOTES.

— We learn from a private letter that there has been nothing new in the way of operations in Vienna lately. The "Magen resection" is still the all-important topic, but its success seems very doubtful, as yet, although Billroth does every one that comes along. Only three of all that have been done by anybody are alive; Wölfler, Billroth's assistant, in attempting one, after opening the abdomen found the operation impossible owing to adhesions and great infiltration of the peritonæum, so he cut a hole in the stomach near the commencement of the greater curvature, fished up a portion of the small intestine, cut a hole in that also, and sewed the two together. The patient lived over two months and died of "phthisical symptoms." Billroth thinks that the best operation yet devised when from any cause the pylorus becomes occluded.

— A company, entitled the Zander Medico-Gymnastic Company (Limited), has been established for the purpose of supplying London with the mechanical appliances of Dr. Zander, as well as with skilled advice in the use of them. The institution is at 7 Soho Square, and already fifty or sixty machines are erected of the greatest ingenuity and niceness. Some of them are worked by an engine, others are worked by the patient himself. Dr. Zander's system of treating various diseases, internal and external, partly or chiefly by the use of machines applicable to various parts of the body, and producing various movements or sensations by which circulation and muscular action are both stimulated, has been practised in Stockholm for sixteen years, and, according to varied testimony, with much success. It is a gymnastic system, in which, as in so many other directions, human work is replaced by the work of a machine.

— In an editorial suggested by the burning of the Vienna Theatre, the *London Lancet* suggests what it considers the proper course to be adopted in London for the prevention of such a catastrophe. Its plan is to place the safe custody of our places of amusements in the hands of the chief of the local fire brigade, free from official interference, and to charge him with the duty of making and enforcing necessary regulations; to let him arrange the modes of escape, and place experienced and practiced members of his force on personal duty at the theatres; and to confide the whole management of the theatres and their audiences to competent and practical hands, at the same time giving the person charged with this important public duty the amplest powers. There need be no paltry economy in this matter as regards theatres; the full cost of all necessary or expedient provisions, including the maintenance of an efficient corps of real firemen — working members of the brigade, and therefore not

only in training but in constant practice — might be charged as a tax or rate on places of public assembly, duly apportioned to their size.

### PHARMACEUTICAL NOTE.

The dialysates of alkaloidal drugs as new pharmaceutical preparations are gaining favor. They are prepared from the crude drug by the process of dialysis, whereby the definite, proximate principles are almost entirely separated from most of the other inert and interfering substances. Another advantage connected with them is this, that they are maintained at a uniform strength, based upon the ascertained average alkaloidal strength of good specimens of the drug. This uniformity is increased by a system of assays, one of which is used to check the other. The list included only such drugs as contain definite active principles recognizable and perceptible by reagents. Nearly all of them have been carefully tried in Bellevue Hospital, New York city, and up to the present time have been found to produce the peculiar effects of the different drugs in a more rapid manner than has been the case when administered in most of the other forms.

B. F. D.

### Disseclamp.

#### THE MEANING OF KEITH'S ABANDONMENT OF LISTERISM.

MR. EBBRON. — At the late International Medical Congress in London Mr. Keith formally pronounced against the use of anti-septic precautions in abdominal surgery. He admitted having had *eighty successive recoveries* under the Lister method, and said if he stopped there "the showing would have been wonderful, but," he added, "out of the next twenty-five cases I lost five, three from carbolic acid poisoning, one from renal hemorrhage, one from septicæmia." In this matter, however, there seems to be a wheel within a wheel. There was more which Keith did not add. In the first place he did not say that whenever he used the spray he experienced an attack of hæmaturia, and again, and more important, he did not say that in these twenty-five cases he used a solution of carbolic acid which was *one tenth stronger* than that prescribed not only by Lister but by the commonly adopted proportions of the spray. This in itself must have had an absolute effect in the fatal cases, three of which were poisoned by the acid, another dying from renal hemorrhage. Mr. Keith must have very strongly influenced the surgeons who listened to his address, but if he had included the facts I have mentioned, and which were communicated to me by an English ovariotomist who *does* believe in the spray, it is not unlikely that his audience would have mingled a few grains of salt with the impression Mr. Keith's statements may have created. At any rate it would have been fairer in him if he had mentioned these data, the truth of which seems unimpeachable.

When a surgeon of Keith's reputation announces before such a body of men as formed his audience at the Congress his complete loss of faith in a procedure which has created a revolution in surgery and has won so many distinguished adherents, he should not only give *all* his reasons, but if, as Mr. Keith had done, he

had taken the liberty to increase the strength of the carbolic solution, precisely in those cases of which five were fatal, this more than all else should be stated. This was the only fair and honorable course open to Mr. Keith. Not having taken it he has injured and lessened the force of all he did say, and his other reasons for abandoning the spray fall to the ground. That he allowed himself to commit this error is somewhat surprising, for a man whose experience and fame have given him great influence cannot too carefully measure the weight of his denunciation of a method so valuable as to have secured the faith of the leading surgeons of Christendom.

Mr. Keith's position in reference to the spray suggests that which a naval engineer would occupy if he condemned the use of steam because in his hands it has destroyed several vessels, but neglects to mention the insignificant fact that his steam pressure was ten per cent. higher than, according to all approved tests, any boiler can safely bear.

It must be admitted, moreover, that on this occasion Lister not only did not stand to his guns, but apparently had but little ammunition for them, much to the surprise of his adherents, who looked for broad statements, comparative statistics, and a reasonable refutation of Keith's arguments. This may partly be explained by a remark of the English ovariotomist to whom I have referred, namely, "Lister is not up in abdominal surgery. He has had but little experience in it." However this may be, Mr. Lister in this instance seems to have lost that easy flow of language with which for three long hours he entertained the surgical section of the American Medical Congress in 1876. In his reply to Mr. Keith he seemed embarrassed. He had no arguments. He went so far as to say he had never admitted that abdominal surgery was the touchstone of Listerism. On the other hand he cited two recent cases of ovariotomy in which the results were excellent, and in reference to them said, "I could hardly believe I should have got such results without the antiseptic plan. I did not before I used it." Again he said he was not sure that before the next Congress he should not have abandoned the spray altogether.

Hitherto Lister has shown himself such a valiant fighter in behalf of Listerism, he has so unfalteringly evinced the courage of his opinions, and has so persistently clung to the antiseptic treatment of wounds, that this sudden weakening on his part gives rise to wonder. His admissions were too ready, were given under the pressure of too great mental confusion. As has been shown, he not only announced that he himself might abandon the spray, but he did not even suggest a substitute. He made no mention of any other form of antiseptic treatment. He gave next to no reasons for his new and surprising position. It seems but too evident that on this occasion there was some grain of sand which threw his mental machinery out of gear. How else account for the inconsistent tone of his remarks? How else explain the embarrassment of a man who stood under the very vine and fig-tree of his own domain, and upon which until now he has shown such vigor of faith in himself and in his system?

Thus the matter became serious, for Lister's inefficiency of argument, combined with Keith's denunciations, were enough to shake the faith of the surgical world in Listerism. But when one considers that in his account of his last twenty-five cases Keith withheld information which probably would have imperiled

all he did say, and that Lister has not had a large experience in abdominal surgery, and therefore forebore to make the strong statements which he might have applied to the use of the spray in amputation, for instance, the case truly seems to take on another aspect.

The question now arises as to what effect all this may have exerted upon the operation of ovariotomy? The pros and cons of the use of the spray are of course no longer in the keeping of Lister, for hundreds of surgeons have tried, proved, and adopted it. Satisfied of its usefulness, convinced that ovariotomy can be more safely and successfully performed under its influence, they will not incline to abandon it in spite of Keith's defection and Lister's failure to support Listerism, unless some substitute of greater certainty be offered.

In his report of twenty-five cases of ovariotomy, in which the two deaths could probably be explained by the fact that in these instances the operation was performed during a season of intense heat, Dr. John Homans, of Boston, insists that he owed his success to the use of Listerism. With this assertion in view, one would hardly expect him to abandon the spray because Keith has done so, and Dr. Homans has rendered this feeling a certainty by the following reply to a question bearing upon the matter: "I attribute whatever measure of success I obtain in ovariotomy to Listerism and increased experience in operating, *i. e.*, familiarity with different appearances and conditions, and more or less facility in dealing with them. When Mr. Keith has had eighty successive recoveries without the spray, I shall be willing to think of giving it up; at present I am unwilling to do so." That this will be the judgment of many another ovariotomist and surgeon, both at home and abroad, there is small reason to doubt, especially when the whole truth of Keith's new departure becomes known.

The general feeling among medical men probably is that Lister is in duty bound to put on record a better and clearer statement of the opinions he expressed at the Congress, — opinions which were so conflicting and inconsistent as to leave the mind in confusion as to what he really did mean.

Desiring to free myself from any possible charge of injustice to Mr. Keith, I may say that the two impressive points which he left unmentioned were voluntarily communicated to me in a conversation on the merits of the Keith-Lister discussion, my informant being worthy of implicit confidence. If I felt any doubt of the truth of these statements I should hesitate to use them in this way. There being no apparent reason for such feeling, I give them to you with the criticisms they very naturally suggest, hoping they may result in a free expression of opinion touching the whole matter (one of serious import) in England as well as in this country.

H. O.

#### LETTER FROM LEIPZIG.

AGREEABLE IRON PREPARATIONS USED IN GERMANY.

FERRUM OXYDATUM SACCHARATUM SOLUBLE; TINCTURA FERRI POMATA; PYROPHOSPHOSAURES EISEN.

MR. EDITOR, — It is unfortunate that among the needlessly multiplied and unsatisfactory forms of iron in American pharmacy, these really valuable preparations, which are in general use and highest esteem in



Germany, have never been introduced, or, if introduced, have escaped the attention they deserve.

Whether their introduction has been attempted I do not know. It would be surprising if it had not, but if it has, the negative result, it seems to me, can only be due to failure in preparation, for these forms of iron are far more satisfactory in every way than those in common use with us.

If put before the profession they could not fail to attract attention, especially the first preparation of which I shall speak, as being, while equally efficacious, far less injurious, and infinitely more agreeable, than any of the common American preparations, some of which injure teeth, some the digestion, and some both, and few of which are agreeable to the patients.

In consideration of these facts I venture to give a detailed account of the preparation of the first two, with the precautions found in Hager's Commentary, and those given me by Herr Blaser, an experienced pharmacist in Leipzig.

*Ferrum Oxydatum Saccharatum Solubile*, or "*Eisen Zucker*," is an elegant preparation, and is the form most commonly used in chlorosis and for children. It is a sweet-tasting, light-brown powder, easily soluble in water, but may be taken in its natural form. It does not discolor the teeth, and on account of its rapid absorption it may be taken for any length of time without affecting the digestion, even in cases where iron is not always well borne, as in fever, dyspepsia, and cases of gastric disturbance. It may be also taken with substances, as milk, having an alkaline reaction without altering their taste.

The method of preparation is as follows:—

"Take *liquoris ferri sesquichlorati* (G. Ph.), and simple syrup, each twenty parts (20). Add forty (40) parts *liquoris natri caustici* gradually, with stirring, and set aside twenty-four hours. Pour the clear fluid into three hundred (300) parts of boiling distilled water, shake and set aside to settle. Decant, and add distilled water to the precipitate. Collect in a filter and wash with distilled water till the water is colorless, and still shows a rather strong alkaline reaction. The precipitate, being freed by dropping of most of the water, is mixed in a porcelain vessel with ninety (90) parts of best powdered sugar and dried at 100° C. Then add powdered sugar till one hundred (100) parts are filled out. Pulverize and keep in a well closed vessel.

"The result should be a brownish-red, sweet, and pleasant-tasting powder, completely soluble in five parts of water, making a brownish-red, weakly alkaline fluid. One hundred parts of the powder contain three parts of metallic iron."

The precautions are as follows: As an excess of the soda helps the formation of glucic acid, which gives the preparation a darker color, it is better to add, instead of forty parts, only enough to carry the precipitate again into solution, that is, perhaps thirty parts. On adding to water, let boil a few minutes to hasten the precipitation, otherwise a day or two may be required, especially if the amount of soda given in the Pharmacopœia is used, for this retards the precipitation.

It is also suggested to add, instead of three hundred parts of hot water, five hundred to six hundred parts. The water is in both cases better hot, to facilitate the separation.

Herr Blaser tells me that the preparation is so difficult, that half a dozen failures are not to be wondered

at. He insists on the following conditions. The mixture of soda and iron must be kept on the ice, the soda being kept on the ice and only added in small quantities with pauses to allow the mixture to cool, as the heat produced by chemical action is fatal to the success of the precipitation. In no case should a temperature of 50° C. be reached. The dose is 0.2, 0.5, 1.0 grammes two to four times a day, in powders, pills, or pastiles. Herr Blaser dispenses chocolate lozenges, each containing 0.1 of the *ferrum oxydatum solubile*, which are very inviting.

For mixtures may be used the *symplicis ferri oxydati solubilis*, which is prepared as follows:—

The mass, which in the preparation of the *eisen zucker* is formed by mixing the still moist precipitate with sugar, is digested in a water bath for two hours, the water being replaced as it evaporates. After cooling, white syrup is added to three hundred parts.

The result is a clear, dark-red, sweet-tasting fluid. Mixed with five parts of water a precipitate is formed. One hundred parts of the syrup contain one part of iron. If kept long in the air the alkali is neutralized by the carbonic acid of the air, and the iron hydrate, held in suspension in the syrup, is precipitated. Such a cloudy syrup can be generally made clear again by adding a few drops of sodic hydrate and boiling.

The dose is 3-10 grammes two to four times a day. The syrup cannot be used with tinctures or chemical medicaments.

*Tinctura Ferri Pomati*.—This contains less iron than the *eisen zucker*, and being also an agreeable preparation is much given to children. It is a dark-colored, pleasant-tasting fluid of which the dose is for adults fifteen to twenty drops, for children five drops in water. The formulae in the Pharmacopœia is:—

*ÿ Extracti ferri pomati* . . . . . partem unam (1)  
*Aque cinnamoni spirituose* . . . . . partes novas (9)

The extract is prepared as follows: Fifty (50) parts sour apples are reduced to a pulp, mixed with finely-cut straw, and pressed. After being allowed to settle, the supernatant fluid is filtered, and then heated in a water bath (*Dampf Bad*) with one (1) part powdered iron, or enough to be dissolved with a little residue. Water to forty-eight (48) parts is added to the cooled fluid, and after filtration the mass is brought to the consistency of a thick extract.

The extract is of a greenish-black color, and dissolves clear in water. In one hundred parts it contains seven to eight parts iron according to the amount of acid in the apples themselves and that formed by their fermentation. It is better to let the apple juice ferment for two days so that it may be richer in acid, and hence in iron. The apples must be very sour. Hager says it is immaterial whether they are ripe or unripe as long as they are allowed to ferment, but Herr Blaser tells me they should be unripe, and that the best apples for the purpose are small sour ones which are unfit to eat.

The apples are reduced to a pulp in an iron mortar, mixed with the straw and pressed. The juice is placed in a warm situation (in a porcelain or stone vessel) and allowed to ferment for two days. To the fermented juice is added the iron, a silver spoon hastening its solution. The solution, with the aid of moderate warmth and with frequent stirring, should not take more than two or three days, and after that time it will be difficult to get more into solution, as the acid in the apples rarely reaches more than one and one half per

cent. The water as it evaporates is not to be replaced.

A favorite preparation of iron for elegant practice in Germany is the *pyrophosphores eisen*, which is soda water containing the pyrophosphate of iron in clear solution. Unfortunately the method of the preparation is kept a secret by the firm who discovered and who furnish it. This is bought by the bottle or case and taken at dinner.

Another form of iron much given, in Leipzig certainly, and I think in Germany generally, is one which has been introduced in America, though I am sure it is not so extensively used there. This is the *syrupus ferri pyrophosphorici cum ammonio citrico*. It was formerly given in Leipzig under the name of "Syrupus Napoleonis," this being said to have been the only form of iron Napoleon III. would take. This name was given up about ten years ago, and it appears now under its more cumbersome title.

This syrup, which was adopted by the German Pharmacopoeia in 1857, and the French in 1866, has, as far I can judge, hardly received in America the attention it deserves, for it is a very pleasant preparation to take, though not to be compared to the "eisen zucker," which if properly made cannot fail to please the palate of the most fastidious. This I can affirm from personal observation, having seen Americans, who at first demurred at taking iron at all, from having experienced its unpleasant effects at home, taking this preparation regularly with pleasure and apparent benefit, and without the least detriment to teeth, appetite, or digestion. This experience, together with the remarks of American physicians I have met in Germany, leads me to write this article to call the attention of the profession to these extremely valuable preparations.

GEORGE L. WALTON, M. D.

#### IMPORTATION OF SMALL-POX FROM CANADA.

THE following correspondence, relative to the spread of small-pox, from Canada, transmitted by the honorable Secretary of State, is published for general information in the *Bulletin* of the National Board of Health:—

DEPARTMENT OF STATE, WASHINGTON, {  
May 26, 1881. }

THE RT. HON. SIR EDWARD THORNTON, K. C. B.,  
etc., etc.

Sir,—I have the honor to bring to the attention of the Government of the Dominion of Canada, through you, a circumstance which is causing apprehension in the manufacturing districts of Massachusetts, whither Canadian subjects resort at this season to obtain employment in the factories for a limited period.

I am informed by the governor of the State of Massachusetts that small-pox appeared in the town of Adams, in that State, about seven weeks ago, in the person of a young French Canadian woman, since which time forty-nine persons have contracted the disease, of whom nine have died and others are not expected to recover. All those affected are reported to be, without exception, from the Dominion of Canada. Twenty-four of them have become a charge upon the charities of the State.

Within the past two years similar outbreaks of small-pox have occurred in Fall River, Salem, Holyoke, and Williamsburg, the sufferers being almost exclusively persons recently arrived from Canada.

The comparative immunity of residents of Massachusetts from the ravages of small-pox is largely due to the rigid enforcement of the vaccination laws of the State; for example, no child is admitted to the public schools there without complete evidence of previous vaccination. Sanitary laws of like tendency are believed to exist in Canada, but, from the recent occurrences, the conclusion is unavoidable that their enforcement is neglected, and that the subjects of the Dominion coming to this country to seek temporary employment are in a dangerously unprotected state.

The subject cannot but be one of grave interest to the authorities of the Dominion, inasmuch as the Canadian communities must be at least as much exposed to the calamitous outbreak of small-pox as are the American communities visited by Canadian immigrants, and it behooves them to see that the Dominion laws are adequate for domestic protection, and strictly enforced.

It may become necessary for this government to consider the propriety of adopting measures of self-defense, such as the compulsory examination of Canadian immigrants at the frontier, or some equally inconvenient and restrictive step. Meanwhile, it seems proper that I should make the subject known, through you, and ask earnest attention thereto on the part of the Canadian Government.

I have the honor to be, etc., JAMES G. BLAINE.

WASHINGTON, October 29, 1881.

HON. JAMES G. BLAINE, etc., etc.

Sir,—Referring to your note of the 26th of May last, complaining of the prevalence of small-pox amongst Canadians emigrating to the United States, I have the honor to inform you that Sir Edward Thornton brought your note to the notice of His Excellency the Governor-General of Canada, inviting at the same time the attention of the Dominion Government to the matter. His excellency has now forwarded to me a copy of a report from the honorable the Privy Council of Canada, replying to the observations made by you, from which it appears that although small-pox does sometimes make its appearance in Canada as in other countries, and notably in parts of Europe at the present moment, still every precautionary measure possible is taken against the spread of the disease. Efforts are made to cause vaccination to be generally practiced in Canada, and even among the Indian population in the territories vaccinators are occasionally sent by the federal and local governments to enforce the practice in as far as possible.

The committee point out that small-pox is not unfrequently brought to Canada from the United Kingdom, from parts of the continent of Europe, and from the United States, notwithstanding the vaccination laws and regulations of those countries, and complaints even this year have occurred in the province of Quebec of small-pox brought there from the United States.

The committee, after due consideration of a report furnished to them by the minister of agriculture, is of opinion that the Dominion Government will be unable to do anything in addition to the present precautionary measures taken to prevent the recurrence of cases of small-pox being sometimes conveyed to the United States and *vice versa*.

I have the honor to be, with the highest consideration, sir, Your obedient servant,

VICTOR DRUMMOND.

## CONDENSED MILK.

DR. VOCKER, in the *Dairy Association's Journal*, says that not infrequently condensed milk is represented to be nothing more or less than milk evaporated, at a low temperature, to a certain degree, with the addition of white sugar. If whole milk rich in cream is evaporated to a small bulk, even with the greatest care, the resulting condensed milk, when mixed with water,

throws up oily globules, tastes somewhat rancid, and is not as good and sweet as condensed milk produced from partially skimmed milk. Really good condensed milk, as a matter of fact, is always made from skimmed milk, or from milk unusually poor in cream. It is not therefore a perfect substitute for new milk either chemically or physically; at the best, most kinds of good condensed milk are milk syrup, consisting of concentrated skimmed milk and sugar.

## REPORTED MORTALITY FOR THE WEEK ENDING DECEMBER 31, 1881.

| Cities.                             | Population by Census of 1880. | Reported Deaths in each. | Deaths under Five Years. | Percentage of Deaths from         |                |                       |                |                      |
|-------------------------------------|-------------------------------|--------------------------|--------------------------|-----------------------------------|----------------|-----------------------|----------------|----------------------|
|                                     |                               |                          |                          | The Principal "Zymotic" Diseases. | Lung Diseases. | Diphtheria and Croup. | Typhoid Fever. | Diarrhoeal Diseases. |
| New York.....                       | 1,206,590                     | 741                      | 303                      | 30.00                             | 20.78          | 9.17                  | 1.21           | 2.02                 |
| Philadelphia.....                   | 846,984                       | 414                      | 128                      | 21.49                             | 6.76           | 7.97                  | 5.38           | —                    |
| Brooklyn.....                       | 566,689                       | 281                      | 135                      | 30.00                             | 19.58          | 16.01                 | .71            | .35                  |
| Chicago.....                        | 503,304                       | 252                      | 124                      | 29.36                             | 15.07          | 7.14                  | 4.56           | 3.57                 |
| Boston.....                         | 362,535                       | 185                      | 47                       | 20.00                             | 13.50          | 7.56                  | 6.48           | 1.08                 |
| St. Louis.....                      | 350,522                       | —                        | —                        | —                                 | —              | —                     | —              | —                    |
| Baltimore.....                      | 332,190                       | 166                      | 52                       | 31.93                             | 7.22           | 21.08                 | 3.01           | 1.80                 |
| Cincinnati.....                     | 253,708                       | —                        | —                        | —                                 | —              | —                     | —              | —                    |
| New Orleans.....                    | 216,140                       | —                        | —                        | —                                 | —              | —                     | —              | —                    |
| District of Columbia.....           | 177,638                       | 64                       | 23                       | 7.81                              | 18.71          | 3.12                  | —              | —                    |
| Pittsburgh.....                     | 156,381                       | 101                      | 43                       | 43.56                             | 7.92           | 1.98                  | 2.97           | .99                  |
| Buffalo.....                        | 155,137                       | 74                       | 24                       | 29.72                             | 8.10           | 10.80                 | 4.05           | —                    |
| Milwaukee.....                      | 115,578                       | 53                       | 22                       | 16.98                             | 11.32          | —                     | 9.43           | 1.88                 |
| Providence.....                     | 104,857                       | 44                       | 8                        | 6.81                              | 18.17          | —                     | 2.27           | 2.27                 |
| New Haven.....                      | 62,882                        | 28                       | 4                        | 10.71                             | 7.14           | —                     | 3.57           | —                    |
| Charleston.....                     | 49,999                        | 25                       | 4                        | 16.40                             | —              | 4.00                  | 8.00           | —                    |
| Nashville.....                      | 43,461                        | 22                       | 11                       | 31.81                             | 31.81          | —                     | 9.09           | 13.43                |
| Lowell.....                         | 59,485                        | 21                       | 6                        | 23.81                             | 14.28          | —                     | 3.76           | —                    |
| Worcester.....                      | 58,295                        | 18                       | 6                        | 16.66                             | 33.33          | 11.11                 | —              | —                    |
| Cambridge.....                      | 52,740                        | 28                       | 10                       | 3.57                              | 32.13          | —                     | —              | —                    |
| Fall River.....                     | 49,006                        | 18                       | 2                        | 5.55                              | 5.55           | —                     | —              | 5.55                 |
| Lawrence.....                       | 39,178                        | —                        | —                        | —                                 | —              | —                     | —              | —                    |
| Lynn.....                           | 38,284                        | 16                       | 5                        | 12.50                             | 12.50          | 12.50                 | —              | —                    |
| Springfield.....                    | 33,340                        | 16                       | 1                        | —                                 | —              | —                     | —              | —                    |
| Salem.....                          | 27,598                        | 6                        | 3                        | —                                 | —              | —                     | —              | —                    |
| New Bedford.....                    | 26,875                        | 7                        | 4                        | 42.85                             | —              | —                     | —              | —                    |
| Somerville.....                     | 24,985                        | 9                        | 5                        | 33.33                             | 11.11          | —                     | —              | —                    |
| Holyoke.....                        | 21,851                        | 13                       | 6                        | 38.46                             | 7.69           | —                     | 15.38          | 7.69                 |
| Chelsea.....                        | 21,785                        | —                        | —                        | —                                 | —              | —                     | —              | —                    |
| Taunton.....                        | 21,213                        | 7                        | 1                        | 28.56                             | —              | 11.11                 | —              | —                    |
| Gloucester.....                     | 19,329                        | 3                        | 1                        | —                                 | —              | —                     | —              | —                    |
| Haverhill.....                      | 18,475                        | 9                        | —                        | —                                 | 22.22          | —                     | —              | —                    |
| Newton.....                         | 16,995                        | —                        | —                        | —                                 | —              | —                     | —              | —                    |
| Newburyport.....                    | 13,537                        | 6                        | —                        | —                                 | 33.33          | —                     | —              | —                    |
| Fitchburg.....                      | 12,405                        | —                        | —                        | —                                 | —              | —                     | —              | —                    |
| Twenty-two Massachusetts towns..... | 172,677                       | 52                       | 15                       | 15.40                             | 7.70           | 7.70                  | —              | —                    |

Deaths reported 2679 (no reports from St. Louis, Cincinnati, and New Orleans); 993 under five years of age; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 689, consumption 409, lung diseases 392, diphtheria and croup 243, scarlet fever 134, small-pox 95, typhoid fever 72, diarrhoeal diseases 37, measles 26, whooping-cough 22, cerebro-spinal meningitis 23, malarial fevers 16, puerperal fever 12, erysipelas four, typhus fever one. From *scarlet fever*, New York 81, Brooklyn 21, Philadelphia nine, Baltimore seven, Buffalo six, Chicago and Pittsburgh four each, Nashville and Worcester one each. From *small-pox*, Philadelphia 29, Pittsburgh 28, Chicago 25, New York nine, Baltimore two, Brooklyn and Holyoke one each. From *measles*, New York 19, Brooklyn and Buffalo three each, Chicago one. From *whooping-cough*, New York five, Chicago four, Pittsburgh three, Brooklyn, Boston, District of Columbia, and Holliston two each, Taunton and Attleborough one each. From *cerebro-spinal meningitis*, New York nine, Philadelphia, Boston, Pittsburgh, New Bedford three each, Buffalo and Holyoke one each. From *malarial fevers*, Brooklyn seven, New York four, Baltimore, District of Columbia, Providence, New Haven, and Nashville one each. From *puerperal fever*, Boston three, New York and Chicago two each, Philadelphia, Brooklyn, Milwaukee, Charleston, and Cambridge one each. From *erysipelas*, New

York, Boston, Buffalo, and New Haven one each. From *typhus fever*, Brooklyn one.

One hundred and one cases of small-pox were reported in Pittsburgh, 15 in Buffalo, 13 in Baltimore, nine in Brooklyn, four Holyoke, two in Boston, and one in Milwaukee; diphtheria 40, typhoid fever 14, scarlet fever 11, in Boston; diphtheria 12, scarlet fever seven, in Milwaukee.

In 37 cities and towns of Massachusetts, with a population of 996,215 (population of the State 1,783,086), the total death-rate for the week was 21.52, against 19.85 and 20.69 for the previous two weeks.

For the week ending December 12th, in 149 German cities and towns, with an estimated population of 7,936,756, the death-rate was 22.9. Deaths reported 3492; under five 1626; pulmonary consumption 437; acute diseases of the respiratory organs 279, diphtheria and croup 203, diarrhoeal diseases 117, scarlet fever 113, typhoid fever 52, whooping-cough 50, measles and rubella 45, puerperal fever 20, typhus fever (Thorn) three, small-pox (Achen) one. The death-rates ranged from 12.4 in Wiesbaden to 32.9 in Essen; Königsberg 24.7; Breslau 28.8; Munich 26.2; Dresden 24.6; Berlin 25.2; Leipzig 23.7; Hamburg 21.4; Hanover 21.1; Bremen 11.4; Cologne 28.8; Frankfurt 16.7; Strasburg 23.1.

The meteorological record for the week ending December 31st, in Boston, was as follows:—

| Date.            | Barom-eter. |       | Thermom-eter. |          | Relative Humidity. |            |             |       | Direction of Wind. |            |             | Velocity of Wind. |            |             | State of Weather. <sup>1</sup> |            |             | Rainfall.             |                   |
|------------------|-------------|-------|---------------|----------|--------------------|------------|-------------|-------|--------------------|------------|-------------|-------------------|------------|-------------|--------------------------------|------------|-------------|-----------------------|-------------------|
|                  | Mean.       | Mean. | Maximum.      | Minimum. | 7.23 A. M.         | 3.23 P. M. | 11.23 P. M. | Mean. | 7.23 A. M.         | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.        | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.                     | 3.23 P. M. | 11.23 P. M. | Duration, Hrs. & Min. | Amount in inches. |
| December, 1881.  |             |       |               |          |                    |            |             |       |                    |            |             |                   |            |             |                                |            |             |                       |                   |
| Sun., 25         | 30.282      | 36    | 48            | 21       | 66                 | 42         | 69          | 59    | S                  | SW         | W           | 7                 | 10         | 11          | C                              | C          | C           | —                     | —                 |
| Mon., 26         | 30.168      | 45    | 55            | 35       | 68                 | 48         | 89          | 68    | SW                 | W          | SW          | 11                | 6          | 8           | O                              | O          | R           | —                     | —                 |
| Tues., 27        | 29.965      | 45    | 52            | 42       | 100                | 100        | 100         | 100   | N                  | N          | N           | 3                 | 13         | 16          | R                              | R          | R           | —                     | —                 |
| Wed., 28         | 29.976      | 43    | 45            | 41       | 100                | 93         | 95          | 96    | N                  | NW         | SW          | 8                 | 4          | 4           | R                              | O          | O           | —                     | —                 |
| Thurs., 29       | 29.692      | 47    | 58            | 41       | 94                 | 100        | 93          | 96    | S                  | E          | S           | 7                 | 11         | 12          | R                              | G          | X           | —                     | —                 |
| Fri., 30         | 29.361      | 39    | 56            | 32       | 85                 | 45         | 68          | 66    | W                  | SW         | W           | 16                | 28         | 6           | R                              | F          | C           | —                     | —                 |
| Sat., 31         | 29.586      | 34    | 47            | 27       | 78                 | 33         | 77          | 63    | W                  | SW         | SW          | 8                 | 14         | 16          | F                              | F          | C           | —                     | —                 |
| Means, the week. | 29.861      | 41.3  | 58            | 21       |                    |            |             | 79.7  |                    |            |             |                   |            |             |                                |            |             | 48.25                 | 1 92              |

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; X., clearing.

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE HOSPITAL SERVICE. OCTOBER 1, 1881, TO DECEMBER 31, 1881.

HEBERSMITH, ERNEST, surgeon. Relieved from duty at San Francisco Cal., and placed on waiting orders. November 7, 1881. Relieved from waiting orders. November 28, 1881.

VANSANT, JOHN, surgeon. Granted fourteen days' leave of absence. October 18, 1881. To proceed to San Francisco, Cal., and assume charge of the service at that port. November 8, 1881.

MILLER, T. W., surgeon. Granted leave of absence for seven days. October 6, 1881.

PERVANCE, GEORGE, surgeon. To proceed to Boston, Mass., and assume charge of the service at that port. November 8, 1881.

AUSTIN, H. W., surgeon. To proceed to Galveston, Indianola, Corpus Christi, and Brownsville, Texas, as inspector. October 17, 1881.

FISHLIE, J. C., passed assistant surgeon. To proceed to Yorktown, Va., as inspector. October 14, 1881. Detailed as member of Board for the examination of keepers and crews of the Life Saving Service, Third District. November 18, 1881.

GOLDSBOROUGH, C. B., passed assistant surgeon. Detailed as member of Board for the examination of keepers and crews of the Life Saving Service, Fifth and Sixth Districts. November 2, 1881.

O'CONNOR, F. J., assistant surgeon. Granted leave of absence for fifteen days, on account of sickness. December 23, 1881.

GRITTERS, JOHN, assistant surgeon. Granted leave of absence for ten days. December 5, 1881.

BLESSON, J. A., assistant surgeon. Granted leave of absence for twenty-one days. December 7 and 21, 1881.

BANKS, C. E., assistant surgeon. To assume temporary charge of the service at San Francisco, Cal., until the arrival of Surgeon Vansant. November 7, 1881.

CARMICHAEL, D. A., assistant surgeon. To proceed to Baltimore, Md., for temporary duty. November 2, 1881. To rejoin his station (New York), and thence proceed to Pittsburgh, Pa., and assume charge of the service at that port. November 18, 1881.

BLUNETT, P. H., assistant surgeon. To proceed to Boston, Mass., for temporary duty. October 21, 1881.

PECKHAM, C. T., assistant surgeon. To report for temporary duty to surgeon in charge, Boston, Mass. October 21, 1881. To proceed to Vineyard Haven, Mass., for temporary duty, November 4, 1881. To rejoin his station (Boston), and thence proceed to New York, reporting for duty to surgeon in charge. November 9, 1881.

AMES, R. P. M., assistant surgeon. To proceed to St. Louis, Mo., for temporary duty. October 21, 1881. To proceed to Evansville, Ind., for temporary duty. December 21, 1881.

DEVAN, S. C., assistant surgeon. To proceed to San Francisco, Cal., for temporary duty. October 21, 1881.

FRUHLI, F. M., assistant surgeon. To report for temporary duty to surgeon in charge, New York, N. Y. October 21, 1881.

APPOINTMENTS. The following candidates having passed the examination required by the regulations were appointed as

assistant surgeons by the Secretary of the Treasury, October 20, 1881:—

PHILO H. BENNETT, M. D., of New York,  
CYRUS T. PECKHAM, M. D., of Massachusetts,  
ROBERT P. M. AMES, M. D., of Pennsylvania,  
SPENCER C. DEVAN, M. D., of Missouri, and  
FRANCIS M. URQUHART, M. D., of New York.

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM DECEMBER 31, 1881, TO JANUARY 6, 1882.

TREMAINE, W. S., captain and assistant surgeon. Now awaiting orders in New York city, to report in person to the commanding general, Department of the East, for assignment to duty. S. O. 2, A. G. O., January 4, 1882.

POWELL, J. L., first lieutenant and assistant surgeon. The seven days' leave of absence granted him in orders 186, Fort Stockton, Texas, is extended fifteen days. S. O. 159, Department of Texas, December 27, 1881.

CARTER, W. F., first lieutenant and assistant surgeon. The seven days' leave granted him by orders 155, C. S., Fort Concho, Texas, extended one month, providing he furnish an acceptable substitute during his absence, without expense to the United States. S. O. 160, Department of Texas, December 29, 1881.

GORGAS, WILLIAM C., first lieutenant and assistant surgeon. The leave of absence granted him by paragraph 5, S. O. 150, headquarters, Department of Texas, December 3, 1881, is extended one month. S. O. 1, Military Division of the Missouri, January 4, 1882.

MADDON, THOMAS J. C., first lieutenant and assistant surgeon. Now awaiting orders in Washington, D. C., to report in person to commanding general, Department of Texas, for assignment to duty. S. O. 2, A. G. O., C. S.

NATIONAL ASSOCIATION FOR THE PROTECTION OF THE INSANE AND THE PREVENTION OF INSANITY.—A meeting of the members of the National Association for the Protection of the Insane, etc., and invited guests, will be held at Municipal Hall, 67 Madison Avenue, New York city, on Friday evening, January 20th, 1882, at eight o'clock p. m. Speakers and topics announced hereafter. A. A. CHEYALLIER, Secretary.

H. B. WILBUR, M. D., President, Syracuse, N. Y.

N. B. A business meeting of the Council of the Association will be held at the above address at four p. m., on the same day. A full attendance is earnestly requested.

BOSTON SOCIETY FOR MEDICAL OBSERVATION.—A regular meeting of the Society will be held on Monday evening, January 16, 1882, at eight o'clock. Reader, Dr. McCollom. Subject, The Use of the Obstetric Forceps.

M. H. RICHARDSON, Secretary.

## Original Articles.

TWO FATAL CASES OF PLEURITIC EFFUSION ;  
WOULD NOT THORACENTESIS HAVE SAVED  
LIFE IN BOTH? GERMAN AND AMERICAN  
THERAPEUTICS IN THE DISEASE.

BY HENRY I. BOWDITCH, M. D.

THE secretary of the section having requested me to prepare a paper for this evening I thought that I could not aid him better than by giving a *résumé* of two fatal cases of acute pleuritic effusion, in which I believe that thoracentesis would probably have saved life. One of these cases occurred in Boston about twenty-five years since, and to it I was called in consultation. The other happened in 1873, under the care of an eminent German teacher in a German capital. Both cases have been painfully instructive to me. If I seem to criticise too severely the treatment pursued, please remember that I think life was sacrificed by most grave errors of commission in one, and of omission in both.

I shall relate in some detail the German case first.

It was that of an American student of medicine. His family tendencies were consumptive, his mother and uncle having died of phthisis. He had been liable to severe colds accompanied by cough, but I cannot learn of any severe pulmonary attack. The autopsy, however, proved that, at some antecedent period, he must have had an attack of pleurisy, as proved by adhesions of the pleuræ. He had been able to walk in Switzerland with able-bodied young men without discomfort, and all<sup>1</sup> my informants assure me that he had no settled cough or other symptom sufficient to prevent him from attending at the medical class until within a week of his death. There is no doubt, however, that, owing to certain domestic afflictions (loss of a father, etc.) his mind had been much disturbed, for a few months before his last illness, and one, in daily intercourse with him, remarked that he did not seem quite so energetic as before. He was tired more easily, and small incidents seemed to annoy him, and at times he was worn and exhausted. He was daily at his work, when the following incidents occurred, which may be arranged in three tolerably distinct periods:—

*First Period.* It lasted about nine days. It seemed to be simply a severe naso-pharyngeal catarrh—and no serious symptom was noticed.

*Second Period.* This extended from the ninth to the fourteenth day. He became very insidiously and gradually more ill—without, however, any marked symptom, save a gradually increasing dyspnoea. This symptom annoyed him and was inexplicable at first—although, before any medical treatment was instituted, the patient himself recognized, by percussion, that something caused dullness on percussion of the lower part of the left breast and side. But he had no cough, nor sputa nor pain in the side. As one friend described him, he still “with his usual pluck and determination continued going to his lectures,” and this, too, when, according to another, he had so much dyspnoea that he was compelled to stop at the top of one staircase and rest, before going up the next flight. There was increasing lassitude. His pulse also began

to rise, and the temperature between the ninth and fourteenth day rose from 102.2° F. to 104.8° F.—the mean being 103.8° F. The appetite was a little lessened; the bowels were well. He was evidently gradually growing more ill, but, according to one correspondent, a day or two elapsed after he had recognized the dullness above alluded to, before the patient would consent to summon a physician. At or about this time the following physical signs were found by one of my informants: “Dullness of the lower part of the left side of thorax from a point an inch below the nipple, in a horizontal line around the chest. The respiration was bronchial in the region of flatness, and ‘rough’ over the whole of the left lung. Change of position did not, *materially*, change the sound. The heart was dislocated toward the right; and its apex was felt in the middle of the sternum more strongly than elsewhere. Only one occasional râle was heard over the whole of the left lung. At the back, near the spine, and on a level with the angle of the scapula, a slight friction sound was heard in a space of two by one inches.”

“On the next day, fifteenth from the outset of the first period, the dullness of the chest arose at least one inch, and the dyspnoea became greater.” Yet the student still was about at his work and no proper medical treatment had been commenced. But the friends, then becoming alarmed, persuaded him that an eminent German clinical teacher and physician must be called in, and by their request that practitioner consented to take full charge of the case. His diagnosis was “acute pleurisy,” with effusion. His treatment was followed until death took place, but it soon became very distressing to three of my informants who were daily cognizant of it. None of them felt at liberty to suggest a variation, although one, subsequently, alluded to thoracentesis. But he was summarily checked by the remark that it was “too early to think of that operation.”

This treatment was as follows, as I gather from the notes taken at the time or from conversations I have held with my informant. It marks the—

*Third Period.* Commencing with the treatment, it lasted till death took place, in three or four days.

The patient was immediately ordered to keep his bed; he was not to read or talk or even listen to conversation. In other words, absolute quiet and rest were enjoined.

His diet was to be milk, purée of potato (potato soup or mashed potato), apple, plum, or pear sauce, bread rolls. No tea, coffee, or chocolate.

For medical treatment it was ordered that ten cups should be applied to the side, six of which were to be dry, and four were to be scarified. Twelve ounces of blood were thus drawn from the front and back of the left chest. He was to take one of the following powders every two hours.

|                     |             |
|---------------------|-------------|
| ℞ Calomel . . . . . | grs. xij.   |
| Sugar . . . . .     | grs. iii. M |
| Divide in ch. vi.   |             |

The next day (seventeenth from beginning of cor-  
yza) increase of symptoms, and the following was  
ordered:—

|                         |               |
|-------------------------|---------------|
| ℞ Decod. Aithæ. . . . . | ℥iiss.        |
| Sod. Nitrat. . . . .    | 3i + grs. xv. |
| Syrup . . . . .         | ℥ss. M.       |
| ℥ss. every 1½ hours.    |               |

Scannæ electuarii; a heaping teaspoonful before breakfast.

<sup>1</sup> They were three in number. All of them were in close attendance during his last illness and had knowledge of him during several months before that time.

The effect of these remedies are thus given by one of my correspondents:—

"Condition of patient on the day (sixteenth) after cupping, temperature 103° F., pulse 104, respiration 25. Next morning temperature 101° F., pulse 102, respiration 23. Dullness remained unchanged; five stools during the day. On the following day (eighteenth) there was a sudden increase of the effusion, the dullness reaching to within one inch of the clavicles. Treatment continued, with diarrhœa still remaining. Collapse and almost instant death in the afternoon."

One of my informants says that, while making efforts for a dejection, this collapse took place, and ere long death ensued. Another assures me that, at the morning visit of that day, the attending physician expressed himself as wholly satisfied with the condition of the patient; and this notwithstanding the rapid increase of the effusion, and increasing debility of the invalid.

Autopsy, thirty hours after death. The left pleural cavity was found two thirds filled by serum and a jelly-like substance, about one third being serous and two thirds of this jelly-like mass, which was partly fibrinated in an extremely delicate manner. A "few incipient tubercles" were found in the layers of the left parietal pleura; but none, so far as my informant can remember, were found in the pulmonary pleura or in either lung, which seemed healthy. The left lung was very much compressed towards the spine. One informant, aided by the assistant of the pathologist of the school, examined microscopically the heart fibres with reference to their being fatty. No fat was found. After the sudden death rumor had suggested that it was owing, probably, to a fatty degeneration of the heart. The organ was small and looked weak, and, owing to its displacement, the great vessels were so twisted that the circulation in the lungs must have been interfered with.

The death was a surprise to all. Before it actually took place, one of my informants, seeing the necessity for immediate thoracentesis, notwithstanding the previous opposition of the regular attendant, hurried for his tapping instruments, but it was too late. The medical attendant said it was an unusual case; he had never but once met with one similar.

Before making any remarks upon this case, allow me very briefly to bring to your notice the Boston case, which, as I have already stated, happened many years ago, and in which I failed of doing what I now think would be my duty, were a similar case to present itself. The two cases are entirely analogous in one particular, namely, the failure on the part of medical attendants to tap the chest, whereby life might have been saved in both instances, or perchance life restored in one, if an opening in the chest had been made and artificial respiration had been instituted.

About twenty-five years ago, after three or four years of successful use of thoracentesis as a means of relief or cure of pleuritic effusions, by means of Dr. Wynnan's suggestion of an exploring trocar and suction pump (by aspiration, in fact, as the operation is now called), but before it had been cordially received by the profession generally, I was summoned to a case in consultation. I was surprised to be called by one who, I knew, had been one of the ablest of the opponents of the operation. The patient was a little child, who had been acutely suffering some days from orthopnea caused either by an effusion of fluid, filling

the whole of the left chest, or perfect hepatization of the left lung, the practitioner could not decide. Upon my learning that the heart was at the right of the sternum and there was no crepitanous râle, I told him that, undoubtedly, there was a large effusion, and that thoracentesis was called for instantly. We had a long discussion as to the dangers connected with the operation, at all of which I only laughed, and told him that it was one of the simplest and most harmless. He seemed convinced, and it was agreed that we should meet the following morning, prepared to operate. We met at the appointed hour, but the physician, being, as I found, still in doubt about the propriety and safety of the operation, called me into a lower room, before I saw the patient, in order to talk further upon the matter. While thus engaged, a sudden summons from the sick chamber came to us, with the statement that the patient was dying. We, of course, stopped all debate; and ran up stairs, just in time to see the last gasp and the glazing eyes of death. Without doing or saying anything, we waited a minute or two until entirely satisfied that the patient was dead, when we turned and left the room. I have never ceased to look back upon that event with the greatest sorrow, not to say some self-reproach.

And here allow me to ask you a question and at the same time to answer it decidedly. You will see its pertinency to the two cases just related. If any of you should happen to be present at or immediately after death, connected, as these two were, with pleuritic effusions, what ought you forthwith to do? I answer, unhesitatingly, plunge any instrument you may have at hand, whether aspirator, trocar, penknife, or sharp-pointed table knife, which may be found in any house, instantly, into the side of the chest, where you know the fluid is lying that has taken away breath. Let that fluid run out, regardless of all lack of disinfecting spray, or of any carbolized material, deemed so necessary now-a-days. Then, with an assistant to watch and prevent if possible the external air getting into the pleural cavity, while not checking the outward flow of the effused fluid, do you excite artificial respiration by manipulating properly the walls of the thorax and abdomen and by blowing air into the lungs from your own lips. For the moment, lay aside all fear of germs of disease, for it is better to have impure air than no air at all. Of course, other accidents than apnoea may be the cause of the sudden death in these cases. But because we cannot meet all contingencies, is no reason for our not trying to meet one of the most obvious of them.

Let us now return to the European case. I do not remember to have ever met with one more instructive, while so painful in the suggestions it gives rise to. Under the light of our New England experience, such gross errors, as I deem them, of omission and of commission, seem impossible. But we have witnesses in the notes and observations taken at the time by deeply interested observers. The data were given to me separately, and the accounts support each other. Two of the reporters, medical students, recognized the effusion, its latency and amount, before the professor was summoned to treat the case. Both were surprised at the methods pursued by him. One ventured, as above stated, to suggest thoracentesis; but the proposal was summarily dismissed, on the ground that it was "too early" in the disease for the proposition to be entertained. And yet I cannot but hope that no New Eng-

land physician would refuse this simple operation in such a case, and for such a flimsy reason. Then, too, as to the medical treatment, I do not believe that any New England (may I not say American?), well-educated practitioner of medicine would, even nine years ago, have been unwise enough to use, in such a case, calomel in repeated doses and semia, day after day, so that a severe diarrhoea was kept up, and, at the same time, order such a restricted diet as was used in this case.

Moreover, I should certainly hope that no intelligent practitioner here would *have to wait* instead of instantly tapping the thorax, when he should see the fluid *increasing* daily, with rapid prostration of the powers of the patient under such heroic, mediæval practice, and with dyspnoea ever augmenting. A man who, under such a state of things, would *delay operating because of the early period of the disease* would do so at the peril of the patient's life. I hold that *the question of time, the disease has lasted, should never be used as an argument against thoracentesis, in a case of marked and severe dyspnoea*. In this case it will be remembered that dyspnoea was almost the sole symptom, and was somewhat severe, even before the patient would allow that he was ill enough to have a physician called.

The treatment, I think, should have been thoracentesis on the first or the second day after the physician was summoned, and the system of dragging pursued seems to me most fatal in its tendency. I should have advised an alterative and a tonic course internally, and external irritation by means of the ethereal tincture of iodine (3ss. iodine to ʒi. of ether); but not cupping and extraction of blood in such a case. A nutritious, perhaps non-stimulating, diet should be given, and the use of mild soups or broths, or in feeble constitutions even the chewing, and perhaps swallowing, of beefsteak allowed, and, at times, perhaps a little wine or whiskey might be added. If called to a case at an earlier stage of the disease, with little or no pain in the side and no serious dyspnoea, I usually order iodide of potassium three times a day internally and the ethereal solution of iodine above named externally over the affected side, and direct the patient to keep in the house. In most cases of this nature, I find in two or three weeks the effusion yields without operation. If the dyspnoea become severe at *any time* I immediately tap the chest, as the only safe remedy.

I regret to feel that in our case in Boston twenty-five years ago thoracentesis was fatally neglected, and so it was with the case in Germany. Both patients died, when they might have lived had thoracentesis been performed. But I must protest again most heartily at the drastic and heroic mediæval treatment pursued by the German attendant, under which rapidly the strength of the patient sank. Some may urge against my judgment in this case that thoracentesis and a different treatment would probably not have saved life.

It may be said, *first*, that the fact that so large a part of the effusion was gelatinous it would have been difficult if not impossible to remove it. Any fluid, taken from the pleural cavity by thoracentesis, frequently coagulates almost immediately after removal. No one can be sure that the large, jelly-like mass, found in this case, may not have been mere fluid during life. About thirty hours had elapsed before an autopsy was made, and in this period coagulation may

have increased very much. Let us for the moment admit the difficulty, although by no means the impossibility, of drawing from the chest a sufficient quantity of fluid to have saved life. My reply would be that in my experience hitherto in three hundred and sixty-six operations on two hundred and thirty-two patients I have not more than twice failed to get at least *some* little fluid. In one of these cases a large, solid tumor filled one pleural cavity.

Again, I have almost invariably noticed that when even the *smallest quantity* is removed the patient is relieved, the simple acupuncture, as thoracentesis really is, in such a case, seeming to do good and to stimulate nature towards a cure.

Still further, supposing that we are satisfied that our trocar has entered a gelatinous mass, which cannot be drawn out except with difficulty or not at all, I see no objection to reversing the pump, and injecting into the chest warm water, which had been previously boiled and thus made antiseptic, and immediately withdrawing it. This might be cautiously but repeatedly done, and thereby, perchance, we might succeed in getting at any supernatant fluid lying, as in this case, over the jelly-like mass, a portion of which might obstruct our fine trocar in the early part of the operation.

Another objection to the use of thoracentesis in this particular case may be urged the fact, stated by one of my informants who saw the autopsy, that "incipient tubercles" were found in the layers of the pleural cavity of the diseased side, and that the hereditary tendency to consumption being so strong, the patient, though temporarily relieved, would have died of consumption, at last.

In answer it must be remembered that there were "no signs of tubercle in the pulmonary pleura nor in the lungs," and that all the previous history of the acute attack, with the symptoms that occurred after the attack, and the short duration of the whole are against the idea that it was "a tuberculous case," and that "incipient tubercle" was the *cause of the pleuritic attack*. I hold, therefore, that these "incipient tubercles" (whatever that term means) may possibly have been the *consequence of the pleural inflammation rather than its cause*. If this be true, what was to prevent them from wholly disappearing, if the pleuritic trouble had been cured. The word "*tubercle*" has been, for the past half or three quarters of a century, a scare-crow for the profession. Indeed, it is a word not to be spoken lightly of, but, in such a case as this, it seems to me to be worth nothing as against the propriety, nay, the necessity, for thoracentesis, even if it be for nothing but relief to agonizing dyspnoea.

Gentlemen, I have finished with these two cases. As I have brought them together, and have seen what valuable instruction can be drawn from them, they have become more and more interesting to me. But some may ask, Why bring up from the past such scenes of painful interest, showing only the folly or failures of the profession? My only reply is that we often gain much more from our blunders than from our successes. Still further, I have thought that it would be almost wrong for me to keep silence, after hearing, only recently, of the treatment in the German case. Permit me, in conclusion, to present the following train of thought and advice, which I shall give to any patient of my own, who may travel on the continent of Europe. If we believe that the internal treat-

ment followed in the German case, and the total neglect of thoracentesis, by one of the most eminent clinical teachers of his time, be the usual course, likely to be followed by his pupils now spread over Germany. I think the opinion I shall express, and the advice I shall give, proper and just. If, moreover, it be a fact that thoracentesis, as performed upon the European continent, has proved fatal in many instances, whereas I have yet to learn of any such fatality in New England, and, I think, in America, and when I myself have never met with a death, I am persuaded that the operator is in fault in Europe. I believe the operation, if *carefully done*, with due regard to the *first moment* of suffering on the part of the patient (cough, dyspnoea, stricture of chest), and if immediately thereupon the trocar be removed, is as simple and innocuous as venesection or vaccination. Such a remark does not apply to the operation, as performed in Europe.

My advice, therefore, to my patient visiting Europe will be as follows: If you find yourself threatened with pleurisy, send for an American physician, and trust to him rather than to any other under the influence of continental therapeutics. One exception I feel bound to make. If you are in Paris, summon Mons. Dieulafoy, immediately. He does not decline thoracentesis when necessary; and his rules for the operation are perfectly safe.

This may seem gross presumption on my part, nevertheless I shall feel it my duty to give the advice, upon the argument that, at times, much suffering may be prevented and, possibly, some lives may be saved.

#### CASES OF CONTRACTION AT THE HIP-JOINT.<sup>1</sup>

BY E. H. BRADFORD, M. D.

It has been abundantly proved in surgical practice that obstinate flexion of the femur can be corrected by osteotomy, by osteoclasis, by *brisement force*, in certain cases, by tenotomy followed by gradual or immediate straightening.<sup>2</sup>

It is also known that in the early stage of hip disease, before the tissues have become contracted, simple rest in bed will allow the limb to correct itself, or, under an anæsthetic the limb can easily be placed in position.<sup>3</sup>

After the disease has lasted for some time a contraction, which has been aptly termed "adapted shortening," takes place, and under an anæsthetic the limb cannot be replaced by the employment of force alone. In one cadaver on which I had an opportunity of examining a contraction of this sort, perfect correction could not be gained (although no bony union or firm fibrous adhesions were present) even after the skin was torn and some of the muscles divided.

As is well known, the acetabulum becomes widened and the head of the femur absorbed under the reflex muscular pressure which crowds the femur backward and upward, there being no muscle to pull the limb downward. This produces a position of pseudo dislocation, which, with contraction of the adjacent tissues, constitutes the deformity.

In the following cases treatment was attempted without strictly operative intervention:—

CASE I. R. W., six years old, of healthy parentage, and without a history of previous illness. There is no phthisis in the family. The boy met with a slight fall, previous to the attack of hip disease. This was first noticed in the summer of 1880, and for this he was treated by different regular physicians, for a while in the autumn of 1880 was placed for three months under the care of the Italian bone-setter, Regina Dal-Cein; by her his limb was poulticed and pulled by the hand. He is thought by the mother to have improved while under this treatment, the limb which was somewhat flexed becoming less so. A few months later, however, two abscesses formed; these were incised by the family physician, and after discharging for several months the sinuses healed. The limb began, however, to "draw up," and on September 6th the thigh was flexed at a right angle to the axis of the sacrum. There was no swelling or tenderness about the hip. The head of the trochanter was not above the Nélaton line, and any attempt to extend the thigh caused arching of the lumbar spine. The patient suffered no pain, and the limb was but slightly adducted.

With the assistance of Dr. Otis the boy was etherized, and the limb forcibly pulled. Tenotomy was not done. Comparatively little was gained in this way. An extension splint was then applied, the leg being kept elevated from the plane of the bed to an amount nearly equal to the degree of deformity. A folded pillow was placed under the knee, and an extension by weight and pulley (seven pounds) attached to the end of the splint.

The patient was quite restless the night following the operation, and complained of some pain referred to the knee, and slight muscular twitching was noticed if the extension splint was removed, followed by pain referred to knee. This lasted, however, but about twenty-four hours. At the end of three days the limb was within twenty degrees of the axis of the body. At the end of a week the leg had been brought to the line of the axis of the body. He was allowed to get



No. 1.



No. 2.

up and go about with crutches, and elevated shoe applied to the well foot, wearing the extension splint on the affected limb. No swelling of the hip, tenderness, heat, or redness followed, and the boy remained in every way as well as before the stretching.

At the present time, four months later, there is complete absence of any deformity; there is no difference in the length of the limbs; the boy is able to stand on the affected limb, but as a protection against jar or possible recurrence of the deformity is directed to wear an extension splint.

The condition before operation is accurately indicated in the accompanying outline sketch, No. 1, and

<sup>1</sup> Read before the Boston Society for Medical Improvement, January 9, 1882.

<sup>2</sup> Buckminster Brown. The JOURNAL, June 2, 1881.

<sup>3</sup> Case II., JOURNAL, November 11, 1880, page 467.



in No. 2 the position of the limb after two and three weeks' treatment.

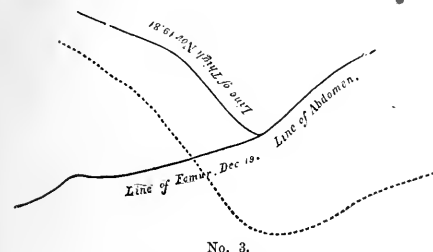
CASE II. R. F., aged seven, patient at the City Hospital; history that of hip disease of one and a half years' duration. At the time of entrance there was no tenderness about the hip, no motion at the hip. The thigh was flexed to nearly a right angle, and slightly adducted.

The same treatment was carried out in this case as in the previous one except that no extension splint was used. A ham splint was bandaged to the limb to prevent flexion of the femur, and a weight and pulley applied. After etherization the limb could not be straightened more than through an arc of forty degrees. Extension was therefore applied with the leg raised to that amount. This was gradually reduced. At the end of a fortnight extension was in the line of the bed on which the child lay. A certain amount of sagging of the bed prevented perfect correction of the deformity, and the child's hips were therefore raised by placing a pillow under the buttocks. This raised the pelvis slightly above the line of the extension.

At the end of eight weeks he was furnished with crutches and an elevated shoe, and wearing the ham splint allowed to walk about. A week later he was allowed to go about on crutches without the ham splint, and no evil results followed the forcible manipulation.

The skin near the anterior superior spinous processes was slightly torn at the time of the straightening, but no inflammation followed.

The correction of the deformity followed in this, as in the previous case, without difficulty. At the time of discharge from the hospital the patient's limbs were nearly parallel, the affected limb being flexed at the femur at an angle of ten degrees with the axis of the sacrum. After discharge from the hospital careful treatment was impossible.



No. 3.

CASE III. J. S., aged three, hip disease of one year's duration. The patient entered the hospital with the femur flexed firmly, nearly at a right angle with the axis of the trunk, and slightly adducted. There was no tenderness at the hip. The child was a delicate one, but was fairly nourished.

Extension by weight and pulley (seven pounds) was applied in nearly the line of the deformity. To accomplish this a cross-bar was fixed over the foot of the bed and several feet above it. A pulley was fastened to this, over which ran the cord for the ordinary weight and pulley extension. A board covered by a pillow was placed beneath the limb, extending from the buttock to the pulley. The knee was bandaged to this, and the limb in this way supported in the line of the deformity. The board and pulley were lowered from day to day as far as was possible without tilting the

pelvis. At the end of three weeks the deformity was so far corrected that the pelvis did not tilt when the limb was placed upon the level of the bed. The skin in the groin gave evidence of a great deal of stretching, and the patient suffered somewhat from nocturnal pain for ten days, but no disturbance of the general condition followed, and the patient is at present undergoing treatment. The amount of deformity and of correction is indicated by the accompanying tracing, No. 3, taken by placing a strip of lead upon the abdomen and anterior surface of the femur.

In these three cases the deformity was of an aggravated type. In two under an anæsthetic but little was gained except after traction. In the third the weight of the limb was utilized in addition to traction as a means of completing the rectification of the deformity. The amount of force which can be used in this way is considerable, as can be easily demonstrated if any one stands or lies with the limb held for a time at a marked angle with the body (the leg being kept extended and not flexed at the knee). The amount varies with the length and size of the limb.

The accompanying case, an aggravated one, of many years' standing, with cicatrices of old sinuses, shows that something may be gained by this means alone.

CASE IV. E. A., a young woman twenty-two years old. The patient first suffered from hip disease when three years old; her trouble was of an aggravated type. Abscesses formed and sinuses continued to discharge for many years.

At the time of commencement of treatment her thigh was flexed at an angle of about 70° with the axis of the sacrum. The arm was somewhat adducted. The trochanter was two inches above the line passing between the anterior superior spine and the tuberosity of the ischium. The cicatrices of two sinuses were present about the hip and no motion was to be detected. The patient used on this limb a shoe raised five inches, and with this, with difficulty, touched the floor with her heel. The deformity was so marked that it did not appear to be at all probable that any benefit could be derived from non-operative treatment, and nothing would have been attempted, if Dr. C. P. Putnam had not felt confident that the conditions could be improved.

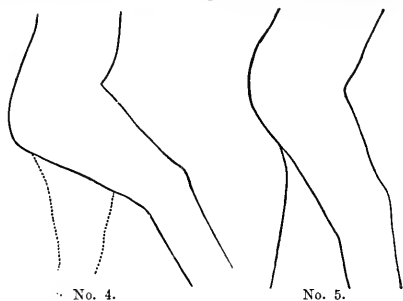
The patient was placed in bed and a ham splint applied to prevent flexion of the knee. This was secured by means of adhesive plaster and a silicate bandage. After the patient had become accustomed to this position, she, a few days later, was allowed to go about as freely as she desired, using crutches. No traction or friction was used, and the correction of the deformity was left entirely to the weight of the limb. This power of course only acted while the patient was standing, and necessarily a great deal of the time the limb was without any correcting force.

At the end of four months a removable splint was applied instead of the ham splint, answering the same purpose, namely, prevention of flexion at the knee.

At the end of six months the deformity had been overcome to an extent indicated by the accompanying tracings,<sup>1</sup> No. 4 and No. 5, and the patient is able to touch her heel to the ground with a shoe elevated three inches. She has during the treatment suffered from a slight amount of transitory pain. At the present time she is

<sup>1</sup> These tracings were taken by placing the patient upon a large sheet of stout paper, and with a pencil marking the outline of the body and limb. They were reduced by photography to their present size. No. 4 shows the patient before, No. 5 after treatment.

able to walk about, using one crutch to steady herself, but is able to bear full weight upon the affected limb.



In cases where the deformity has not been of long standing, even of a pronounced type, a light extension applied without regard to the line of deformity is sufficient to gain the result.

CASE V. M. C., aged eight years; hip disease of six months' duration. The patient's limb was flexed at a right angle with the line of the body. The patient had but little pain or tenderness. A light extension by weight and pulley was applied, the patient being fixed in bed, and the limb in two weeks became perfectly straight. Several months later an abscess formed and in a year the patient died with disease of the liver and kidney.

CASE VI. M., patient aged five, hip disease of four months' duration; flexion of the left thigh to  $40^{\circ}$ . The child was confined and fixed in bed, a light extension by weight and pulley applied without regard to the direction of the deformity; in two weeks the limbs were perfectly parallel and no deformity remained. The patient was kept in bed for several months. At the present time, six months later, the child is allowed to walk about, wearing an extension splint.

The following is a case of deformity of hip disease complicated by actual dislocation, as was discovered on etherization:—

CASE VII. C. W., five years old, a patient at the Children's Hospital, was admitted suffering from hip disease of right side of eighteen months' duration, with an acute exacerbation. The limb was extremely tender, was flexed and adducted. The hip was swollen, hot, and tender. The patient was etherized, and in extending the limb in the manipulation for correction of the deformity the head of the femur was felt to slip into the acetabulum. No bony grating was detected. The correction of the deformity was not complete, as some flexion remained. An extension of eight pounds in two weeks' time brought the limb to the normal position. The patient was relieved of pain and improved in general condition. An abscess, however, formed three months later, and shortly afterwards the child was attacked by diphtheria and died.

As is well known, deformities at the hip joint can in many cases be overcome by the method of securing by bandages the patient to a frame which embraces the trunk and extends along the affected limb. The frame at first is bent according to the amount of distortion, but it is gradually straightened and the limb bandaged in the straightened position.

The following case, one of periarticular disease, illustrates this method:—

CASE VIII. Agnes Powers, a child three years old, entered the Children's Hospital with a right angled contraction at the left hip. Tenderness over the sacro-iliac synchondrosis was marked, and the usual symptoms of hip disease being absent a diagnosis of sacro-iliac disease suggested itself. An abscess, however, formed and on incision no diseased bone could be detected, and the incision healed after thorough drainage. The patient was placed upon a wire frame which reached from the axilla to below the left foot, this was bent according to the amount of flexion, but was straightened from day to day. At the end of three weeks the limb was entirely straight.

It would be too much to assume that the correction of a deformity of this sort was the cure of it. As long as any inflammation remains at the hip joint, or as long as from timidity or habit of disuse the patient is accustomed to hold the limb in an unnatural position, a recurrence of the deformity, to a certain degree, may be considered possible or probable.

To prevent this recurrence either the continued use for a longer or shorter time of the measures taken for the correction of the deformity is necessary, or the treatment of the latent disease at the joint, a description of which does not fall within the scope of this paper, the object of which is to indicate that in certain cases of this class of deformity correction can take place without the usually mentioned methods of procedure.

#### PARAPLEGIA (PARAPARESIS) FROM FUNCTIONAL WEAKNESS.<sup>1</sup>

BY S. G. WEBBER, M. D.

I WILL describe three cases which illustrate three varieties of the affection to which I wish to call attention.

M. J. F., widow, aged twenty-six, entered the City Hospital August 27, 1879. Diagnosis endocervicitis. She had a miscarriage eight years before, followed by inflammation of the womb; this seems to have been unimportant, as she soon recovered from it, and was transferred to nervous and renal service September 24th.

The patient had never been strong; had had all the usual diseases of childhood, lung fever two or three times, typhus fever when a child, rheumatic fever nine years ago, and intermittent fever, typhoid fever twice, the last time March, 1878, complicated with spinal meningitis. When thirteen years old she fell on the ice upon her spine; again, at fifteen years of age, fell down a flight of stone steps, striking upon lower part of spine; was laid up by this for three months, having great difficulty in walking and sitting. After the typhoid fever and spinal meningitis in 1878 she was confined to the house till January 1, 1879. She had had pain in her back for a year, pain in right leg, more than in left, for a year; pricking sensations in legs with numbness for a year past; had had a sense of a girdle about waist; some para-esthesia in legs and back, hyper-esthesia of back, the weight of the bed-clothes lying on her back causing pain; micturition rather difficult, sometimes only once in forty-eight hours; vision defective; diplopia; tremor of hands during voluntary action for the past six months.

<sup>1</sup> Read before Boston Society for Medical Improvement, January 9, 1882.

On examination there was found to be tenderness over the whole spine, varying in degree, most marked over coccyx; tenderness over upper part of abdomen, especially over the epigastrium; slight tremor of hands, increased in right hand during voluntary motion, not in the left; no ankle clonus; patella tendon reflex very much increased on the left, somewhat increased on the right; she walked very feebly, and with eyes shut fell; urine was normal, without albumen, no casts.

She left the hospital October 29th.

She was treated in the hospital with iodide of potassium, two and one half to five grains three times a day, and dry cups to the back. After she left the hospital she was rather worse for a while, could not walk, had attacks of severe pain in the back. The cupping was continued daily, with much relief after each cup, until the close of winter, then less frequently. She slowly gained, and March 1, 1880, she had no pain in her back, walked firmly without assistance. In the winter of 1880-81 she was keeping a boarding-house.

Here was a history of long continued ill health, during which the nervous system must have suffered in common with the system in general. Whether she really had spinal meningitis with the typhoid fever or simply severe backache I cannot tell, and not knowing who her physician was at that time, it is not possible to judge from any knowledge of his skill. Muscular weakness after typhoid is not unusual.

When first seen there was very great weakness, and this continued for several weeks. The great tenderness in the back was the chief symptom leading to a diagnosis of functional weakness. Pain in the back in organic lesions of the spinal cord or envelopes is present, as a rule, only in spinal meningitis; the other symptoms of that affection were wanting in this case. It was not difficult to diagnosticate the real nature of the affection.

Helen F. S., aged thirteen, was delicate and weak all her life. When five years old she had scarlet fever, and had not been well since. Catamenia had not appeared. For one or two years she had been growing feeble, and gradually losing power to walk. The most marked loss of power appeared after taking a long walk, whether this was at the beginning of the loss of strength or subsequently is not known, but it was just before an aggravation of her complaint. About five months before entrance she was entirely unable to walk, though she could still make the motions of walking when supported by her father, and he required this exercise daily. There had been no pain or numbness in feet, but sometimes a sensation as if they were asleep. There had been no spasm nor twitching of legs, no swelling of feet. There was pain in back, but not enough to disturb sleep, and sometimes she had headache, eyes also ached at times.

On examination it was found that she could move her limbs, but in a very languid way, and without force; could not stand, nor even sit up, and was unable to hold her head up; there was one spot in the middle dorsal region which was slightly tender over the spinous process, and one spot in lumbar region where there was tenderness to the right of the spine; the spine was perfectly straight; the capillary circulation was very sluggish in the legs. All the muscles reacted to the faradic current. Sensation was very slightly if at all affected. The urine acid, 1014, albumen, about one fourth per cent. granular casts and

hyaline casts, some with granules; amount during the first fortnight six to thirty ounces daily.

She had iron, massage, electricity, and steam baths, and the urine increased in amount to from forty-eight to sixty-six ounces daily. November 12th and 13th there was retention of urine which hot bath or fomentation relieved, and the amount was temporarily diminished, but immediately after increased again to above fifty ounces. On October 23d there was no albumen, but a few hyaline casts could still be found. November 25th both albumen and casts had disappeared.

She slowly gained strength, and in January, 1878, began to sit up; she was able to walk nearly across the ward by the 1st of February, and was discharged April 3d, well. Since that date she has been several times heard from; she continued to gain strength, and more than two years after leaving the hospital she was well, and able to walk at least a mile without unusual fatigue. She has just been heard from, and is still gaining in strength, and remains healthy.

This seems to have been simply a case of overtaxing of the muscular and nervous system by a patient naturally weak, and not fully recovered from the debilitating effects of scarlet fever. Whether the albuminuria was cause or effect of the weakness I don't know. The lesions to be excluded in forming a diagnosis were caries of the vertebrae, in common with which there were scarcely any symptoms; myelitis could not be excluded so summarily, though the retained reaction to the faradic current would exclude poliomyelitis. An ordinary case of chronic myelitis has most of the features present in this case, but it would be extremely rare for myelitis to continue between one and two years, extending so as to affect the arms and the muscles which support the head, and yet the patient have power to move the legs so freely in bed. However, there was so much similarity to myelitis that it was not possible at first to say positively it was not that disease, but a short observation showed that it was probably functional. There was not sufficient tenderness over the spine to classify it as a case of spinal irritation. The result shows that it was simply functional weakness.

Annie W., aged twenty-nine, married, was sent into the City Hospital by Dr. Lyman; she had had four children, the youngest four years previously. For twelve years she ran a sewing machine, by foot most of the time. Two years before admission she had pain in both knees lasting about two months, otherwise no trouble till four months preceding entrance, then her head felt dizzy, memory failed, but she had no headache; her feet felt numb and cold as if ice water was running over them, the numbness extended, on admission, six or eight inches above the knees; she walked with difficulty, and said she had to watch the floor to tell when her feet touched it. For a few days before admission her hands felt numb.

On examination it was found that sensation was only diminished, not lost, was slightly retarded in legs and feet; the cutaneous reflex on tickling the soles of the feet was absent, patella tendon reflex was also absent; there was considerable impairment of motor power, she walked with difficulty, which was increased when her eyes were closed; hot water gave no unnatural sensation on the back; there was no tenderness on pressure over the back; there were a few crackling râles at the left apex, no difference on percussion.

Iodide of potassium was given, and after that had

been taken some time her urine was examined by Dr. Wood, who found no lead in it. The treatment consisted in the use of galvanism to the back, dry cupping of the back, and strychnia, increased up to one fifteenth of a grain. These remedies were used at different times, and changed according to the patient's condition. She slowly gained in strength, and when discharged was able to walk better, had less numbness.

She was seen two or three months after her discharge, and said she had no numbness in her legs, no stiffness, her arms were all right, and she walked perfectly well.

One element in the aetiology does not appear in the record,—she had taken care of her sick children before the commencement of her illness.

I was in much doubt as to the nature of the affection in this case. I thought it possible that there was simply functional weakness, but was rather inclined to believe there was inflammation of the spinal cord. It is of course possible that lead had been present, and caused the symptoms, but was all eliminated before the urine was examined. I am willing to let the case stand as doubtful, but am rather inclined to look upon it as functional.

These three cases differ in some respects, yet closely resemble each other. The first case is clearly one of spinal irritation, but there was more loss of motor power than is usually seen in that affection. It may serve to illustrate those cases of muscular weakness, possibly due to lesion of the muscular fibres, which are seen after acute fevers, more especially after typhoid. It is rather doubtful whether there was really spinal meningitis during the typhoid attack.

The second case seems to have been one of real nervous exhaustion following over-exertion. Perhaps the effects of this would have passed off soon, if she had not been kept on her feet as long as she could stand, and even longer. The albuminuria may have been simply a result of this weakness.

The third case was one of those doubtful cases where the symptoms might lead to a diagnosis of inflammation of the cord, yet it was probably functional disturbance.

One point in regard to etiology not yet noticed is deserving mention. In these, and in other cases, before the patients finally break down, there is usually some factor exerting an influence to lower the general health of the patient. This was so in the cases just reported. Two patients now under treatment suffered from sore throat just before the weakness appeared; in one of these at least it was not diphtheritic, as he was seen by a doctor fully qualified to judge.

The immediate cause of the occurrence of such functional weakness is sufficiently evident from the above histories; but besides bodily exertion, mental overwork is said also to be a cause.

The seat of the disorder may be either the muscles or the nervous system. Muscular fibres may be so overtaxed as not to recover their normal condition in the short time allowed for rest; they then undergo degeneration, or not being sufficiently recovered from fatigue are easily fatigued again.

When the nervous system is the seat of the affection, it is probably the cord which suffers, rather than the nerves. Erb says, in regard to these cases: "The most obvious view is that which supposes that the physiological fatigue of the nervous elements, which always occurs after severe and protracted irritation, becomes exaggerated and assumes a fixed form. In such a case we may suppose that the fatigue of the nervous elements does not become repaired in the prompt manner which is usual under physiological conditions."

The diagnosis between these cases of functional weakness and myelitis in its early stages is not always easy but is very important.

When there is great tenderness upon pressure over the spinous processes it is almost certain that the weakness is functional. The case is one of spinal irritation with accompanying weakness. I do not mean tenderness developed only by strong pressure, but where comparatively slight pressure evidently causes pain. Such patients may not readily recover, but there is no inflammatory change in the spinal cord rendering recovery impossible. I have seen several of these patients besides the one whose history I have reported, who have regained the power to walk, and are now walking about, some enjoying a very reasonable share of health.

The chief difficulty in diagnosis is to be found rather with the other variety of cases, where there is little or no tenderness of the spinous processes.

There will be a chance of mistaking these cases for incipient myelitis or for congestion of the cord; and it will sometimes be very difficult to come to a satisfactory conclusion. The principal diagnostic points to be noticed are that in functional weakness sensation is as a rule much less affected than in myelitis. There may be abnormal subjective sensations, as tingling or a sleepy feeling, but when tested it will be seen that the various sensations are at most only slightly affected. After quiet in bed or after ceasing active exertion the numbness of which many of these patients at first complain is very much diminished or wholly disappears. There is not real paralysis but motor weakness and the muscles are easily exhausted, and the patient may even sink to the ground from fatigue after a very short walk, and then the limbs may feel tired and heavy or may even ache hard. It is not often that so great weakness is seen as was present in the second case I have read.

The condition of the bowels and bladder cannot be depended upon for aid in diagnosis, as even in myelitis in the earlier stages these may not be affected, and in nervous exhaustion there may be slight disturbance.

The fact that there is no wasting of the muscles and that they retain their power of reacting to the faradic current will conclusively exclude an affection of the anterior cornua.

Though the patients may stagger some in walking from weakness and be unable to walk steadily with their eyes shut, generally, however, there is no difference in their power of walking whether the eyes are open or shut, yet there are no symptoms properly belonging to locomotor ataxia. The legs may ache, but there are no shooting pains in them, the tendon reflex is rather exaggerated than diminished if it is affected at all.

In some of the patients, even where there is no spinal irritation, the nervous system is so exhausted that the emotional element is prominent and the patients easily shed tears. This was especially so with a young girl whom I have lately seen, who overtaxed herself by walking to and from school.

As to treatment, it has been mentioned in the cases which I have reported, rest, electricity, massage, cupping to the back or perhaps actual cautery, iron, quinine,

and strychnia. I have thought in one case, as might be expected, that ergot was of disadvantage and the patient did not do well under it. It might be well to combine with other remedies systematic bathing, especially if it is not convenient to use massage.

It is well to take into account that recovery of strength is very slow, and treatment of severe cases must extend over months.

Erb, in Ziemssen's *Cyclopedia*, describes spinal nervous weakness, which comes as near to the cases I have reported as possible. I have not seen exactly the same grouping of symptoms in any other author, except Ross, who, with condensation, copies almost word for word from Erb.

C. H. Jones mentions several cases closely resembling these.

Other authors have described somewhat similar symptoms under spinal irritation, but these cases cannot all be classified under that title.

## RECENT PROGRESS IN CHILDREN'S DISEASES.

BY T. M. ROTCH, M. D.

### RHEUMATISM.

HIRSCHSPRUNG<sup>1</sup> reports a series of cases where there was a peculiar localization of acute rheumatism in children, characterized by swelling of the sheaths of the tendons, appearing outwardly as very pronounced little lumps, and he concludes his article by describing two cases. Case I. was a girl eight years old, who, after three weeks' complaint of pain in the knees and back, sometimes also in the other joints, accompanied by slight fever, presented, besides a slight left-sided pleuritic effusion, small hardish deposits arranged in a row along the tendon of the palmaris longus muscle, and also similar prominences, excepting that they were larger, where the tendon of the extensor communis muscle and extensor longus pollicis pass over the wrist. They were bilateral, symmetrical, and moved with the tendons. Similar swellings appeared on the outer sides of both ankles, and also on the tendons of the left peroneus, extensor communis, and extensor hallucis longus: also numerous rings around the knee-joints, where they were as large as peas; they were also found near the spinous processes of the vertebrae. In the course of a month, during which several of the finger-joints were slightly swollen and heart murmurs developed, these swellings retrograded and disappeared entirely. One and a half years later the child was again seen, and found to have mitral insufficiency and pericarditis. A few days afterwards swellings of the same character as before observed appeared on the spinous processes, and later on the tendons of the hands and feet. Then fever developed, and after several days, improvement and retrogression of all the appearances, even to the systolic apex murmur.

Case II. was a girl three and a half years old, who was attacked with fever, wandering pains, passing finally into swelling of the backs of both feet, but without swelling of the joints, and after two weeks getting well. Soon, however, the little patient again complained of pains, became feverish, developed swelling of different finger-joints, and during this relapse an endo-pericarditis. She was then pretty well, excepting that the heart trouble continued, for two

months, when she left the hospital, but returned in five months with the valvular disease much increased, and on the points of both olecranon a cartilaginous spur-like body, not painful, and movable under the skin. The child soon died. The autopsy showed old and fresh pericarditis, myocarditis fibrosa, traces of fatty degeneration, pigment atrophy, and old and fresh endocarditis. On either side of the olecranon were found bodies the size of a pea, directly upon the triceps tendon, and consisting of connective tissue, with flat and spindle-shaped cells, and here and there round, large, nucleated cells, besides richly distributed and partially dilated vessels, of which individual arteries at times showed a most striking thickening of their muscular coats.

The writer also speaks of similar observations made on a girl twelve years old and a boy nine years old.

### INCUBATION PERIODS.

The incubation of infectious diseases is a subject of interest and importance, which is rendered difficult to determine definitely by the exceedingly few opportunities which physicians have for making personal observations, not dependent on the usually untrustworthy reports received from the laity; the investigations of Dr. Clement Dukes,<sup>2</sup> physician to Rugby School and Hospital, are therefore especially noticeable from the unusual means at his disposal of ascertaining the incubation period of scarlatina, varicella, mumps, and röteln. Dr. Dukes reports his observations as follows, prefacing his remarks by the statement that the incubation cannot always be accurately calculated within twenty-four hours, from the first case not being seen at the very beginning, or from its being seen on the evening of one day, and the next case in the morning. He also states that the immediate isolation of each patient made it impossible for that patient to be a source of infection after the first few hours.

### SCARLATINA.

He first speaks of scarlatina, epidemics of which occurred during the years 1877, 1879, and 1881. The number of cases in each epidemic was necessarily small, from the fact that early isolation was immediately resorted to, but there were fifteen cases in all, and the following table represents the number of days of the period of incubation:—

| Cases. | Days. |
|--------|-------|
| 1      | 1     |
| 3      | 2     |
| 2      | 3     |
| 4      | 4     |
| 2      | 5     |
| 1      | 6     |
| 1      | 9     |

Thé report of the manner in which B. S., one of the cases where the time of incubation was four days, was infected it may perhaps be interesting to note. The school assembled May 2, 1879; A. W. was attacked with scarlet fever (probably caught on the journey from home) May 7th, and was isolated almost immediately. B. S. (just before A. W. was removed) had some hot words and "head in chancery" with A. W., because the former had hit A. W.'s little brother. Otherwise they never had had any communication with each other, either in bed-room, school-room, or dining-room. Two of the cases of scarlatina had variella

<sup>1</sup> Jahrb. für Kinderheilk., N. F. xvi., S. 324.

<sup>2</sup> The Lancet, October 29, 1881.

at the same time, occurring on the tenth day from the first appearance of the scarlatina.

#### VARICELLA.

Careful observations were made on fifteen cases during an epidemic of varicella, with the following results:—

| Cases. | Days of Incubation. |
|--------|---------------------|
| 2      | 14                  |
| 3      | 15                  |
| 1      | 13 or 14            |
| 1      | 14 or 15            |
| 2      | 14 or 16            |
| 3      | 16 or 17            |
| 1      | 17 or 18            |
| 2      | 19                  |
| —      |                     |
| 15     |                     |

#### MUMPS.

| Cases. | Days of Incubation. |
|--------|---------------------|
| 1      | 14                  |
| 1      | 15                  |
| 3      | 16                  |
| 6      | 17                  |
| 8      | 18                  |
| 9      | 19                  |
| 4      | 20                  |
| 1      | 21                  |
| 1      | 22                  |
| 1      | 23                  |
| 2      | 24                  |
| 1      | 25                  |
| 1      | 17 or 19            |
| 1      | 18 to 20            |
| 2      | 20 to 22            |
| —      |                     |
| 42     |                     |

#### THE ORCHITIS OF MUMPS.

Dr. Dukcs states that his observations lead him to believe that the orchitis of mumps is not a metastasis, but a complication of mumps that can be watched for; it comes neither before nor after a certain definite time, and it comes only in certain cases, namely, those who have arrived at or beyond the age of puberty, although unfortunately the ages of the patients were omitted in the report. This fact of age is a great guide to treatment, for by keeping all likely cases in bed until the ninth day, and carefully taking the temperature, which rises before the pain is felt, and on the slightest rise of temperature applying a hot poultice to the testicles, the severe pain is mitigated, and the acute general symptoms are diminished by the patient being placed thus early under general treatment. Only one of the cases of orchitis behaved abnormally, and in this case the orchitis took the place of the parotid swelling on the first day, and the parotids were not touched from beginning to end, but only the submaxillary glands, and in this case the symptoms were very severe. In two of the cases there was acute delirium, and one of them was followed by hydrocele, paracentesis, and subsequent atrophy of the testis. In one of the cases the patient fainted when the orchitis began.

| Cases. | Number of Days from beginning of Mumps. |
|--------|---|
| 1      | 1                                       |
| 6      | 7                                       |
| 4      | 8                                       |
| 1      | 9                                       |
| —      |   |
| 12     |   |

#### RÖTHELN.

Dr. Dukcs claims to have seen an unusually large number of cases of rōtheln, and as there is still a great difference of opinion as to what the nature of the disease and its clinical picture is, as well as whether such a distinct disease exists, he very wisely precedes his article on this subject by citing what he means

in speaking of a mild case and of a severe case of rōtheln.

(1.) Mild case. A boy presents himself to me. "Please sir, I've got a rash, and I had better show it to you, although I feel perfectly well." I examine, and may see a few tiny spots; or a few larger spots or blotches of a rosy hue; or a diffuse rosy hue in one part, as at elbows and knees, and spots or blotches in other parts, generally on face and hands and arms first. A warm bath and bed develop more rash; no headache, sometimes sore throat or reddish eyes, but mostly not; pulse 80 and temperature 99° F. in the evening, normal in morning. The rash may be all gone in the morning, or may last, coming out in one part, going in another, for a day or so; then it all goes, and is not followed by peeling. The patient feels hungry throughout, and not ill in the least. After about three days in bed, followed by four days of fresh air, he is washed from head to foot with carbolic soap, his clothes are put through the disinfecting chamber, and he returns to school.

(2.) Severe case. A boy complains of headache and general malaise, slight sore throat, loss of appetite, and drowsiness; looks heavy; eyes red; no catarrh, but a little cough sometimes; slight redness of fauces; skin on exposed parts raised in appearance, but no actual rash; quick pulse and increased temperature. He has a hot bath and is put to bed, when a rash gradually appears on exposed parts first, papular in character, and gradually intensifies in color, so that it becomes of the brightest rosy hue (not dusky); these papules become blotches and gradually spread all over the body until he is in one mass of eruption, sometimes with scarcely any intervening natural-colored skin. The rash that came out first gradually fades while the rest is appearing, and the whole process lasts three or four days or more. The eyes and the whole mucous membrane of the mouth and fauces look red, but there is no catarrh; the tongue is coated. Pulse 120 or more; temperature 103° F. or 104° F.; great malaise; all symptoms gradually subside, and the rash is followed by roughness of the skin. After isolation for fourteen days he is thoroughly disinfected, and returns to school.

Dr. Dukcs considers rōtheln a distinct disease *sui generis* and decidedly infectious: it varies greatly as to character and severity, sometimes presenting no symptoms beyond the rash, again making the patient quite ill; the rash also varies very much in its amount and color. One attack apparently protects from a second. It is unattended by sequelæ. There is a rash produced by certain caterpillars, with which boys and girls are very fond of playing, which so much resembles the beginning of rōtheln that it occasions a great deal of trouble, when rōtheln is about, from the uncertainty as to whether you have only a caterpillar rash or rōtheln to deal with. The oak-egg, or bombyx quercus, the liparis aurilua, the arctia caja and arctia villica, and the common drinker, odonestrus potatoria, are the chief creatures. Wherever they crawl, or wherever the fingers go that have touched them or cleaned out their cages, there we get a measly rash. As a rule it begins on the fingers; then the eyes are rubbed, and we see measly-looking eyes; then they scratch their faces and necks, or any part of the body, when we here also get a rash. So common is this in early summer that he always has it in mind in making a diagnosis.

Infection appears to take place in the very beginning of the disease, so that isolation seldom prevents its spreading, but the following twenty-three cases were carefully isolated and the incubation period noted:—

| Cases. | Number of Days of Incubation. |
|--------|-------------------------------|
| 1      | 12                            |
| 1      | 13                            |
| 1      | 14                            |
| 2      | 15                            |
| 4      | 16                            |
| 1      | 20                            |
| 1      | 22                            |
| 1      | 13 to 15                      |
| 1      | 14 to 16                      |
| 3      | 15 to 17                      |
| 3      | 16 to 18                      |
| 23     |                               |

The subject of the recognition of *rötheln*<sup>1</sup> as a distinct disease was thoroughly discussed in the section of the International Medical Congress devoted to diseases of children, and the remarks of Dr. Jacobi, of New York, on this question are especially worthy of record. Dr. Jacobi said that the difficulty in diagnosis must be great in many instances, as the description of cases given by the best authors varied much. The difficulty was greatest with those in large cities, when and where, as a rule, there were complications of allied epidemics. During the prevalence of any infectious disease everybody was to a certain extent under its influence. Thus, during epidemics of diphtheria, scarlatina, erysipelas, cholera, everybody was liable to be taken on slight provocation, or, at all events, to exhibit some of the symptoms. Thus pharyngitis and cervical adenitis were very common among persons who were considered well. In this way he explained the fact that symptoms not belonging at all to *rötheln* were mentioned among its symptoms. In large institutions, distant from large cities, and remote from epidemics of measles and scarlatina, *rötheln* had been observed as a distinct disease, to be very contagious, and very slightly febrile, no cases, or very few, being attended with throat symptoms or adenitis, the eruption resembling measles more than scarlatina, convalescence being absolutely safe and easy, and desquamation, if occurring at all, very trifling and furfuraceous.

The president of the section, Dr. West, closed the discussion by remarking that the evidence brought forward by the speakers almost amounted to a demonstration that *rötheln* was a distinct disease. In its incubation period it differed markedly from scarlet fever, but approached that of measles, which, however, it usually exceeded. It differed from scarlet fever in the absence of severe throat symptoms, in the character of the rash (a point, however, not to be appreciated in the first twenty-four hours), and in the fact that it was usually a mild disease, not followed by sequelæ.

Sydenham had written on the epidemic constitution of disease, and in this connection the remarks of Dr. Jacobi on the influence of epidemics in modifying the health of people and the course of other maladies deserved to be borne in mind.

#### CONGENITAL BRONCHIECTASIS.

Dr. Paul Grawitz<sup>2</sup> reports the examination of a number of cases of bronchiectasis found in the fetus, and one case in a child one year old, and concludes that congenital bronchiectasis is caused mechanically by an accumulation of fluid in the fetal lung.

<sup>1</sup> British Medical Journal, September 24, 1881.

<sup>2</sup> Virchow's Archiv, L. xxxii., 2, p. 217, 1880.

## Reports of Societies.

### SUFFOLK DISTRICT MEDICAL SOCIETY.

#### SECTION FOR CLINICAL MEDICINE AND PATHOLOGY.

ALBERT N. BLODGETT, M. D., SECRETARY.

DECEMBER 12, 1881. The meeting was called to order at eight o'clock. On motion of Dr. R. M. HODGES, Dr. T. B. Curtis was elected chairman. Dr. Curtis not being present, Dr. S. L. Abbott was elected chairman *pro tem*.

Communications were received from Drs. Minot, Tarbell, and Whitney, who were unable to be present. After the reading of the records of the previous meeting a paper was read by Dr. H. I. BOWDITCH upon

#### TWO FATAL CASES OF PLEURISY. See p. 48.

Dr. HAMILTON OSGOOD said that he could merely indorse all that Dr. Bowditch had said in regard to the great necessity of promptness in the performance of the operation of paracentesis in acute pleurisy. One of the cases which Dr. Bowditch had detailed had been a sad lesson to him. He had asked that the operation might be performed on the day on which the practitioner in question had taken charge of the case. The latter objected, on grounds mentioned in Dr. Bowditch's report. The fame of the practitioner was world-wide. There was no higher authority in his own country. He was not unfamiliar with the operation, having performed it for many years. Under the circumstances nothing more could be said. The cause of such sudden death in a case of pleuritis which apparently was doing well is a matter of deep interest. Bartels has asserted and proved by several autopsies, so also has Fraentzel, that in these abruptly fatal cases the affection is always unilateral and left sided, as in this case, and that the large effusion causes a rectangular twist in the ascending vena cava; Trousseau thought more especially in the aorta. The effect of this condition is the more dangerous because, according to Fraentzel (1) a sudden increase in the amount of the effusion is accompanied by a corresponding diminution in the whole mass of the blood, and (2) the effusion still further compresses the affected lung, the loss of whose vital movements restricts and interferes with the passage of blood from the right to the left heart. If under these circumstances there occurs a transitory and accidental disturbance of the circulation, as in a hasty movement of the body (which was the case in the patient under discussion), or a fit of coughing, the arterial blood pressure becomes absolutely insufficient, and this is quickly indicated by syncope or immediate death. Fraentzel relates a case of left-sided pleuritis which came one evening into his wards in the Charité in Berlin. He saw that paracentesis was necessary, but deferred it until morning. During the night the man suddenly expired. The autopsy revealed a twisted vena cava ascendens. Fraentzel speaks of the case as an impressive lesson, teaching that not an hour should be lost in doing the operation wherever it seems necessary. In these cases of fibrous effusion he uses cups when the fever is high and the effusion is rapidly increasing. He advises paracentesis when the quantity of effusion is large and absorption is slow. Dr. Walshe says that the period at which paracentesis is most likely to afford permanent relief is easily suffered to pass by from procrastination,

caused by the natural desire to give gentler measures a full trial. Judging from his own experience, sudden syncope in acute pleurisy is a very rare occurrence, but he advocates early operation when the effusion is large.

In regard to the jelly-like mass found in the effusion, in the case under discussion, the speaker thought it could not have existed in such bulk ante mortem, and therefore would have been no hindrance to the operation. Virchow mentions a case as "peculiar" in which a serous effusion, issuing from the chest as a perfectly clear fluid, shortly after exposure to the air had its whole mass pervaded by a coagulum. This "phenomenon," he thinks, is difficult of explanation on the supposition that real fibrine existed completely developed in the fluid. He says that the coagulation indicates the presence of a substance nearly related to fibrine, but not real fibrine, and which requires the contact of atmospheric air for its conversion into true fibrine. He therefore gave it the name of *fibrinogenous substance*.

The speaker thought that during the time occupied in the post-mortem examination of the heart of the patient mentioned by Dr. Bowditch sufficient time elapsed for coagulation of the pleuritic effusion through contact with the air.

In conclusion, he said that in the treatment of this case common sense would have led to a prompt performance of paracentesis. No one can say, no one has a right to say, the patient would have lived, but his chances would have been infinitely better. In any case of acute pleurisy the practitioner should never visit his patient without a trocar in his pocket, and it would be wise to have the proper instruments for paracentesis kept in the house of the patient ready for instant use.

DR. A. T. CABOT wished to say a word in regard to the propriety of making occasional use of the more radical operation by free antiseptic incision and drainage in purely serous effusions.

"In the majority of non-purulent effusions repeated aspiration is usually successful in checking the accumulation and accomplishing the final absorption of the fluid. Occasionally, however, we meet with an effusion which reaccumulates with great rapidity after removal, and allows the compressed lung but little time to recover itself before it is again disabled by the returning pressure.

"Under these circumstances the relief to the patient after aspiration is of short duration, and does not enable him to gather strength to shake off the disease. Of such character are many of the fatal cases of pleurisy.

"If, now, in a case of this sort a free incision is made, and reaccumulation thus rendered impossible, the immediate danger of death from the pressure of the fluid upon the heart and sound lung is avoided, and the lung of the affected side is allowed time to recover itself, and is thus not disabled for future use. The success attending the treatment of other serous effusions (hydroceles, etc.) by antiseptic incision, and the good results attainable by this method in cases of empyema, would encourage one to employ it in cases of simple pleurisy which resisted less radical measures and threatened life.

"A little more than a year ago I saw a man of about sixty in an almost moribund condition, cyanosed, with respiration about 70, pulse 140, barely perceptible. The right side of his chest was flat throughout. I drew off two and a half pints of serum with an aspira-

tor, and stopped then only because he was beginning to cough. This operation was followed by considerable relief; the respiration and pulse fell, and his strength improved somewhat.

"Within the next month I was obliged to draw off fluid six times for the relief of dyspnoea. Each time the relief following the operation was less than before; and the patient, who had at first gained, finally began to lose strength again.

"Believing that in such a case a free incision was called for permanently to relieve the intrathoracic pressure, I operated antiseptically and inserted a rubber tube. The patient recovered well from the operation, which was followed by little or no fever, and seemed for a few days to be doing fairly well. But on the sixth day after the operation he failed rapidly and died. In my absence Dr. M. H. Richardson attended this patient for the last few days of his life, and said that the fluid always remained purely serous, without a drop of pus. It seemed to both of us that the death could not be at all attributed to the operation, and that had our patient been less enfeebled by the previous long and exhausting course of the disease we might have justly expected a favorable issue. This belief has since been confirmed by the favorable course of a similar case which I saw in consultation with Drs. Bowditch and Richardson, in which a free opening has been followed by steady improvement in what was at first a very unpromising case.

"In conclusion I would like to say one word about the application of the antiseptic dressing in these cases of free opening of the chest. I consider the proper application of the mackintosh of the greatest importance in hastening the expansion of the lung.

"This water and air proof layer of rubber cloth should overlap the loose gauze next the tube, so that its edges reach beyond the underlying gauze and are applied closely to the chest wall. They are then held firmly against the skin by the elastic dressings over them. Now at every cough, sneeze, or other forcible expiration, the air will be driven out of the chest and will escape from under this edge, which acts then as a valve to prevent its return. The air in the pleural cavity is thus constantly diminished, and the organs, if not held by adhesions, rapidly resume their normal positions.

"In a case which I operated upon last summer the heart was upon the right of the sternum before operation, but on the following morning, when the first dressing was changed, had resumed its normal position, and the respiration was to be heard nearly, if not quite, to the base of the chest."

DR. F. C. SHATTUCK remarked that during a winter he had passed in Vienna, eight years ago, death from uncomplicated pleuritic effusion was not uncommon. He remembered distinctly the criticisms on this very point of a medical friend and unusually good observer, who regularly attended the autopsies in the Vienna General Hospital, and who, during a period of a few months, saw five or six cases in which death was caused directly by large effusion. Aspiration was at that time but little practiced in Vienna, and the first assistant of Professor Ducheck said to Dr. S. one day, in talking of the operation, "We have not had much success with paracentesis here." In this neighborhood, and indeed in this country, accidents of this nature seem to be very rare.

As regards Dr. Bowditch's question whether American students in Germany would not do well to place



themselves in the hands of their compatriots in case of illness, Dr. S. said that with full knowledge of the case reported by Dr. Bowditch and of a Vienna case, in which the treatment had not seemed to him wise, soon after his arrival in that city he had agreed with a medical friend that if one fell sick the other should take entire charge of the case.

Dr. S. also alluded briefly to a case which he had aspirated that same morning, and obtained about two ounces of apparently clear blood. (This case will be reported more fully later.)

Dr. F. I. KNIGHT coincided entirely with the reader, and thought there would be no difference of opinion among American practitioners in regard to the treatment to be instituted in a similar case. He could see how, in considering the propriety of operation, one point would naturally receive more attention in Europe than in this community, namely, the danger of thoracentesis, as deaths had been reported there which had been attributed to the operation, while none such had occurred here; our foreign brothers balanced the danger from the operation against that of sudden death from the effusion. Another cause of sudden death besides the twisting of the vena cava ascendens is embolism from thrombosis of the pulmonary veins; also oedema of the opposite lung. The danger in the operation seems to arise from the dislodgment of emboli, sudden syncope, and oedema of the opposite lung. Emboli, if formed, would probably be detached on the natural expansion of the lung, and aspiration would only hasten their dislodgment. So, early tapping, before thrombosis occurs, may prevent this evil. Syncope and oedema may be produced directly by the operation, which should therefore be very guardedly and slowly performed. The causes of sudden death in case of pleuritic effusion, as well as the causes of sudden death during or after paracentesis, demand further investigation.

Dr. GARLAND thought that the chief danger of thoracentesis lies in a too rapid evacuation of the fluid. It is obvious that the sudden expansion of a collapsed lung, and the violent reposition of a displaced heart must produce a great impression upon the system, and if, perchance, any clots have formed in the circulation, the rapid stretching of the vessels must favor embolic accidents, whereas a more gradual and gentler method will accomplish the desired end without objective injury or subjective discomfort. The French have written much about the dangers of this operation, and have enumerated a multiplicity of possible accidents, and one need not wonder that they do have such accidents when one sees the instruments which some of them use. Dr. Garland described one French aspirator which was as large in diameter as his arm, and was placed upon a heavy base, at an angle of forty-five degrees, like a bomb mortar. The piston was armed with a ratchet, and was drawn up by a cog-wheel, whereby a very powerful vacuum was produced. The stream which flowed out of a chest into such an instrument was terrifying by its force and rapidity. Such a barbarous engine could tear a heart back into place and stretch open a lung with destructive energy. Dr. Garland said that the siphon method of aspiration was the most gentle in cases where it could be used. Here the force is constant and of moderate degree, being the negative pressure of a column of water about two feet in height. In employing the Dieulafoy aspirator Dr. Garland uses the smallest vacuum which

will keep the stream flowing. By removing slowly one has plenty of time to notice the slightest expression of discomfort on the part of the patient, and arrest the flow before any danger has occurred.

In regard to the amount which should be removed at one sitting, Dieulafoy says that one thousand to twelve hundred grammes are the outside limit. He claims that all the accidents reported have followed the withdrawal of large amounts of fluid, from three thousand to five thousand grammes. Dr. Garland believed that the rapidity of the withdrawal was much more important than the amount. Recently, in a case of large effusion in a sailor, Dr. Garland removed eighty-four ounces (2688 grammes) of fluid by the siphon method. The operation lasted about one hour and twenty minutes, and therefore the fluid escaped at the rate of about one ounce per minute. During this time the elevation of the diaphragm, the gradual expansion of the lung, and the replacement of the heart could be followed inch by inch, while the patient experienced absolutely no discomfort. He expressed only relief when questioned. The lung could be felt against the inner end of the canula when the operation was ended.

Five days later Dr. Garland removed from the same patient eighty-eight ounces (2816 grammes) with a Dieulafoy aspirator. This operation was performed in thirty minutes, that is, about three times as fast as the previous one. At the conclusion the patient complained of slight uneasiness, and was seized with coughing, which required some effort for repression.<sup>1</sup>

The fluid removed at the first sitting did not coagulate even after standing in a basin for an hour. At the second sitting the effusion became solid in about ten minutes after withdrawal. Dr. Garland was unable to explain this striking difference in the behavior of the two fluids.

Dr. M. H. RICHARDSON remarked, with regard to the danger of sudden death in removing fluid from a distended pleural sac, that there seemed to him to be less in making a free opening than in the use of the aspirator. In the latter operation the displaced thoracic viscera are crowded back towards their normal position by the great force of atmospheric pressure. It is evident, if the heart and lungs are prevented from yielding to force, that there will be great distress and serious disturbance to these organs. In case of a free incision on the other hand fluid will escape until the intra-thoracic pressure is relieved and there will be no further traction on the thoracic contents, the remaining fluid slowly escaping as air is allowed to take its place. Sudden and violent changes in the position of the heart and lungs being thus avoided we certainly escape one of the dangers of sudden death.

The value of rigid antiseptic precautions in thoracic surgery Dr. Richardson thought very great, and he agreed with Dr. Cabot in saying that the importance of these measures cannot be overestimated.

The treatment of certain cases of pleuritic effusion by free aseptic drainage as proposed and carried out by Dr. Cabot, is a new procedure in the surgery of the chest, and one which must depend for its success on the most rigid and thorough application of the theory of antiseptic dressings in all its details. In the two cases of this kind which the speaker had seen, and which so far as he knew were the only ones in which this treat-

<sup>1</sup> The effusion did not collect again, and the sailor has since made two fishing trips.

ment has been carried out, the results seemed very clearly to demonstrate the value of the so-called Listerism. In the first case under Dr. Cabot the discharge from the pleural cavity remained not only inoffensive and sweet but purely serous as long as the man lived. In the second case, under Dr. Richardson, the discharge continued perfectly serous for fully three months, during which time the patient advanced from a state of extreme exhaustion and impending death, where repeated aspirations were of no permanent relief, to a condition of comparative comfort and usefulness.

Dr. J. A. McDONOUGH was called to a case at the north end. Patient, aged fifty, was sitting up in bed. Inspection showed bulging of intercostal spaces. There was dyspnoea. A large trocar and canula were plunged into the chest, and an ordinary Davidson syringe was attached, and after a large quantity of fluid had voluntarily run out pumping was employed until the patient complained of distress. The amount of fluid withdrawn should be regulated by the feelings of the patient.

Dr. LIEBMANN said that during his residence in Germany he had often seen thoracentesis performed in cases of pleuritic effusion. Griesinger did the operation twenty-five years ago, and cases are constantly reported. The danger is that the operation is much too frequently employed by German practitioners.

Dr. OSGOOD said that Fraentzel, who has written the most recent German monograph on pleurisy, asserts that although Traube for many years made frequent use of paracentesis in fibro-serous effusions (in which sudden death occurs), the German practitioners, in general, in this class of cases, even to this day, use it but little, and this in spite of the teachings of Dr. Bowditch, Trousseau, Dieulafoy, and others who have shown the safety and success of the operation in hundreds of instances.

Dr. BOWDITCH said that the heart is often greatly displaced, sometimes as far as the level of the third rib on the right side. A permanent opening is demanded in cases in which the lung does not expand. In the case reported by Dr. Cabot Dr. Bowditch thought the patient was "doomed" before the operation was performed.

In one case there was a continuous moderate discharge of pus from the chest, but the patient did not improve. On washing out the chest a vast quantity of additional purulent fluid was removed, which was followed by recovery. Dr. Bowditch asked Dr. Knight why so many cases of death from thoracentesis are reported from Germany. Dr. Bowditch has never seen a case. He always terminates the operation when there is the slightest distress. He asked the meeting if any member knew of a case of death from this operation.

Dr. KNIGHT said that most of the accidents connected with the opening of the chest are reported by French practitioners.

Dr. BOWDITCH said that he went to Europe in the early days of thoracentesis and explained the operation and exhibited the instrument for performing it to Louis, who did not consider the operation feasible. He then went to Vienna and was treated with contempt by Skoda.

Dr. F. H. WILLIAMS exhibited an ingenious appliance for evacuating fluid from the chest or for washing out the pleural cavity, which will be described and illustrated in a future number of the JOURNAL.

# SPONGILLA.

Dr. HENRY J. BARNES exhibited some of the vegetable mould which has been deposited in Farm Pond and which was at that time undergoing rapid changes. He also showed the *Spongilla* found by Professor Remsen in this water. Dr. Barnes' remarks formed the outline of a paper he is preparing upon the impure condition of our present water supply. He claimed to be able to show that the water of Sudbury River was good before the recent basins were constructed, this water being extensively employed for bleaching purposes at that time. He asserted that Farm Pond water was good, and that this basin required little work, as was also asserted by Mr. Davis, the former City Engineer. The trouble has been occasioned by the imperfect method of construction of basins No. 2 and No. 3.

The *Spongilla* in Farm Pond finds its nourishment in the organic matter brought hence from those imperfectly constructed basins. The "pig-pen" taste and smell of No. 3 is due to decomposition of organic matter and shows where this matter has gone. He claimed that Mr. Norman made a mistake in smelling this vegetable mould in open air, to detect a disagreeable odor. He also asserted that the loam in these basins is now of comparatively little value for tillage or agricultural purposes.

Adjourned at 10.30 p. m.

# PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

T. M. ROTCH, M. D., SECRETARY.

JANUARY 9, 1882. Dr. C. D. HOMANS presided. The committee appointed to consider and suggest some appropriate form of memorial to the late President of the Society, Dr. T. B. Curtis, reported that they would recommend that a portrait of Dr. Curtis by Mr. Vinton be painted for the Society and deposited in the hall of the Medical Library.

The report was accepted.

# CONTRACTION AT THE HIP-JOINT.

Dr. E. H. BRADFORD read a paper entitled Cases of Contraction of the Hip-Joint. Vide page 52 of this Journal.

Dr. CHARLES PUTNAM said that he had not realized how much improvement had taken place in the case of the young woman spoken of by Dr. Bradford; he described how tired the patient formerly got on walking; she managed to get along by pressing the left knee against the right, thus keeping her centre of gravity; she walked, so to speak, first with both legs and then with the well leg. He considered that the essential point in the treatment was the great improvement in regard to ease in walking.

Dr. H. W. WILLIAMS spoke of the treatment carried out by Hewitt, which he had had an opportunity of observing personally. The affected joints were first placed in hot water impregnated with herbs and then very considerable traction was used.

Dr. POST repeated the description of a case just published by Dr. C. Fayette Taylor, of New York. It was the case of a physician, the victim of old hip disease, who had worn a very high patten.

Under the manipulations of Dal Cin his leg was reported to have been brought down to the same length as the other, and he had laid aside the high shoe. It was a case which excited a good deal of attention, and was the means of sending many patients to undergo the same treatment. The gentleman allowed Dr. Taylor to examine him, and Dr. T. found the hip-joint immovable and flexed at nearly a right angle. It was true that the leg could be brought down to a level with the other, but it was as usual in such cases at the expense of a curve in the lumbar vertebra, though the patient himself supposed the motion was in the hip-joint. To make his back rest naturally upon the table it was necessary to draw the affected leg upwards nearly to a right angle which would not be the case if there were normal motion at the joint. In walking his spine maintained the same curve, or at times he assisted in compensating for the deformity by bending the knee of the other leg.

DR. GRAHAM, who was present by invitation, said that the author of the book, *On Bone Setting So-Called*, to which Dr. Lyman referred, was Dr. Wharton P. Hood, of London. Hood states that the cases which bone-setters benefit by breaking adhesions are those of joints in which there is a slight degree of mobility checke by pain, a spot tender on pressure and an absence of acute disease. These symptoms, Dr. Graham remarked, are also found in joints in which there are no adhesions; for an increased involuntary tension of the muscles occurs in joints that are injured or diseased, which the force of habit often causes to continue after the joint is well. This involuntary tension<sup>1</sup> keeps the joint in an irritable condition and limits passive motion, hence the above symptoms. In some cases it is sufficient to explain to them that they may relax their muscles by repeated voluntary effort; in others massage with gentle, persuasive, passive, motion will greatly aid recovery. Later, to strengthen the muscles and to teach the patient how to use them, gradually increasing resistive motion is of value. It is a mistake to suppose that violent rubbing is of use in such cases, it begets reflex contraction of the muscles, increasing the evil it is intended to remedy, it causes an intense hyperæmia and hyperæsthesia of the skin besides chafing it. To avoid the last objection and to conceal the sufferer's ignorance oily substances are made use of.

Dr. Graham has used vigorous passive motion in several cases, notably in three cases of stiff ankles resulting from fractures of the lower end of the tibia extending into the ankle joint. The adhesions were heard and felt breaking, the pain was momentary, and two of the cases could walk immediately after without crutches, the freedom of motion in the joint being doubled. The third walked lame without any support before Dr. G. saw the case. Though some adhesions were broken but little increase of motion was gained; the improvement in walking and in going up and down stairs was much greater than one would have thought possible from the slight increase of motion in the joint. In this last case adhesions within and without the sheaths of the tendons may have been loosened by the accompanying use of massage. In such cases excellent preliminary measures to the break-

ing of the adhesions are a warm bath followed by the soothing influence of gentle stroking of the joint and limb, and by deep manipulation (without slipping of the fingers), which has a decidedly anæsthetic effect. Gentle tentative passive motion may then be tried so as to judge of the state of the joint and the amount of force to be employed. After the violent passive motion, deep kneading and a tolerably tight bandage increase the patient's comfort. When necessary Dr. G. has found that repetitions of these efforts are better tolerated than the first in suitable cases.

DR. WEBBER read a paper on

#### PARAPLEGIA FROM FUNCTIONAL WEAKNESS.

Vide page 54 of the JOURNAL.

DR. C. D. HOMANS asked if the variety of paralysis spoken of by Dr. Webber was similar to that which occurred in diphtheria.

DR. WEBBER replied that in a large number of cases of diphtheria it was so, but that in some there is a loss of electrical action and some evidence of disease of the cord.

DR. FIFIELD reported a case of typhoid fever of somewhat unusual type, occurring in a young man, twenty-four years of age. He had passed through the usual course of the disease, and was considered convalescent, being up and about his room; he then had, on the twenty-ninth day, a relapse, and was in bed until the sixty-seventh day, when he was again up and about his room, talking, and on that day eating some partridge; on the sixty-ninth day from the beginning of the disease he had another relapse, with high fever, delirium, and rapid pulse; the temperature was 105° F.; the tongue was dry; there was sordes, tympanitis, and a dusky rash on the abdomen resembling typhus more than typhoid, excepting that it was more distinct than is seen in typhus; there was subsultus tendinum, and the patient was unconscious.

Musk was given in suppository once in eight hours, and the symptoms were somewhat ameliorated. Albumen appeared in the urine on the seventy-sixth day, and small doses of morphia were then substituted for the musk. It was noticed that when he had a large fecal dejection the temperature went down a little, and the pulse, which averaged 150, was reduced to 130; these symptoms continued to the seventy-eighth day, when he was found to be violently delirious, snapping like a dog at the attendants. Soon after he had a violent convulsion, and in a few minutes another, which was followed by an immense fecal dejection, after which the serious symptoms rapidly passed off, he became conscious, and is now well excepting that he is still weak.

DR. FIFIELD also reported the case of severe hemorrhage of the cord, which was finally controlled by the application of plaster of Paris, and he exhibited the cast which was finally taken off, and which contained part of the cord.

DR. BOLLES reported a case of a man seventy years old, and previously considered to be in good health, who, after retiring to bed apparently as well as usual, was attacked with extreme orthopnea so that he could scarcely speak, and in about ten minutes he died, the whole course of the attack only lasting about three quarters of an hour.

The autopsy showed the heart to be normal, and no blood clot as a cause of death. The lungs were ex-

<sup>1</sup> The opposite condition, namely, relaxation, may be found after joint injuries. Two cases illustrative of these different states and the beneficial effects of massage upon them, Dr. G. has reported in full in the *New York Medical Record*, August 18, 1877.

trremely œdematous, and the kidneys were in a state of advanced interstitial degeneration.

DR. WARREN spoke of the treatment by emetics in these cases of œdema of the lungs, and mentioned the prompt relief by this means of a case where the patient was almost moribund, reported to him by the late Dr. Curtis.

DR. BOLLES also mentioned a case of asthma occurring in a child two years old, who had been subject to previous attacks of asthma for several months. In this attack an emetic was given with some relief, but in about half an hour afterwards the child became purple, and almost ceased to breathe; the child was completely etherized, and recovered from the attack.

## Recent Literature.

*Essentials of the Principles and Practice of Medicine.* A Hand-Book for Students and Practitioners. By HENRY HARTSHORNE, M. D. Fifth Edition, thoroughly Revised and Improved, with One Hundred and Forty-Four Illustrations. Philadelphia: Henry C. Lea's Son & Co.

The last edition of this book appeared in 1874, since when there have been many changes in various departments of medicine. These are reflected in the increased size of the book. Several hundred brief additions have been made throughout its pages, a number of new subjects receive attention, especially in connection with the pathology of the nervous system, the illustrations have been added to, and there is a new section upon eyesight, its examination and correction.

This volume, without ceasing to be in fact as well as in name a hand-book, certainly contains a great deal of matter, and is a very good example of the class of books it represents.

*Students' Aids Series.* Aid to Diagnosis. Part III. What to Ask. By J. MILNER FOTHERGILL, M. D. New York: G. P. Putnam's Sons & Co. 1881.

This is the second contribution by Dr. Fothergill to the Aids to Diagnosis of the Students Aids Series, and his third to the series itself. Part First of the Aids to Diagnosis on Semiology was from his pen, as was also the Aids to Rational Therapeutics. He seeks in the present number of the series to show the student and young practitioner how to put questions to patients so as to get at the chief features of a disease easily and methodically. If its readers succeed in catching the agreeable and sprightly manner of the writer they will no doubt find their profit in it.

*A Manual of Organic Materia Medica.* By JOHN M. MAISCH, Phar. D. Professor of Materia Medica and Botany in the Philadelphia College of Pharmacy. Henry C. Lea's Son & Co. Philadelphia. 1882. 450 pp.

The above manual, by a well-known authority in this department and one of the authors of the National Dispensary, is a work for which students of pharmacy should be grateful. The subject is one in which

the beginner needs the guidance of a good classification in order to avoid the bewilderment which follows the attempt to grasp a subject having so many details. This condition the book fulfills, the classification adopted being a simple and practical one; the notice of each drug is brief and clear, non-essentials being omitted.

It is fully illustrated by some two hundred woodcuts, and the work of the publishers has been well done.

*Lectures on Digestion.* An Introduction to the Clinical Study of Diseases of the Digestive Organs. Twelve Lectures Delivered to Practitioners and Advanced Students of Medicine during the Winter Session 1878-79. By DR. C. A. EWALD. Translated by ROBERT SAUNDCEY, M. D., Edin. New York: William Wood & Co. 1881.

Dr. C. A. Ewald is a lecturer in the University of Berlin, where this course was originally delivered, and was formerly Dr. Frerich's assistant at the Charité Hospital.

As the author tells us, in a short preface, his first consideration in this course has been for the interests of physicians and clinicians, and the arrangement and treatment of the subject-matter are from their point of view.

The translation is good, and its correctness was still further insured by a subjection of the proofs to the author's revision.

The twelve lectures make a 12mo of 150 pages, and should find appreciative readers.

*Winter and its Dangers.* one of Blakiston's American Health Primers, by DR. HAMILTON OSGOOD, has been published in a second edition in still cheaper form, with paper covers. It has evidently achieved considerable popularity.

— According to the *Lancet* a curious example of multiple biliary fistula has been communicated to the Medical Society of Cologne. The cystic duct was completely obliterated. The gall-bladder, in consequence, apparently, of the irritation of biliary calculi, had contracted adhesions to the duodenum, with which it communicated by a large fistulous opening. Near this was another opening by which the gall-bladder communicated with the colon. A third fistula existed between the duodenum and the colon. The common bile-duct was distended, and its cavity obliterated by two biliary concretions. These lesions were not suspected during life. The woman presented no jaundice, in spite of the closure of the ducts, on account of the free passage for the bile into the intestine. She had never suffered from hepatic colic. The chief symptom was constant diarrhea, which caused fatal exhaustion, in spite of a "canine appetite," which she strove unceasingly to satisfy.

— Dr. E. Adams, assistant medical superintendent of the Michigan Insane Asylum at Kalamazoo, was fatally stabbed by a patient who was thought harmless.

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**THE HARVARD MEDICAL SCHOOL 1880-81.  
PLANS FOR THE FUTURE.**

THE report of the dean of the Harvard Medical School, Dr. Calvin Ellis, to the President of the University appears as usual in the annual report of the President and Treasurer of the University for the year 1880-1881, just published. From it we learn that the whole number of students in attendance during the year was two hundred and fifty-one; during the first term two hundred and forty-five; during the second two hundred and forty. Of these one hundred and twenty had a literary or scientific degree. There were eighty-five applicants for the degree of Doctor of Medicine, of whom twenty-five were rejected. Sixty passed the examination and received their degrees. As compared with the preceding college year this shows a falling off in attendance during the year of twelve; the number of those possessing a literary or scientific degree was one less; there were eleven more applicants for the degree of Doctor of Medicine, no names were withdrawn, and twenty-five were rejected, whereas in 1879-1880 ten applicants withdrew their names, and nineteen were rejected, forty-five degrees being then bestowed. The attendance in 1879-80 was slightly less than in the previous year.

The results of the preliminary examinations for admission to the school are given in a table, in regard to which, for purposes of comparison, it should be mentioned that since last year English and an elective have taken the places of French and German. Of the forty candidates examined four were rejected; of those receiving conditions the Latin proved too much for twelve, the physics for nine, their electives for six, while one unfortunate aspirant in June, and one again in September, failed to give satisfaction in English. The report saying nothing on the point, we may allow ourselves to hope that the two failures represent but one individual.

In regard to the fourth-year course the report says:—

"The results of the fourth-year course require separate mention. The class was composed of ten students, of whom five received hospital appointments, one took the ordinary degree of M. D., and four applied for the special degree intended for those who passed the examination of the fourth year, but as none of the four applicants fulfilled all the requirements this degree was not awarded. The small size of the class should cause neither surprise nor disappointment. At the time the change was announced the plans of

the young men in the school had already been formed, and their studies had been arranged with reference to graduation at the end of three years. Moreover, the opportunities for entering the various hospitals attracted a number of the best students.

"The results of this attempt to prolong the period of study cannot be determined for a number of years. If it is to succeed the value of the additional instruction must be so manifest as to induce those interested to avail themselves of it; the student must begin his studies with the idea of prolonging them, and must arrange them accordingly; and, as the hospitals must continue to demand their quota of assistants, these institutions must be satisfied that the services of young men who have studied four years are more valuable than those of students whose systematic instruction has terminated at the end of three. The attention paid to the second of these conditions already offers encouragement. In 1880-81 of sixty-nine matriculants fourteen, or twenty per cent., announced their intention to take the additional course; while in 1881-82 of seventy-nine matriculants twenty-four, or thirty per cent., announced a similar intention."

The experience of the year in this matter of a fourth-year course is merely a realization of the anticipations expressed when it was resolved upon; time must necessarily elapse before the actual results of the step become evident. It will probably prove merely the approach to something more decided.

Of those graduating in 1881, eight per cent. spent six terms at the Harvard Medical School, ten per cent. five terms, six per cent. four terms, and one per cent. three terms; these proportions not varying materially from those of the previous three years.

The receipts of the school from all sources—invested funds, instruction, and graduation fees, etc.—were \$57,464.07; the expenses were \$59,276.55.

A new building for the Harvard Medical School is, as many of our readers know, now in process of erection at the corner of Boylston and Exeter Streets, in the new part of Boston. Seven years ago a handsome sum of money was raised for this purpose, which in April, 1880, amounted, with accumulated interest, to \$173,325. At that time the site for the present new building was bought for \$83,325, leaving \$90,000 for the building funds. Messrs. Ware & Van Brunt, architects, were requested to prepare plans for the new building. In regard to these plans the President of the University reports:—

"A large committee of the Faculty was appointed to give advice as to the size and internal arrangement of the building, and the fittings which its peculiar destination would call for. The desire of the Corporation and the patient endeavor of the architects were to devise a building adapted in every respect, within and without, to its probable uses, so far as they could be foreseen; and the committee of the Faculty spared no pains in studying these uses, and devising the best means of providing for them with all practical convenience and completeness. As four fifths of the building were to be taken up by the laboratories and lecture-rooms, histology, chemistry, and surgery, the

requirements in regard to light, heat, and fresh air were unusually stringent, and the provision of flues, drains, and fittings for water, gas, and steam was elaborate and peculiar. It was further necessary that the exterior of the building should be not unsuitable to the handsome quarter of the city in which it was to be placed, and that throughout the structure every precaution should be taken against fire. Under these circumstances it was not surprising to find, when the plans and estimates were completed after six months' labor, that the cost of the building would not be less than \$190,000.

"In this state of things, the Medical Faculty, moved by the hopefulness of a few of their number, resolved that an effort should be made to raise another considerable sum by subscription, and in three weeks two members of the Faculty, almost unaided, procured the subscription of \$103,720. Work was begun upon the building early in June last, and it is hoped that the whole building will be ready for occupation by the first of January, 1883."

To complete this good work endowments for scholarships and professorships are now urgently required, or a large permanent fund the increase of which shall be applicable to salaries, and thus enable the University to secure for the school the elevated position as the disinterested guardian of sound medical learning which is so earnestly desired for it by its friends. In regard to this point we again refer to the report of the President, who is never more eloquent than when depicting the wants of the University under his charge. He says, and truly, that so long as medical schools are conducted as private ventures for the benefit of a few physicians and surgeons who have united to form a corporation or faculty, the community ought not to endow them; for it is contrary to the best interest of the public that medical education should be conducted in that way. The experience of the past hundred years in this country proves that such medical schools will not be endowed. While several millions of dollars are yearly devoted to education in arts and in theology by intelligent and public-spirited men and women, hardly anything is given for education in medicine, because almost all American medical schools are organized and carried on as commercial adventures. In 1871 the Harvard Medical School ceased to be in any sense a private venture, and became a constituent department of the University, devoted, like the other departments, to the advancement of science and learning, and to the amelioration of the conditions of human life. Since that year it has received by gift and bequest \$270,000; but this sum, though considerable, is not one third of the endowment which it urgently needs. The objects of endowment in medical education are precisely the same as in other departments of education, namely, to provide permanent means of securing the most competent persons for its professional chairs, of helping poor students of rare capacity, and of advancing knowledge by new researches. It is the primary object of medical science and art to defend and improve the life that now is,—the life of the individual, of the family, and of society; but since

it is impossible to separate physical from mental and moral well-being, the domain of medical science is really coextensive with human nature. Whatever motives induce benevolent persons to endow institutions which teach the humanities or theology should also avail for the endowment of medical education. The seed and the fruit, the planting and the harvesting, may be different in kind; but these various cultures all have in view a common end, namely, the improvement of man's estate.

In this same number of the JOURNAL will be found remarks from the pen of Dr. Oliver Wendell Holmes and extracts from an excellent editorial on the columns of the *Boston Daily Advertiser* upon the endowment of the School.

The establishment of the Harvard Medical School upon a thoroughly independent basis is by no means a matter of merely local interest or contributing only to the aggrandizement of a single university. No long time need elapse to make the attainment of these ideals felt in medical education, in medical science and practice throughout the country.

#### THE MASSACHUSETTS HEALTH REPORT.

THE second health supplement to the Report of the State Board of Health, Lunacy, and Charity of Massachusetts (for the year 1880) has appeared so late and so reduced in size that the friends of sanitary science begin to fear that the work of the State Board of Health has been so merged into other departments as to be in danger of losing its existence altogether. In the list of past and present members of the Board we already find six retired, while we know that several accomplished gentlemen have refused appointments to an office requiring such multifarious duties.

The subjects considered in the report are the pollution of streams, in continuance of previous investigations, intermittent fever in Massachusetts, the separate system of sewerage, school-house sanitation, an epidemic of diarrhoea in the town of Adams, the sanitary condition of Holyoke, and there are a dozen or more pages on the neglect of vaccination. In the general report of the Board there is also a brief report of the analysis of 103 samples of bread, of which 90 were entirely free from alum, the loaves selling for five cents, varying in weight from 229 grammes to 489 grammes, and in amount of moisture from 31.42 per cent. to 65.27 per cent.

In the basins of the two rivers examined by Mr. W. E. Hoyt, namely, the Miller and the Deerfield, there is shown to be some easily avoidable contamination from saw-mills, tanneries, gas works, and privies connected with manufactories, as well as some filth from cotton mills and woolen mills in a few places, all of which does no more harm than a certain amount of offense to the senses of sight and smell, as neither stream is used for drinking purposes, except that in Gardner some mill owners complain that the water is injured for their purposes by the drainage from privies

above them. A plan to utilize the sewage of Greenfield has been submitted, but in what way the reader is not informed further than that the experiment is to be allowed for a limited time at the expense of the gentlemen proposing it.

Mr. Eliot C. Clarke's treatment of the separate sewerage system is very timely, and he describes the advantages and disadvantages of the system in a way to materially assist the solution of the difficult drainage question, which is now presented to most towns that aspire to be much more than villages. The smallness of its first cost, as compared with the double system, and the rapidity with which it can be introduced, may make it of absolute necessity, as, for instance, in Memphis, where the danger and inconvenience from flooding the streets in time of storm may be comparatively slight. Where, however, as is the case in most large cities, a great amount of rain water must be removed from the streets, and it is desirable to drain the soil and deep cellars, the double system is likely to be the most serviceable, and in the end the cheapest. The separate system was first introduced in England in order to reduce the bulk of the sewage to the smallest quantity possible, for the purpose of irrigation on a small amount of land, the discharge into a neighboring stream having been forbidden by law. Where sewage must be pumped, the question of keeping the rain-fall separate must be an important element in the annual cost of the works; but it must be remembered that the grades required for the small sewers of the separate system must be sharper than for sewers conveying storm-water also. Both kinds of sewers require artificial flushing, and, with the same degree of skill in construction, both are about equally liable to deposits.

The epidemic of intermittent fever which for five successive autumns has prevailed in Massachusetts, was in the first three years of its gradual increase coincident with a decrease in the annual number of deaths from typhoid fever progressively from 814 to 637 or to 3.7 per 10,000 of the population, the lowest death-rate from that cause ever known in this State, as compared with 11.1 in 1872. In 1880 there was a rise to 4.9 in typhoid fever, and also a marked increase in the intermittent fever; while in 1881 there was probably an increase in typhoid fever, and a decline in intermittent fever, although the statistics are not yet available on that point. Where the two diseases prevail together, too, the reports of prevalence are certain to be somewhat in error, from confusion of the two diseases, and from placing to one or the other exclusively those cases in which there exist the pathological conditions characteristic of both diseases. In the investigation for the Board by Dr. J. F. A. Adams, of Pittsfield, the fact is mentioned that there was a prevalence of fever and ague probably during the early colonial period, and that it disappeared by reason of drainage to reappear in moderate epidemics from 1793 to 1799, and from 1828 to 1836, in scattered towns, chiefly in the river basins of the western part of the State. In 1870 there were a few cases in Springfield, and for the next six years quite a number of cases occurred, for a time thought by many physi-

cians to be a mild form of typhoid fever, chiefly in Berkshire County and the Connecticut Valley. There had been a general northward progress of the disease, starting from Long Island Sound in 1861. In the recent epidemic in our State, up to the winter of 1880, there were cases reported in fifteen towns on the Connecticut River, in six on the Housatonic, in three on the Hoosac, and in one each on the Ware, Nashua, Merrimac, Concord, Saugus, and Taunton. The conditions of prevalence have been low lands in river valleys, but sometimes higher localities near reservoirs, or ponds, or marshes, or bodies of stagnant water exposed to unusual or prolonged heat. It is reported that eight cases of intermittent fever had occurred on the high, sandy soil of Southwick, a fact so new in the history of that disease that one naturally, but in vain, looks for a thorough investigation or explanation of it. In the three years, 1878 to 1880, there were ninety cases on the Housatonic River, in forty-two houses, or more than two thirds of all the dwellings on the two sides of a shallow, ponded reservoir, about four miles long.

From Mr. Ernest W. Bowditch's report on school-house sanitation, it appears that some of the school-houses in our larger cities are in a condition to seriously endanger the health of the pupils, although the best are of a reasonably good standard. The improvements which may be made in nearly all, however, suggest the hope that either our State Board of Education or our State Board of Health, which we hope and expect to see revived, may take the matter in hand, and organize an efficient system of medical inspection for all the schools in the Commonwealth.

A curious epidemic of diarrhoea in the town of Adams is described by Dr. J. F. A. Adams, attacking 1112 persons out of the 4634 enumerated, the greatest prevalence having been among adults. Throwing out days in which there were only ten cases or less, the epidemic lasted five days. There were nine each ascertained to be on June 13th and 14th, 636 June 15th, 136 June 16th, 46 June 17th, 30 June 18th, 12 June 19th, 6 June 20th, 4 June 21st, and 10 June 22d. It lasted one day in nearly one half of the cases, two days in a quarter, three days in one eighth, and in only one twentieth over a week. By ages, 11.5 of the population under five were ill, 13.3 per cent. of those from five to ten, 25.7 per cent. from ten to fifteen, and 28.1 per cent. of adults. No deaths occurred. While the evidence pointed to the public water supply as the probable source of the trouble, its immediate cause was not ascertained.

The sanitary condition of Holyoke is illustrated by Mr. Bowditch's very ingenious, graphic method. Some excessive overcrowding and generally bad drainage are shown. The report closes with some remarks upon the neglect of vaccination by Dr. Z. B. Adams.

The report is no longer for sale at the State House. Physicians will be glad to learn that by recent law it is to be had upon application at the Document Room.

This is also the case with the last Report of Births, Marriages, and Deaths, which was printed in an enlarged edition to supply those physicians who desire

to study the vital statistics of the State from year to year. It is distributed at the State House upon application. Copies are no longer sold.

### MEDICAL NOTES.

—The King of Bavaria has requested Duke Dr. Carl Theodore to make himself thoroughly acquainted with the military hospitals of Munich, and the military medical service of all Bavaria, preparatory, as it is understood, to putting the duke at the head of the Military Medical Department of Bavaria. We shall welcome such an appointment with great satisfaction, for then for the first time will the highest post in military medicine of a country be in the hands of so influential a person as a member of the royal family must be. In such a post the duke may render inestimable service, and the action of his beneficial influence may be felt far beyond the boundaries of his own country. — *Wiener Med. Woch.*, November 26th.

—Statistics brought up to October 1st show that the inoculations of splenic fever, according to Pasteur's method, were performed on 160 flocks, comprising 68,900 sheep, of which 33,576 were vaccinated, and 21,938 animals were left uninoculated, so as to judge of the results of the difference of treatment. Before vaccination the losses caused by splenic fever amounted, on the whole of the flocks, to 2986 animals. During vaccination, and until its effects were perfected, 260 sheep out of the whole number of 33,596 perished. During the same period the mortality rose to 366 out of the group of 21,938 which were not vaccinated. When the effects of vaccination were complete in the first group the mortality from splenic fever fell to five. This rate has persisted up to the present time, and the next statistical account will give, it is expected, the same satisfactory results as regards the groups of animals vaccinated and left unvaccinated.

—The four volumes of the Transactions of the International Medical Congress have been published. The promptness of their appearance might well be imitated by other less bulky Transactions.

—It is acknowledged that one electric light in Boston has the same effect as five policemen "in uplifting the moral condition" of the people. — *Exchange*.

—Hospital Saturday and Sunday collections in New York have amounted this year, according to the latest statement, to \$30,902.42.

—MM. Cabitan and Charrin, of Paris, have been led by recent investigations to declare that in mumps, too, there lurks a specific infectious germ, — a micrococcus who has not yet been baptized.

### ST. LOUIS.

—At the annual meeting for the election of officers of the St. Louis Medical Society, which took place lately, the following gentlemen were elected for the ensuing year: president, Dr. William Dickinson; vice-president, Dr. Edward Borek; recording secretary, Dr. Oman-Dumesnil; corresponding secretary, Dr. G. F. Dudley; treasurer, Dr. W. E. Fischel.

### Miscellany.

#### ENDOWMENT OF THE HARVARD MEDICAL SCHOOL.

AMONG the branches of knowledge which are taught in schools not one comes so directly home to the needs of all communities and every condition of human beings as that which deals with the issues of life and death, of health and disease, as affecting the public and individuals. Sooner or later most persons must call upon medical art, for themselves or others, in one of those moments when the physician or surgeon is looked to as an earthly savior. But besides what he can do in saving life and in shortening the course of disease, it is impossible to estimate the amount of relief from suffering, bodily and mental, which is due to his ministrations. There is hardly any case so desperate that art cannot alleviate some of its symptoms, if it can do nothing more. And one thing the physician can always do: lift off that load of responsibility which falls upon the relatives and friends of a patient when they are least able to bear its weight. But we are looking forward to the time when much of the disease which now preys upon our city population shall be done away with, by the use of proper preventive measures. When the health of cities is properly cared for, they become green-houses, where the finest human fruit grows better than the average ill-protected out-of-door product. The study of the conditions which determine the healthfulness or sickness of centres of population and of different regions is to occupy a large space in the medicine of the future.

Medical science is only a special province of biology, the science which deals with the laws of life. It borrows much from other divisions of this great realm of knowledge. It levies contributions from other realms, from physics, from chemistry; it accepts a useful hint from whatever source it may come. A medical school has to teach much that seems incidental to medical practice, but only in this way can it send forth fully equipped practitioners. It begins with chemistry, anatomy, physiology, and thus prepares its students for study at the bedside and in the operating room. All this takes time and the cooperation of different experts, each of whom should be a master in his special department. There is a general tendency in this country to hurry through a student's medical education. Young men are impatient to be at work, and they will flock to a school which will give them a degree after a short period of study and a slight examination which they are almost certain they can pass successfully. In this way great multitudes of practitioners are sent forth not thoroughly fitted for their work, and the community has to suffer the consequences.

It is the province of Harvard University to set a higher standard in this most practical and vital branch of education, as it has already done in other less immediately essential departments of knowledge. This duty it has attempted to perform in the face of grave doubts and difficulties. In the performance of this duty it is now strenuously engaged. It has established a preliminary examination for admission into the school, thus excluding the ignorant and wholly untrained young men who would begin the arduous studies of a medical course without the knowledge and mental discipline which are necessary to fit them to profit by such instruction as is given in a medical school like that of our university. It has organized a regularly systematic and progressive course of instruction, in place of the mixed courses which have been long tolerated in spite of the general conviction and confession of their unphilosophical character and unsatisfactory impractical results. It has multiplied its courses of instruction so as to include the various important specialties which have developed of late years into separate professional branches. It has secured the cooperation of numerous clinical teachers in different public institutions, so that many of the advantages of the great foreign hospitals can be obtained without going abroad to find them. All this has not been done without the expenditure of much thought and labor, and without running a risk of financial failure which at one period was a source of anxiety, and the serious character of which is sufficiently illustrated by the course of one of the great medical schools of the commercial metropolis. The school referred to began the new system in which our own institution is now, as it had been for years, clearing the way for others, but found its resources so much diminished that it gave up the new plan and returned to its old methods.

A school which depends for its existence on the number of its students cannot be expected to commit suicide in order to satisfy an ideal demand for perfection. Any institution which is essentially dependent on the number of paying students it can draw must be tempted to sacrifice its higher aims to popularity. No high standard can be reached under such circumstances, and the



only way to ensure the independent action of a school which aims at teaching the whole country by example, is to endow its professors, so that the very best and highest grade of instruction, and not that which is popular because it is easy and superficial, may always be given from its chairs, whether the classes be large or small. A small number of thoroughly accomplished medical graduates, their knowledge based on sound scientific acquirements, and made practical by assiduous clinical observation and teaching, will be worth more to the country than twice or thrice the number of half-taught, hastily-taught, practitioners. A series of such classes will, in the course of a single generation, elevate the whole professional standard, as they go forth, year after year, missionaries in the cause of health, soldiers, if it need be, martyrs, in the unending battle with disease and its causes.

We bring this appeal before the community to be weighed with other claims, believing it to be one which will commend itself to all who wish to see our city established as the centre of educational intelligence, the normal school of the western continent. When we can offer the most complete medical education the New World has to give we shall have made one great step in that direction. The Old World motto is *noblesse oblige*. Our generous men of wealth are changing the phrase to *richesse oblige*, and thus becoming recognized as our untitled nobility. It is only necessary to show them in what way their beneficence will do the most extended and the most lasting good. The foundation of five or six professorships will carry the names of their founders down to a remote posterity and call them to honored remembrance when the stately buildings around us are replaced by other and still nobler structures.

O. W. H.

### THE HARVARD MEDICAL SCHOOL.

THE interesting statement which appears in another column of this impression, will be recognized as emanating from the eminent poet whose fame rests in good part on the services which he has rendered as a distinguished member of the Harvard Medical Faculty. Dr. Oliver Wendell Holmes submits some of the plans which the Harvard Medical School proposes to carry into effect if liberal and farsighted people will entrust to it on the ground of good policy a considerable fund for the benefit of this community, of this country, and of medical science. The school has been among the first and best in the country, but is unable to satisfy those demands which are justly made upon a medical school of the highest order. It is now making a praiseworthy effort toward raising the conditions on which students are admitted to the school; it attempts to establish a regular course of four years for all its students; it is building a new and more suitable home for the school, at the corner of Boylston and Exeter Streets; it hopes to retain its present home for clinical purposes; it desires to attract a larger number of students, and it wishes to reduce their expenses; it entertains the honorable and laudable ambition of being the foremost medical school of the country; and it proposes to make such further advance in the thoroughness and completeness of the instruction it can supply, that it will be no longer necessary for the medical graduate of the United States to continue and supplement his studies in foreign lands. All this can be accomplished by the endowment of professorships and by increasing the permanent fund of the school.

It would be wide of the mark to say that these facts are published for the sake of appealing to charity, the Harvard Medical School not being a charitable institution, but a professional establishment of honorable traditions and a great future. Its Faculty proposes to serve our time and the rising generation as its predecessors have served the past, and it has always been among the glories of the School that it has gone hand in hand with this community, with which it is so intimately allied. This community, which cannot be divorced from New England or the country at large, demands the best medical service which is to be had; and the Harvard Medical School is ready to supply the demand if its resources be increased so far as to accomplish two definite objects. It must be able to compete as to tuition with those medical schools which bestow the medical diploma after a study of two or three years, as well as exceedingly gentle examinations; and it must offer to the best talent among medical students all that is offered in the larger schools of Europe which are now attended by hundreds of American graduates. Both objects, it is safe to add, possess national importance, and cannot be wisely neglected.

The endowment of the Harvard Medical School now asked for is to be viewed, therefore, in the nature of a permanent investment. It is proposed that we shall do for the present and the future what the fathers have done so well for their time and for us. And there is special fitness in enlarging and strengthening

this particular School, which is already the first in rank of its kind in the country, and one of those establishments that have made Boston an intellectual centre honored throughout the United States. There is dignity and rich promise in adding to the intellectual resources of the New England metropolis. It will be worth all that it may cost if the Harvard Medical Faculty can be so strengthened as to solve those medical and sanitary problems which will make our city and other cities the happy home of the strongest men and the most healthful women in the land. "This may strike some readers as fanciful or imaginative, but it is true." It is no less true that we ought to have at least one medical school in the United States which may serve as a model to others, and will attract to Boston the hundreds of students who are now forced to finish their school education in foreign countries. Those who are interested in this endowment and who would have ample opportunity for putting \$500,000 to most excellent uses, are convinced that such an endowment would be a rational and profitable employment of wealth, an act of security and wise precaution, and withal the dictate of prudent foresight. — *Boston Advertiser*.

### SIXTY-SECOND ANNUAL MEETING OF THE WHITE MOUNTAIN MEDICAL SOCIETY.

THE White Mountain Medical Society held its sixty-second annual meeting at the Coosuck House, Wells River, Vt., January 4 and 5, 1882. A large number of members were present, and some very able papers were read. One was by Dr. Geo. S. Gove, of Whitefield, N. H., reporting a case of Cæsarean section, the first and only operation of the kind ever performed in New Hampshire.

Dr. Putnam, of Montpelier, Vt., read an interesting paper on diphtheria. The point made was the giving of large quantities of whiskey (in one case five pints in the first twenty-four hours) at the onset of the disease, with the idea of antidoting the poison, — as you would snake bites. He showed excellent results.

Dr. Q. A. Watson, secretary New Hampshire State Board of Health, gave a detailed account and the causes of the recent epidemic at the Orphans' Home on the Daniel Webster Farm, Franklin, N. H.

Dr. Mitchell, of Lancaster, N. H., read a report of a severe epidemic of puerperal fever occurring at Lancaster in May and June, 1881, also one of typhoid fever at Guildhall, Vt., and one at Lancaster in October, November, and December, 1881. In this last every one of the twenty-five cases drank water from a certain wooden aqueduct which was very rotten, the water at the same time being very low, and tasting badly.

Dr. Gibson, of Woodsville, N. H., read an instructive paper on the management of acute inflammatory affections of the ear in children during an attack of constitutional disease, as the exanthemata.

There were other valuable papers and discussions.

The New Hampshire State Society will print the most valuable papers with their own proceedings.

Officers elected for the ensuing year: president, Dr. O. L. Watson, West Topsham, Vt.; vice-president, Dr. E. Mitchell, Jr., Lancaster, N. H.; secretary, Dr. C. R. Gibson, Woodsville, N. H.; directors, Drs. C. H. Boynton, Ira Brown, and W. B. Moody; censors, Drs. C. M. Tuttle, Q. A. Watson, J. D. Folsom, Geo. S. Gove, G. B. Bullard, D. B. Smith.

### A CASE OF SUDDEN SWELLING OF FACE AND NASAL MEMBRANE.

MR. EDITOR, — The following case may be of interest in connection with the paper by the late Dr. T. B. Curtis, published in the JOURNAL some years ago,<sup>1</sup> on sudden and transient swellings of the lips. It differs

<sup>1</sup> Vol. cii., pp. 445 and 556.

from the cases there mentioned only in the situation of the swelling.

The patient is a young lady in good circumstances. She has always enjoyed good health with the exception of slight attacks of "hay cold" in the last two or three years.

On the afternoon of October 23, 1881, at about four o'clock, after being perfectly well all day, she suddenly felt a "choking sensation" and was unable to breathe freely through the nose. The obstruction increased rapidly, and in a few moments both nasal passages were completely closed.

She was seen an hour after the beginning of the attack. At that time the nasal passages were occluded, so that air could not be forced through them. The face was swollen and hard from one temple to the other, and from just above the eyebrows downwards to half way across the nose. The eyelids, especially the upper, were so swollen as to cause almost complete exclusion of light. Rhinoscopic examination showed the mucous membrane of the nares to be much swollen, but no foreign body could be or was subsequently discovered. The swelling of the face was hard, not painful nor red, nor was there any pitting on pressure. The pulse and temperature were normal.

In the course of another hour the swelling of the face began to subside, and had almost completely disappeared in four hours from the beginning of the attack. The next morning all traces of it had disappeared. The treatment was purely expectant and reassuring. A mild spray of tannic acid and glycerine was ordered, but recovery was so rapid that its effect could not have been great.

There was a slight laryngitis which had existed for some time, but yielded readily to treatment. Up to the time of writing there has been no sign of a repetition of the attack. Very truly yours,

HAROLD C. ERNST.

JAMATCA PLAIN, January 11, 1882.

### INSANITY AS A CAUSE FOR DIVORCE.

In the London Divorce Court on Friday, December 16th, according to the *Lancet*, a very important case was settled in reference to insanity. The case was *Hunter v. Edney*. In this case a woman was married, but refused on the wedding night to allow the marriage to be consummated. The husband sent for the mother of the woman, who took her home after she had been seen by Dr. Miskin, a general practitioner in the neighborhood. Dr. Miskin was of the opinion that then she was insane. Some few weeks later Dr. Savage of Bethlem saw the case, and decided that the woman was suffering from melancholia, and not fit to enter into a contract, and that in his opinion she had so suffered for some time. The whole case took but a short part of one day, and there was really no opposition, for though the wife was in court, and elected to go into the witness-box, she did not deny any of the statements made, but said that she had no knowledge of some of the things which were proved to have taken place during the time soon following her wedding. Thus, she did not remember, so she said, making an attempt to strangle herself. The judge, Sir J. Hannen, summed up clearly and fairly, and pointed out that the woman did not appear capable of understanding actions free from the influence of delusions, and was

therefore incapable of entering into a contract like that of marriage, and he decreed the marriage null. This is the first case of the kind which has been decided, and is not by any means a solitary one, so far as the insanity and marriage are concerned. During the past year several cases have, we believe, occurred in Bethlem in which marriage was not consummated in consequence of insanity. In one a man heard a voice telling him he must not touch his wife, and the same patient, later, heard a voice telling him not to eat. The case decided is a first one, and is incomplete. What line would have been followed if the marriage had been consummated, and still more, if a child had been begotten? The inability to contract would have been the same, but we fear there might have been greater difficulty to persuade a jury—if a jury had been deciding—that a divorce was justifiable. In murder cases the feeling of many is moved against taking human life, but the life-long misery caused by an unjust marriage in which one of the contracting parties was insane, is a suffering of the innocent which is unhappily overlooked. Such cases make it all important that something should be done, and every step such as the one reached in the above decision carefully watched.

### DEAFNESS AMONG LOCOMOTIVE ENGINEERS.

ACCORDING to Moos, the drivers and stokers of railway engines suffer, sooner or later, from diminished acuteness of hearing, due to the influence of their occupation. The deafness is usually bilateral, and some of the facts ascertained seemed to show that it comes on sooner in the men employed on railways in which there are many tunnels than in those who drive engines in level country. Moos suggested that this acquired deafness was a source of even greater danger than the color blindness, since it comes on gradually in those who are already engaged in the occupation, and the subjects are often unaware of the onset until by some accident, as exposure to severe cold or injury, it is suddenly increased. He left undetermined its comparative frequency, but the question has lately been reinvestigated by Schwabach and Pollonow, who have arrived at conclusions which confirm those of Moos as regards the facts, but are more reassuring as regards the danger to the public. They find that the work of the engine drivers and stokers almost invariably entails, after a time, diminution in the acuteness of hearing. Examining a larger number of these workmen it was found that the percentage in which deafness was to be detected steadily increased with each year of service, and the absolute number was considerable. Of 160 examined, no less than 33, or 20 per cent., were found to be more or less deaf. Of those who had only been employed a few years, the number with defective hearing was insignificant. The duration of service in 59 did not exceed five years, and of these only 5 (8.4 per cent.) were somewhat deaf. Among those who had been longer employed, not only was the percentage of deafness larger, but the degree was more considerable. Of 68 men who had been at the work from six to fifteen years, 14, or 20.5 per cent. were partially deaf; of 28 who had been employed for from fifteen to twenty-five years, deafness was found in 10, or 35.7 per cent.; while of 5 who had been at the work more than twenty-five years, in only one was hearing natural, the percentage of defect thus amounting to 80 per cent. In most cases a distinctly morbid condition of the mem-

brana tympani could be observed, which indicated a selective form of chronic catarrh of the middle ear. In only three cases was there evidence of a direct affection of the labyrinth. In spite of the demonstrable defect in hearing, most of the individuals asserted that it constituted no impediment in the performance of their duties, and this was rendered probable by the fact that the defect was chiefly recognizable by the tick of the watch, and that a whisper could be heard at a tolerable distance, and the shrill note of the guard's whistle was heard perfectly at the distance of a platform's length. These facts led to considerable skepticism regarding the public danger apprehended by Moos. To obtain more conclusive evidence on this important point some tests were applied during a journey. It was found that the whistle signal and detonating fog signal were heard perfectly well by persons whose acuteness of hearing for fine sounds was reduced to  $\frac{2}{3}$  or  $\frac{1}{2}$  of the normal, and for a whisper to  $\frac{3}{4}$  of the normal. It was found, also, that whilst the engine was in motion neither the guard's whistle nor a noise behind the engine could be perceived by a person whose hearing was perfectly normal. Hence the conclusion is reached that the deafness which arises in engine-drivers from their occupation is of no great consequence, and that as long as a conversation in an ordinary voice can be heard their defect involves no danger to the public.

Some hesitation may be reasonably felt in accepting this conclusion. Surely the engine-driver is often dependent upon his ear for other information than that derived from a fog signal or a starting whistle. Often an unwonted sound from some part of the engine is the first intimation that something has gone wrong with the machinery, the early recognition of which might be of importance. The signal by which passengers can communicate with the engine-driver appeals to the ear, and a slight signal amid the noise of the train might be unnoticed by men with a slight defect of hearing, although capable of being perceived in the normal condition of this faculty. So, again, in such an instance as the Canonbury accident, in which the signal man states that he gave a word of caution to the passing driver which the latter asserts he did not hear—whether such warning was or was not heard, or its exact purport recognized, might readily depend, in some instances, on the acuteness of the sense of hearing in the driver. Railway systems are so complex and delicate in their organization that those who work them need to have every sense in perfect operation. Pains have been taken to obviate the danger arising from color-blindness, and it is certainly desirable that investigations should be made to ascertain how far the effects on the hearing of engine-drivers observed in Germany are produced also in this country. — *Lancet*.

## REPORTED MORTALITY FOR THE WEEK ENDING JANUARY 7, 1882.

| Cities.                           | Population by Census of 1880. | Reported Deaths in each. | Deaths under Five Years. | Percentage of Deaths from         |                |                       |                |                      |
|-----------------------------------|-------------------------------|--------------------------|--------------------------|-----------------------------------|----------------|-----------------------|----------------|----------------------|
|                                   |                               |                          |                          | The Principal "Zymotic" Diseases. | Lung Diseases. | Diphtheria and Croup. | Typhoid Fever. | Diarrhoeal Diseases. |
| New York.....                     | 1,206,590                     | 758                      | 344                      | 31.26                             | 19.65          | 10.68                 | .52            | 1.84                 |
| Philadelphia.....                 | 846,984                       | 399                      | 116                      | 19.05                             | 9.02           | 8.02                  | 1.75           | —                    |
| Brooklyn.....                     | 566,689                       | 309                      | 146                      | 26.53                             | 17.15          | 11.32                 | .64            | .32                  |
| Chicago.....                      | 503,304                       | —                        | —                        | —                                 | —              | —                     | —              | —                    |
| Boston.....                       | 362,535                       | 156                      | 43                       | 13.46                             | 17.94          | 8.97                  | 1.92           | .64                  |
| St. Louis.....                    | 350,522                       | 144                      | 47                       | 15.27                             | 9.72           | 2.77                  | 1.38           | .69                  |
| Baltimore.....                    | 332,190                       | 169                      | 60                       | 24.85                             | 10.65          | 17.16                 | 3.55           | .59                  |
| Cincinnati.....                   | 255,708                       | 89                       | 32                       | 21.35                             | 17.97          | 2.24                  | 3.36           | 4.48                 |
| New Orleans.....                  | 216,140                       | —                        | —                        | —                                 | —              | —                     | —              | —                    |
| District of Columbia.....         | 177,638                       | 75                       | 22                       | 16.00                             | 17.33          | 9.33                  | 4.00           | —                    |
| Pittsburgh.....                   | 156,381                       | 101                      | 38                       | 45.54                             | 11.88          | 4.95                  | 2.97           | —                    |
| Buffalo.....                      | 155,137                       | 78                       | 32                       | 37.18                             | 5.12           | 15.38                 | 1.28           | —                    |
| Milwaukee.....                    | 115,578                       | 40                       | 21                       | 20.00                             | 10.00          | 10.00                 | 2.50           | 2.50                 |
| Providence.....                   | 104,857                       | 40                       | 12                       | 15.00                             | 10.00          | 5.00                  | 2.50           | 2.50                 |
| New Haven.....                    | 62,882                        | 23                       | 4                        | 13.04                             | 8.70           | 4.35                  | 4.35           | —                    |
| Charleston.....                   | 49,999                        | 35                       | 5                        | 5.71                              | 5.71           | 2.85                  | —              | —                    |
| Nashville.....                    | 43,461                        | 28                       | 13                       | 17.85                             | 10.71          | 7.14                  | 3.57           | 3.57                 |
| Lowell.....                       | 59,485                        | 21                       | 5                        | 14.28                             | 19.05          | —                     | 4.76           | 4.76                 |
| Worcester.....                    | 58,295                        | 29                       | 12                       | 10.34                             | 20.68          | —                     | —              | —                    |
| Cambridge.....                    | 52,740                        | 24                       | 10                       | 29.16                             | 20.83          | 16.66                 | 8.32           | —                    |
| Fall River.....                   | 49,006                        | 16                       | 8                        | 25.00                             | —              | 12.50                 | —              | —                    |
| Lawrence.....                     | 39,178                        | 9                        | —                        | —                                 | 11.11          | —                     | —              | —                    |
| Lynn.....                         | 38,284                        | 11                       | 2                        | 27.27                             | —              | —                     | 9.09           | —                    |
| Springfield.....                  | 33,340                        | 6                        | —                        | 16.66                             | 16.66          | —                     | —              | 16.66                |
| Salem.....                        | 27,598                        | 8                        | 3                        | 12.50                             | 12.50          | —                     | —              | —                    |
| New Bedford.....                  | 26,875                        | 6                        | 1                        | —                                 | 16.66          | —                     | —              | —                    |
| Somerville.....                   | 24,985                        | —                        | —                        | —                                 | —              | —                     | —              | —                    |
| Holyoke.....                      | 21,851                        | —                        | —                        | —                                 | —              | —                     | —              | —                    |
| Chelsea.....                      | 21,785                        | —                        | —                        | —                                 | —              | —                     | —              | —                    |
| Taunton.....                      | 21,213                        | 13                       | 4                        | 30.77                             | 7.69           | 15.38                 | —              | —                    |
| Gloucester.....                   | 19,329                        | 2                        | —                        | —                                 | —              | —                     | —              | —                    |
| Haverhill.....                    | 18,475                        | 4                        | —                        | —                                 | 50.00          | —                     | —              | —                    |
| Newton.....                       | 16,995                        | 4                        | 3                        | 50.00                             | 25.00          | 25.00                 | —              | —                    |
| Newburyport.....                  | 13,537                        | 5                        | 1                        | —                                 | —              | —                     | —              | —                    |
| Fitchburg.....                    | 12,405                        | —                        | —                        | —                                 | —              | —                     | —              | —                    |
| Nineteen Massachusetts towns..... | 149,534                       | 36                       | 3                        | 22.22                             | 5.55           | 13.88                 | 5.55           | —                    |

Deaths reported 2638 (no reports from Chicago and New Orleans); 987 under five years of age; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 647, consumption 392, lung diseases 383, diphtheria and croup 245, scarlet fever 143, small-pox 77, typhoid fever 44, diarrhoeal diseases 27, measles 27, whooping-cough 21, malarial fevers 23, erysipelas 17, cerebro-spinal meningitis 14, puerperal fever nine. From *scarlet fever*, New York 77, Brooklyn 31, Buffalo 10, Philadelphia eight, St. Louis seven, Worcester three, Baltimore and Pittsburgh two each, District of Columbia, Lynn, and Salem one each. From *small-pox*, Pittsburgh 35, Philadelphia 23, New York 12, Cincinnati six, Buffalo one. From *measles*, New York 18, Brooklyn five, Buffalo two, Philadelphia and Pittsburgh one each. From *whooping-cough*, New York nine, Boston, Baltimore, and Fall River two each, Philadelphia, St. Louis, Cincinnati, Providence, Cambridge, and Taunton one each. From *malarial fevers*, New York ten, St. Louis six, Brooklyn four, District of Co-

lumbia, Providence, and New Haven one each. From *erysipelas*, New York and Philadelphia four each, Brooklyn three, Boston, Baltimore, Cincinnati, Buffalo, Lowell, and Taunton one each. From *cerebro-spinal meningitis*, New York seven, Cincinnati two, St. Louis, Buffalo, Milwaukee, Lynn, and Newton one each. From *puerperal fever*, New York, Brooklyn, St. Louis, Baltimore, Buffalo, Milwaukee, Charleston, Nashville, and Milford one each.

Eighty-nine cases of small-pox were reported in Pittsburgh, 49 in Cincinnati, 16 in Buffalo, nine in Brooklyn, three in Baltimore; diphtheria 37 cases, typhoid fever 12, scarlet fever 10, in Boston; diphtheria 11 cases, scarlet fever 11, in Milwaukee.

In 34 cities and towns of Massachusetts, with a population of 986,419 (population of the State 1,783,086), the total death-rate for the week was 18.45, against 21.52 and 19.85 for the previous two weeks.

The meteorological record for the week ending January 7th, in Boston, was as follows:—

| Date.            | Barom-eter. | Thermom-eter. |       |          |          | Relative Humidity. |            |             |       | Direction of Wind. |            |             | Velocity of Wind. |            |             | State of Weather. <sup>1</sup> |            |             | Rainfall.             |                   |
|------------------|-------------|---------------|-------|----------|----------|--------------------|------------|-------------|-------|--------------------|------------|-------------|-------------------|------------|-------------|--------------------------------|------------|-------------|-----------------------|-------------------|
|                  |             | Mean.         | Mean. | Maximum. | Minimum. | 7.23 A. M.         | 3.23 P. M. | 11.23 P. M. | Mean. | 7.23 A. M.         | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.        | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.                     | 3.23 P. M. | 11.23 P. M. | Duration, Hrs. & Min. | Amount in inches. |
| January, 1882    |             |               |       |          |          |                    |            |             |       |                    |            |             |                   |            |             |                                |            |             |                       |                   |
| Sun., 1          | 29.793      | 26            | 34    | 19       | 76       | 57                 | 100        | 78          | W     | NW                 | N          | 13          | 7                 | 21         | O           | O                              | S          | —           | —                     |                   |
| Mon., 2          | 29.794      | 13            | 21    | 11       | 80       | 70                 | 61         | 70          | W     | W                  | W          | 22          | 16                | 13         | S           | C                              | C          | —           | —                     |                   |
| Tues., 3         | 30.064      | 18            | 28    | 5        | 82       | 59                 | 70         | 70          | W     | W                  | W          | 8           | 8                 | 16         | C           | C                              | C          | —           | —                     |                   |
| Wed., 4          | 30.507      | 9             | 22    | 4        | 67       | 31                 | 55         | 51          | W     | W                  | NW         | 20          | 14                | 12         | C           | C                              | C          | —           | —                     |                   |
| Thurs., 5        | 30.704      | 15            | 27    | 3        | 69       | 80                 | 75         | 75          | W     | N                  | NW         | 7           | 7                 | 5          | C           | F                              | F          | —           | —                     |                   |
| Fri., 6          | 30.288      | 29            | 35    | 17       | 84       | 77                 | 89         | 83          | NW    | E                  | SE         | 2           | 2                 | 10         | O           | S                              | R          | —           | —                     |                   |
| Sat., 7          | 30.046      | 35            | 42    | 31       | 94       | 57                 | 72         | 74          | W     | W                  | NW         | 11          | 15                | 8          | C           | C                              | C          | —           | —                     |                   |
| Means, the week. | 50.171      | 20.7          |       |          |          |                    |            |             |       |                    |            |             |                   |            |             |                                |            | 22.35       | .61                   |                   |

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., snow; R., rain; T., threatening; X., clearing.

## OBITUARY.

DR. WM. C. H. NEEDHAM, of Gallipolis, Ohio, who died at Columbus, last week, of pneumonia, was born in Groton, Mass., in 1845, graduated at Norwich Military Academy, Vermont, and took his medical degree at the Medical Department of Harvard University. He enlisted, and served his time as a volunteer in a Massachusetts regiment, in the war of the Rebellion, leaving his studies when scarcely eighteen years of age for that purpose. In 1878 he was city physician of Gallipolis, and at the time of his death was a member of the Ohio senate. He was deservedly held in high esteem in his adopted State, and was in every respect a most estimable gentleman. He leaves a widow and two children, and was the son of Hon. Daniel Needham, National Bank Examiner of Massachusetts.

## OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM DECEMBER 31, 1881, TO JANUARY 6, 1882.

GORGAS, WILLIAM C., first lieutenant and assistant surgeon. The leave of absence granted him by paragraph 5, S. O. 150, headquarters, Department of Texas, December 3, 1881, is extended one month. S. O. 1, Military Division of the Missouri, January 4, 1882.

MADDOX, THOMAS J. C., first lieutenant and assistant surgeon. Now awaiting orders in Washington, D. C., to report in person to commanding general, Department of Texas, for assignment to duty. S. O. 2, A. G. O., C. S.

GYNACOLOGICAL SOCIETY OF BOSTON.—The next regular meeting will be held at the Medical Library Rooms, on the first Thursday of February, at eleven o'clock A. M. A. P. Clarke M. D., will read a paper on Removal of Intra-Uterine Fibroids. Profession invited. HENRY M. FIELD, M. D., Secretary.

THE SECTION FOR CLINICAL MEDICINE AND PATHOLOGY OF THE SUFFOLK DISTRICT MEDICAL SOCIETY will meet at No. 19 Boylston Place, on Saturday, January 21st, at 7.45 o'clock. Papers: Dr. G. H. Lyman, Some of the Sequelae of Typhoid Fever. Dr. Henry J. Bigelow, A Case of Disease of the Liver. Dr. F. C. Shattuck, A Case of Unintentional Aspiration of the Liver. Dr. Thomas Dwight, Frozen Sections of Pleuritic Effusion.

ALBERT N. BLODGETT, M. D., Secretary.

BOOKS AND PAMPHLETS RECEIVED.—Frozen Sections of a Child. By Thomas Dwight, M. D., Instructor in Topographical Anatomy in Harvard University. Fifteen Drawings from Nature. By H. P. Quiney, M. D. New York: William Wood & Co. 1881.

Lectures on Electricity (Dynamic and Franklynic) in its Relations to Medicine and Surgery. By A. D. Rockwell, M. D. New York: William Wood & Co. 1881.

Handbook of Physiology. By W. Morratt Baker, F. R. C. S., Lecturer on Physiology, etc., to St. Bartholomew's Hospital. Tenth Edition, with one hundred and twenty illustrations. Philadelphia: Presley Blakiston. 1881.

Wood's Library of Standard Medical Authors. A Handbook of Uterine Therapeutics and of Diseases of Women. By Edward John Tilt, M. D. Fourth Edition. New York: William Wood & Co. 1881.

Transactions of the Michigan State Medical Society for the Year 1881. No. 1. Vol. VIII.

Sensation and Pain. By Charles Fayette Taylor, M. D. A Lecture delivered before the New York Academy of Sciences, March 21, 1881, being one of the Public Course for 1880-81. New York: G. P. Putnam's Sons. 1881.

Epilepsy and other Chronic Convulsive Diseases; their Causes, Symptoms, and Treatment. By W. R. Gowers, M. D., F. R. C. P. London: J. & A. Churchill. 1881.

Sir Thomas Browne's Religio-Medici Letter to a Friend, etc., and Christian Morals. Edited by W. A. Greenhill, M. D. Oxon. London: Macmillan & Co. 1881.

A Guide to Shipmasters visiting the Cape Fear and other Rivers. Presented by the North Carolina Board of Health.

## Original Articles.

## THIRTY-TWO CONSECUTIVE OVARIOTOMIES DURING THE YEAR 1881. BY JOHN HOMANS, M. D.

| No. | Date.           | Place of Operation.      | Condition. | Age. | Length of Incision. | Adhesions.                                      | Treatment of Pedicle.                                 | Weight of Tumor. | Result.   | Remarks.   |
|-----|-----------------|--------------------------|------------|------|---------------------|---|---|------------------|-----------|--|
| 1   | Jan. 6, 1881.   | Carney Hospital.         | S.         | 26   | 5 in.               | None.   | Tied and burnt off with Pagenstecher's thermocautery. | 11 lbs.          | Recovery. |  |
| 2   | Jan. 26, 1881.  | Carney Hospital.         | S.         | 38   | 5 in.               | None.   | Do.   | 17½ lbs.         | Recovery. | Dermoid cyst. Considerable ascites.  |
| 3   | Jan. 27, 1881.  | Carney Hospital.         | W.         | 63   | 5 in.               | To both Fallopian tubes and to sigmoid flexure. | Do.   | 9½ lbs.          | Recovery. |  |
| 4   | April 5, 1881.  | Carney Hospital.         | S.         | 40   | 6 in.               | None.   | Do.   | 5 lbs.           | Recovery. | Dermoid cyst, and attached to this a spindle-celled sarcomatous tumor. A uterine fibroid, two pounds' weight, also removed.  |
| 5   | April 14, 1881. | Carney Hospital.         | M.         | 40   | 4½ in.              | None.   | Do.   | 36 lbs.          | Recovery. | Died of exhaustion on the third day. Very severe operation. Tumor very vascular and nearly solid.  |
| 6   | April 16, 1881. | Carney Hospital.         | M.         | 42   | 8 in.               | Parietal, intestinal, and omentum.              | Do.   | -                | Died.     | Both ovaries removed.  |
| 7   | April 17, 1881. | Carney Hospital.         | M.         | 29   | 4½ in.              | Strong and old; anteriorly.                     | Do.   | 42½ lbs.         | Recovery. |  |
| 8   | May 5, 1881.    | Carney Hospital.         | M.         | 34   | 4 in.               | None.   | Do.   | 26 lbs.          | Recovery. | Much ascitic fluid.  |
| 9   | May 22, 1881.   | Free Hospital for Women. | M.         | 39   | 5 in.               | None.   | Do.   | 12 lbs.          | Recovery. |  |
| 10  | May 26, 1881.   | Carney Hospital.         | M.         | 42   | 7 in.               | Very vascular; anteriorly and to omentum.       | Do.   | 15 lbs.          | Recovery. | Considerable hæmorrhage during operation.  |
| 11  | June 8, 1881.   | Carney Hospital.         | M.         | 40   | 4½ in.              | None.   | Do.   | 10 lbs.          | Recovery. | Cyst dark blue, very vascular. In appearance resembling the fetal side of a placenta.  |
| 12  | June 9, 1881.   | Boston.                  | M.         | 42   | 4 in.               | None.   | Do.   | 13 lbs.          | Recovery. |  |
| 13  | June 11, 1881.  | Carney Hospital.         | M.         | 51   | 4 in.               | None.   | Do.   | 34½ lbs.         | Recovery. |  |
| 14  | June 21, 1881.  | Boston.                  | S.         | 18   | 4 in.               | Anteriorly and to omentum.                      | Do.   | 25 lbs.          | Recovery. |  |
| 15  | June 30, 1881.  | Carney Hospital.         | W.         | 55   | 6 in.               | None.   | Do.   | 13 lbs.          | Recovery. | Tumor cancerous.   |
| 16  | July 7, 1881.   | Carney Hospital.         | S.         | 39   | 5 in.               | None.   | Do.   | 8 lbs.           | Recovery. | Pedicle slipped from clamp before it was burnt off, and in order to pick it up and secure it the incision had to be enlarged. Cyst of broad ligament.  |
| 17  | July 11, 1881.  | Carney Hospital.         | S.         | 23   | 4 in.               | None.   | Do.   | 11½ lbs.         | Recovery. |  |
| 18  | July 25, 1881.  | Carney Hospital.         | S.         | 14   | 3 in.               | None.   | Do.   | 11½ lbs.         | Recovery. | Both ovaries removed.  |
| 19  | Sept. 7, 1881.  | Boston.                  | S.         | 49   | 3 in.               | None.   | Do.   | 12 lbs.          | Recovery. | Cyst of the left broad ligament.   |
| 20  | Sept. 1, 1881.  | Carney Hospital.         | S.         | 24   | 3 in.               | None.   | Do.   | 2½ lbs.          | Recovery. |  |
| 21  | Sept. 8, 1881.  | Carney Hospital.         | S.         | 25   | 7 in.               | None.   | Do.   | 13 lbs.          | Died.     | Cause of death, acute oemia on eighth day. A careful autopsy, by Dr. W. W. Gammett, showed everything healthy and going on well in the peritoneal cavity. Hereditary insanity in the family. Dermoid cyst. |
| 22  | Sept. 11, 1881. | Carney Hospital.         | M.         | 41   | 5 in.               | Anteriorly to plicates and to uterus.           | Do.   | 33 lbs.          | Recovery. |  |
| 23  | Sept. 18, 1881. | Carney Hospital.         | W.         | 51   | 3½ in.              | Anteriorly to plicates.                         | Do.   | 33 lbs.          | Recovery. |  |
| 24  | Sept. 27, 1881. | Taunton, Mass.           | M.         | 60   | 5 in.               | None.   | Do.   | 10 lbs.          | Recovery. | Some ascites.  |
| 25  | Oct. 4, 1881.   | Boston.                  | M.         | 45   | 7 in.               | Universal anteriorly and laterally.             | Do.   | 8-90 lbs.        | Recovery. | Considerable ascites, which is coated to the weight.   |
| 26  | Oct. 5, 1881.   | Boston.                  | W.         | 45   | 6 in.               | None.   | Do.   | 22 lbs.          | Recovery. | Both walls of bladder incised. No ill effects.   |
| 27  | Oct. 24, 1881.  | Merrimac, Mass.          | S.         | 57   | 6 in.               | Intestinal.                                     | Do.   | 5½ lbs.          | Recovery. | A portion of sac adherent to bowels left behind.   |
| 28  | Oct. 29, 1881.  | Boston.                  | M.         | 48   | 4 in.               | Slight lateral and anterior.                    | Do.   | 49 lbs.          | Recovery. |  |
| 29  | Nov. 15, 1881.  | Boston.                  | W.         | 47   | 3½ in.              | None.   | Do.   | 25½ lbs.         | Recovery. |  |
| 30  | Nov. 19, 1881.  | Concord, N. H.           | W.         | 73   | 6 in.               | To peritonæum, omentum, and intestine.          | Do.   | 20 lbs.          | Recovery. | The age of the patient did not prevent a very rapid recovery, 99.4° F. being the highest temperature.  |
| 31  | Dec. 1, 1881.   | Provincetown, Mass.      | M.         | 52   | 6 in.               | Burst cyst.                                     | Do.   | 35 lbs.          | Recovery. | Abdomen filled with gelatinous material, — colloid, — which had originally come from a burst dermoid cyst.   |
| 32  | Dec. 18, 1881.  | Free Hospital for Women. | S.         | 39   | 7 in.               | To intestine and pelvic peritonæum.             | Do.   | 10 lbs.          | Died.     | Both ovaries removed. The outer surfaces of the tumors of a brown color, and beginning to decay.   |

The above list contains all the cases of complete ovariectomy that I operated on during the year 1881. Besides these completed cases I have made three exploratory incisions, and closed the wound after thoroughly investigating the tumor. All of these cases recovered. So that we have for completed and attempted ovariectomies thirty-five cases, with three deaths. I have also operated for the removal of uterine tumors three times. Once successfully (Case 4 of this table) and twice with a fatal result, both of the latter being incomplete operations. One of the deaths in this table (No. 21) ought not to be accounted a death from ovariectomy, for everything in the abdominal cavity was going on well, as shown by autopsy. The pa-

tient's parents and family were more or less insane, and she developed acute mania, with the delusion that she had committed the unpardonable sin, and that there was no forgiveness for her. It would be improper not to report the case, however, and so I have called it a death from ovariectomy. Clinically, the wounding of the bladder in No. 26, without the least unfavorable consequences or the slightest retardation of convalescence, and the age of No. 30 (seventy-three years), with a normal and rapid recovery, are worth noting. I have also done colotomy successfully, making the permanent opening in the pubic region.

# CONDITION AND CIRCUMSTANCES WHICH SHOULD INDUCE THE MEDICAL EXAMINER TO EMPLOY A CHEMIST.<sup>1</sup>

BY E. P. MILLER, M. D., OF FITCHBURG.

THE subject which I have chosen does not permit any original investigation or experiment, nor does it even allow a presentation and discussion of the opinions of authorities, for I have been entirely unable to find anything in books bearing directly upon this question. I shall only attempt, therefore, to call attention to the importance of the subject and to give my own idea of the proper method of proceeding in order to decide correctly, as individual cases arise, the question whether or not to employ a chemist. For it is manifestly impossible to create a set of rules by mechanically following which the medical examiner can be sure of a correct decision. No two cases of suspected poisoning are exactly alike in history, symptoms, and pathology. After all is said, nothing will be found as a substitute for the medical examiner's own judgment and discretion.

Somewhat over a year ago I was placed in what I felt to be a very difficult and embarrassing position. A lady well known in a small city had died under circumstances which suggested poisoning, and I had decided to make an autopsy. The illness had been short, but the symptoms gave no clew as to what poison, if any, had been administered. The main reason for investigating the case was the fact that, from the history, no satisfactory diagnosis could be made, while it was known, also, that two other deaths had occurred in the same family within a short time. Nobody was ready to believe that the lady would destroy herself, nor had any one been about her who seemed capable of doing her any harm. There seemed, however, to be sufficient mystery about the case to demand an autopsy, and I decided to perform it. By the most careful inquiry I could form no opinion in advance as to what pathological appearances I might find, and not having the confidence which years of varied experience must give, I approached the work with considerable hesitation and anxiety. I was afraid, on the one hand, that the death was due to natural causes, the evidence of which might escape me; on the other, I was anxious not to return as a natural death one really due to poison, and so, perhaps, permit the escape of a criminal. At the autopsy no sign of disease could be found, but there was unmistakable evidence of poisoning, and the chemical analysis discovered a large amount of arsenic. The cause of death was thus made plain; and, fortunately for my peace of mind, I had done the proper thing in employing a chemist. A careful man will, and I think all should, always undertake the autopsy in such cases with a certain amount of fear. His mind should be perfectly unbiassed; he should not be determined in advance whether to find evidence of poison or of natural death. The one thought should be to find everything pathological about the body, whether it points to disease or to poisoning, as when a case comes to trial it is found by the medical examiner that every sign of disease becomes of the greatest importance, and that he must be prepared to testify, not only that the death could have resulted from poison, but also that it could not have resulted from disease. To be sure, this is exactly the work for which the medical examiner is supposed to be qualified and prepared.

<sup>1</sup> Read before the Massachusetts Medico-Legal Society.

Yet when we consider the results which may follow a mistake in either direction we must agree that the decision to employ, or not to employ, a chemist should be reached only after the most careful consideration of all the evidence in the case. It may be said that the whole matter is very simple, and that we should employ a chemist whenever we cannot satisfy ourselves, by an autopsy, of the cause of death. While this may be true to a certain extent, yet there are reasons for not employing a chemist unnecessarily. For instance, the mere fact that a chemist is employed may cause irreparable damage to the reputation of an innocent person. In the case above alluded to, in spite of great precaution, it became known that a chemist had been consulted, and suspicion immediately fastened upon a relative of the deceased who had previously borne a good character. Again, in one county at least, the commissioners constitute themselves the judges of all a medical examiner's acts; they reserve to themselves the right to pay bills or not, according as they think them necessarily contracted. From the mistake of not consulting a chemist when poison has been given the very serious result might be the escape of a murderer. But the whole reason for the existence of the medical examiner is the protection of society by detecting crime. When a poisoning case has once come into the hands of the law the chance that the medical examiner may not consider the evidence sufficient to warrant a chemical analysis affords the criminal his first loophole for escape. If murderers are to go free it should be through the lawyers rather than through medical men.

Perhaps of secondary importance is any loss of professional reputation which the medical examiner may suffer. This would certainly follow a wrong decision if, by any chance, his mistake should be discovered subsequently, or if at the time he could not satisfy the public mind.

In connection with the escape of criminals through an oversight of the medical examiner, I should like to remark that a very interesting question for speculation is whether it is possible that murders are being committed about us and remaining undetected or even unsuspected. From its very nature the question cannot be answered positively. Whatever may be true of the past the number of such murders ought certainly to diminish each year in civilized communities. According to the opinion of Taylor, expressed in 1873, such murders are (or were) very possible in England under the coroner system. For he says that in his opinion that system "affords no certainty for the detection of crime; it affords no protection to those who are wrongly charged with crime; and, lastly, it in some cases screens a criminal by a verdict based upon an imperfect inquiry, in which the important medical facts are either not understood or are misinterpreted by the jury." The number of exhumations suggests the possibility of secret murder. Taylor says, again, that in thirty years' practice, fifteen cases of exhumation were referred to him in which the death was proved to have resulted from poison. In some of the cases an inquest had been held. I have in mind a case occurring in this State in which a body was exhumed after fourteen years and arsenic found. We trust that the medical examiner system is better calculated to detect crime than its predecessor, yet it seems possible that there are murders unsuspected even by the friends and attendants of the deceased, which, of course, do not

come into the hands of the medical examiner at all. If acute poisoning is usually detected, may it not be true that chronic poisoning frequently is not?

These considerations may convey some idea of the importance of our subject. The investigation of a case of suspected poisoning seems to me the most delicate and difficult work the medical examiner is called upon to do. Not the least difficult of the many questions arising is whether or not to employ a chemist. The law under which we work affords little help, as it simply says: "The medical examiner may, if he deems it necessary, call a chemist to aid in the examination of the body or of substances supposed to have caused or contributed to the death." The evidence to be used in deciding this question of necessity may be discussed under two heads, as it comes from two entirely different sources:—

(1.) Evidence from the history of the case, including symptoms, and (2) evidence derived from the autopsy.

Evidence of either class may alone be sufficient to decide the question. Thus, in the first place, it is sometimes proper to decide before beginning the autopsy that a chemist should be employed. The cases in which, for the purpose of having a chemical examination, a body is exhumed, perhaps years after death, when the post-mortem appearances can have no diagnostic value, suggest themselves at once as examples. The autopsy in the case above alluded to was immediately followed by two others. Within the three weeks previous to the death of this lady her father and mother had both died after short illnesses. No positive diagnosis had been made by the attending physician, and there had been in each case some symptoms which might be attributed to a poison. Consequently the bodies were disinterred, and though a careful autopsy was made in each case I had previously determined to have a chemical analysis, whatever the autopsies might disclose. This decision seemed justifiable under all the circumstances and considering the unanimity of public opinion. For, on the discovery of arsenic in the body of the daughter, the public mind decided at once that the father and mother must have been poisoned also. At least, there was a universal demand for an investigation. Here it seems proper to say a word concerning this public sentiment, as the medical examiner may at times very plainly feel its force. Perhaps the chances are that in any given case the opinions of the public and those of the medical examiner will agree. When they do not I think great respect should be given to public opinion, and that the medical examiner may be influenced somewhat by it, unless he is absolutely sure of the ground on which he stands, and unless individuals are going to suffer manifest and great injustice. At all events it is easy to imagine a very disagreeable state of affairs, and one especially uncomfortable for the medical examiner, when he sees his duty clearly in one direction and the public or a neighborhood thinks it sees it in another. Such cases require the greatest tact and judgment in their management, as the medical examiner, and even the law itself, may fall into disrepute.

Sometimes it is possible to base a decision to have an analysis on symptoms alone, regardless of the pathology and the moral history of the case. Christison contends that no disease can successfully mimic the effects to which strychnia and hydrocyanic acid give rise. Taylor once concluded from the symptoms that

strychnia had been given, though he had failed to find it. If symptoms are ever proof of the presence of poison they must still oftener be characteristic enough to demand an analysis. The conditions found in some cases of poisoning by strong irritants—the state of the lips and mouth, impending suffocation, coldness of surface, acid stains on bedclothes—should lead to a thorough analysis.

Thus we see the nature of the evidence from which the medical examiner may determine to employ a chemist before the autopsy. Just what and how many suspicious acts on the part of persons accused, just what symptoms and how characteristic, just how strong and plainly expressed a public demand are necessary, it is impossible to state in advance. This is where the skill and discretion of the medical examiner are displayed, and each case must be treated as it arises.

We now come to a consideration of the autopsy, and, for the moment, may suppose ourselves dealing with a body of whose history nothing is known. What conditions as found post mortem should lead to the employment of a chemist? A complete discussion of this question would involve a statement of the pathology of all poisons and a comparison with the pathology of all diseases, which would involve many long details of which every medical examiner is supposed to have obtained sufficient knowledge in the course of ordinary study and practice. I shall, therefore, offer only a few general considerations, and mention some appearances which should lead to an analysis regardless of the history.

Poisons may be divided into two great classes, irritant and neurotic. On a general survey of the post-mortem lesions as detailed by authorities one is struck by the frequent absence of characteristic effects. The whole class of neurotic poisons as a rule do not leave any well-marked appearances in the body, and this class includes such well-known poisons as opium, strychnia, belladonna, aconite, and digitalis. Both irritants and neurotics may destroy life without leaving any appreciable changes in the body. "Evidence derived from post-mortem appearances can merely be more or less suggestive. Only a few poisonous substances make such decided impressions upon the living tissues as to warrant even a very strong presumption of their presence."<sup>1</sup> In case of all neurotic poisons it seems safe to say that we cannot expect to find at the autopsy sufficient positive evidence to warrant even a decision as to the necessity of a chemical analysis, to say nothing of finding a cause of death. Here should be expected, however, autopsies where the odor of such poisons as alcohol, chloroform, and hydrocyanic acid can unmistakably be detected; these odors are sufficient to call for an analysis, even if they are not positive proof of the presence of the poison. But the absence of the odor is no proof of the absence of the poison.

Irritant poisons are more likely to leave post-mortem signs, and the lesions in some cases are more characteristic. "They act chiefly on the stomach and intestines, which they irritate, inflame, and corrode. We may likewise meet with all the consequences of inflammation, such as redness, softening, thickening, ulceration, and perforation."<sup>2</sup> But each of these conditions may depend upon disease as well as upon the action of irritant poisons. There are various points of difference between these appearances when produced by dis-

<sup>1</sup> Reese on Poisons.

<sup>2</sup> Taylor's Manual of Medical Jurisprudence.

ease and similar appearances produced by poisons, yet it may be very difficult, if not impossible, to make the distinction without knowing the history of the case. I should consider any of these lesions, much more a combination of them, sufficient to demand an analysis, unless poisoning could be eliminated in some other way. As neurotic poisons may leave their odor, so irritants may cause very characteristic signs of their presence (not true pathological lesions), any of which should call for an analysis. Such are the white patches of arsenious acid sometimes found firmly attached to the mucous coat of the stomach, the peculiar slate-colored deposit said to have been seen in the stomach after poisoning by corrosive sublimate, and the remains of poisons themselves sometimes discovered by close inspection. Here, too, may be noted the preservative effect of arsenic.

This attempt to consider the nature and weight of the evidence furnished separately by the history, symptoms, and autopsy, may at least have suggested the importance in every medico-legal case of gaining evidence from every possible source. The history, or the autopsy, taken separately, is often entirely inconclusive, while the two together may be decisive.

Poisoning has been suspected in cases of death from various natural causes; for instance, peritonitis, intussusception, strangulated hernia, and more rarely rupture of the stomach or duodenum, rupture of the bile ducts, and rupture of the uterus. By combining the history and the autopsy in such cases it is often possible to declare that death could not have been caused by poison. The evidence from the autopsy can always be obtained unless decomposition prevents, while an exact and reliable history may easily be wanting. To be deprived of either class of evidence can only be considered a misfortune. Yet if all the obtainable evidence is duly weighed, if our reasoning is founded on facts and not on theory, we may expect to decide the question under consideration to the advantage both of the public and of ourselves in the vast majority of cases.

I trust that the somewhat desultory and unscientific character of this paper may be attributed partly to the nature of its subject, which hardly seems to admit a more precise and definite answer.

### NORMAL CEREBRATION FOLLOWING THREE YEARS OF DISEASED MENTAL ACTION; THE MYSTERY OF ITS PATHOLOGY.

BY C. F. RANCOFT, M. D., BOSTON.

AMONG the insane the physician occasionally sees a chronic case, in which he had supposed every ray of intelligence obliterated, suddenly brighten up after years of thoroughly diseased mental action, and speak rationally and intelligently. Such cases are as rare as they are interesting, and it is about them that I wish to speak, illustrating the subject by a typical case that occurred in the New Hampshire Asylum. There is but little on this interesting matter in the text-books of insanity. The subject itself, however, is well worthy of investigation, for the study of such cases may throw some important light on the pathology of one of the most obscure diseases, and may also add something to our knowledge of normal mental action.

The tendency of the latest investigation is to prove that mental action is developed through the activity of the nervous system; that chemical and cellular change in that system always precedes the evolution of thought. This leads us to the conclusion that insanity is a physical disease as much as pneumonia or pleurisy. Disordered mental action is dependent on disordered nerve tissue. I think nearly all alienists of the present time subscribe, in the main, to this view of the physical basis of mind. But any specialist who has lived among the insane recognizes the difficulty of establishing a perfect analogy between cases of mental and ordinary physical disease. Indeed, we seem to know as little about the pathology of insanity as we do about its morbid anatomy; and probably the same mystery that surrounds mind in general will always to a greater or less degree obscure it when diseased.

That the analogy between mental and ordinary physical disease is not complete is very evident. A man who has had paraplegia for three years does not suddenly take up his bed and walk, and yet a man's mind may be so diseased that not a single normal thought may be evolved for years, and, owing to the disordered state of his intellectual system, the man may have sunk into a condition worse than that in brute life, and yet, suddenly, after years of such diseased action, that same man may give utterance to sound thought, and may call into perfect play some of the higher attributes of mind, such as memory, realization of time, consciousness of his own condition, etc. It is as if a man with advanced locomotor ataxia should suddenly, perhaps for a few minutes only, arise and walk naturally. There is evidently something in the pathology of insanity that we have not grasped. We can understand tolerably well the ninety and nine cases that have chronic mental disease, and die, either in their thoroughly demented or maniacal condition, without uttering an intelligent idea. We can, to a certain extent, understand how there may be cases of recurrent mania, in which the patient runs through a more or less acute excitement, recovers, and breaks down again. Every hospital has its circulatory cases, and physicians are able to predict with great certainty in some cases the date of a fresh attack. But it is not to these that I allude. I refer to the cases in which the attributes of mind seem to have been destroyed, to cases in which, of the three factors of mind, namely, feeling, volition, and thought, feeling and volition, at least, seem to have been obliterated. In short, we find it extremely difficult to understand how it is that a man with chronic mania or dementia, in whose mind there does not seem to remain a single rational idea, how such a man may suddenly come back to himself, as it were, and speak intelligently.

With these few ideas in mind, I wish to outline as briefly as possible the clinical history of Hiram Gore, and to discuss the peculiar features of his mental condition. Gore was a native of New Hampshire, married, forty-two years of age, shoemaker. He was admitted on the 24th of May, 1877. Had been insane once before. The attack had been of one week's duration before admission. About ten days before, he had had some difficulty with a neighbor, and attempted to shoot him, for which he was arrested, and committed to the jail in Portsmouth. After his arrest he had been growing more excited, and for two days previous had been completely maniacal, violent in language and conduct, destroying everything he could lay his hands upon.



The report of May 30th reads: Since admission has been thoroughly maniacal, talking a greater part of the day, but resting a portion of the night; talks in a rattling, disjointed way, with no sense or connection. Has torn his shirts, and will not keep a thread on him; has also destroyed more or less of the bed-clothes, and pulled out the straw from his bed, and scattered it upon the floor. Is thin in flesh, but eats well.

June 1st. Continues much excited, and remains in his room; will keep no clothing on, and consequently is permitted to walk his room without any; seems to bear his excitement well, has a flourishing appetite, with regular bowels, and holds his flesh.

June 6th. An attempt was made to dress him, and allow him to stay in the hall, but as he immediately tore his clothing, canvas mittens were used; these seemed to quiet him a little in his actions, although he did not for an instant cease his constant, incoherent talking.

June 20th. Has been in the hall for several days only wearing mittens occasionally.

June 26th. Became more violently excited; is full of insane pranks. Attendant entered his room, and at first could not find him, but a little search disclosed him inside the straw bed; he had crawled inside the mattress, buttoning it after him. From this time on Gore grew worse. He became the most persistently maniacal person I ever saw. Sedatives were tried in vain. Both day and night he kept up one prolonged and continuous state of activity; for a few moments only would he catch a little sleep. Immediately on waking he would commence his incoherent speech. Still he ate heartily of whatever was given him. In his habits he became perfectly bestial. He seemed in appearance and actions devoid of every ray of intelligence. This state of things continued until the summer of 1880. He then began to show signs of exhaustion. Notwithstanding that he was so weak he still kept up his incoherent talking. Began to have abscesses form over his body. Became excessively emaciated. In August a diarrhoea appeared which could not be checked. He gradually failed in strength, although he still continued as wildly incoherent as ever until the morning of 13th of October, 1880. On this morning the attendant entered his room, and in his usual way said to Gore, "Good morning, Hiram," when, to his astonishment, Gore looked at him with an intelligent expression, and said: "I want to die. I feel ready to die. I have suffered for three long years, and I want to go where I can rest." These were literally the first intelligent words the patient had uttered for three years. He repeated these words or something similar during the next few hours, but he seemed to be gradually sinking. Occasionally he rallied, and then his face would lighten up, and a countenance that during his whole residence in the asylum had been a blank wore an intelligent look. There seemed by his actions to be something on his mind that he wished to say, but he appeared too weak to say all that he wished. He did speak, among other things, of his wife, and of trouble he had had with her and his daughter, giving the name and age of the latter. When the attendant went out of his room the patient would call him back and say there was something he wished to tell him, but he did not seem able to express himself. He gradually failed, and died about nine P. M. of exhaustion. Until he became too weak to recognize anything he still appeared intelli-

gent, and seemed to make an effort to make himself understood.

I wish now to briefly analyze the condition of Gore's mind, attempting to ascertain the character of its diseased action, and also to ascertain what faculties were left unimpaired, and what were apparently destroyed.

First in regard to the character of its diseased action. His cerebration was almost wholly subjective. Sensations imparted from his environment had little or no effect in exciting ideas or perceptions. He did not even have delusions excited by persons or objects about him. He would look at you vacantly or about the room all the while talking most incoherently. Scattered, detached words, names of individuals he had once known, followed each other in quick succession; but not a single idea was expressed. Those words evidently related to parts of old ideas and associations that had been previously stored up in his mind when he was well; now they came tumbling out incoherently without representing any idea. What I wish especially to emphasise is that his mind merely acted on what it had received in the past; the present was as nothing to him. In the second place it would seem as though something within the cerebral centres was keeping up a constant irritation, causing old ideas, old impressions, to be continually aroused and brought to consciousness; but they were so rapidly excited and brought in view, and succeeded one another so quickly, though without sequence or logical connection, that language was not capable of uttering them intelligently. One part of an idea was no sooner expressed in language than another idea was called up and the expression of the new idea crowded out the expression of the old. So much for the character of the mental action in this case. Now let us see what attributes of normal mind were still possessed by this diseased mind. We shall find present (1) consciousness, (2) perception of time, (3) memory. We shall find in abeyance volition.

(1.) Consciousness was not destroyed. It was through consciousness that he evidently made an attempt to express the rapid flow of ideas and perceptions that took place in his brain. And when at last after three years of almost continual incoherence his brain, apparently exhausted, refused to send forth ideas, then through this same consciousness we find that the man really was exhausted, and that he welcomed death as a speedy relief.

(2.) The patient possessed a knowledge of time. The knowledge of time possessed by the human mind is, when analyzed, found to be a very complex idea. The lower animals are doubtless unable to measure time that has passed. We hear of remarkable instances of tow horses on the street railway that seem to know exactly when the day's work is over, and when the last trip is made direct their steps toward the stable. But this conception of time in that case is undoubtedly due to the fact of a certain amount of muscular exhaustion and a certain amount of hunger which, by recurring day after day, has led them to feel that at about such a time when they experience such and such sensations, that is the time for leaving off work. But the human conception of time — of a year for instance, — is a far more complex act. First there is a day, then a night; then seven of these days and nights make a week. Four of these weeks make a month. Three of these months make a season. Twelve of these months or four of these seasons make

a year. All this is a very complex idea, and to be able to comprehend it one's mind must recognize the change of day into night, and night into day; and the change of summer into autumn, and autumn into winter, and so on. So that our patient's mind was in a more or less receptive state after all. And though he seemed to indicate a condition of mind lower than that in brute life, he still possessed mental attributes higher than any possessed by lower animals.

(3.) Memory. Memory was not by any means impaired wholly. We have already alluded to the fact that detached ideas, evidently relating to the man's past life, followed one another in rapid succession for three years. When now this incoherence suddenly ceased, and ideas were not pressed forward in this rapid, confused manner, the man looked up intelligently and remembered the past, remembered that he had been three years in a state of disease, and even recalled the circumstance of domestic trouble. And here is where the pathology of such cases confronts us. If there is actual disease of the nervous structure of the brain, just as there is actual disease of the cord in locomotor ataxia, or of the kidney in Bright's disease, why should the diseased organ suddenly act normally in the one case and not in the other? Why should the brain after years of diseased action suddenly evolve normal intelligent thought? The cord never regains its normal functions in locomotor ataxia; nor the kidney its function in chronic Bright's disease. Evidently the analogy is not as perfect as it seemed to be. We suppose the brain to be structurally diseased, and yet suddenly the normal action of mind asserts itself and ideas are rationally expressed. We almost feel driven to the assertion that in such cases as these insanity is not a structural disease, but rather that the mental disturbance is of a functional character.

So much for the faculties of mind that were preserved in our case. Of powers that were in abeyance we have to record volition. To all outward appearances this man no more exercised will power than a vegetable. As regards his thoughts will did not appear to control them in the least. The result of this was that for three years he did not have a single connected thought. As regards his actions will appeared to exercise no influence whatever. The result of this was that he would remain for hours in constrained and uncomfortable positions, that he tore and dashed about his room much as a wild bird would do, utterly regardless of self. But most remarkable of all is the fact that in his innermost consciousness the man suffered. He not only was simply exhausted and worn out, as is a piece of machinery after excessive use, but he was cognizant of the fact. He suffered, as he tells us, for three long years: and though he knew it still he could not control the terrible disease that overpowered him. Will power was lost. In these conditions of disease it would almost seem as though the patient lived a double life; his *ego* which seems to lie back of all, and is observant of all, and yet cannot control the mental state; and then his diseased mental self which rushes wildly on refusing to be controlled by either will or feeling.

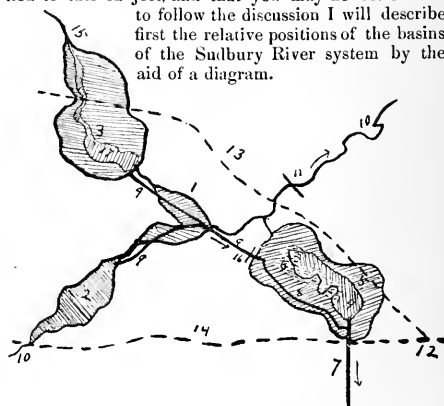
The study of such cases would seem to point to one thing, namely: that though the centres of cerebration may be so affected that normal thought is an impossibility, nevertheless that higher, more immaterial mental state, that condition of mind which we call the *ego*, the conscious self, exists undiseased in some of the

most hopeless forms of insanity. And though for years it may seem to have disappeared, and to have lost influence over the centres of thought, nevertheless it does exist and, as in our present case, may assert itself in the midst of the greatest mental and physical dissolution.

## THE WATER SUPPLY OF BOSTON.<sup>1</sup>

BY HENRY J. BARNES, M. D.

THE public supply of water for the city of Boston has so far improved that we can once more drink without disgust, although it is still highly discolored, and there is a disagreeable smell, particularly in that drawn from the hot-water faucets. The change took place during the cold weather in the early part of December, and it is reasonable to ascribe this to the weather quite as much as to the fact of Farm Pond being shut off. For just before the new channel was finished around the margin I could not detect the bad taste so familiar in Boston in the water of this pond. Besides we did not get the good water from Basin No. 2, as promised by the Water Board, for an accident to the main, laid in the bed of Basin No. 1, necessitated the mingling of the water of the two basins before it could be used through the new channel, and the analysis of the water of No. 1, made by Mr. Remsen, November 5th, prompted him to classify it in point of impurity with Farm Pond, Bradley Basin, Pegan Meadows, and Basin No. 3. His subsequent discovery of spongilla in Farm Pond seems to have so occupied public attention that the filthy conditions of the other basins where no sponge has as yet been found have been lost sight of. To emphasize the importance of these other basins as factors in polluting the water I invite your attention to this subject, and that you may be better able to follow the discussion I will describe first the relative positions of the basins of the Sudbury River system by the aid of a diagram.



SUDBURY RIVER SUPPLY.

1, Basin No. 1. 2, Basin No. 2. 3, Basin No. 3. 4, Farm Pond drawn down. 5, Farm Pond. 6, Distribution of spongilla. 7, New conduit to Chestnut Hill. 8, New channel. 9, Main connecting Nos. 2 and 3 with Farm Pond. 10, Sudbury River. 11, Temporary dam. 12, South Framingham. 13, North division Old Colony Railroad. 14, Boston and Albany Railroad. 15, Stony Brook. 16, Upper gate house. 17, No. 3 drawn down in the summer of 1881.

<sup>1</sup> Read before the Suffolk District Medical Society, December 31, 1881.

This system of supply is naturally good. Sudbury River compared favorably with all the many systems examined when Boston debated in 1872 and 1873 which to adopt, and finally, when narrowed down to a question as to whether it or the Charles River should be taken, its freedom from sewage settled the debate in its favor.

Mr. Davis, the city engineer, at the time reported in City Document, 29, page 28, 1873: "There are various reasons for believing Sudbury River water to be unusually free from deleterious matter, either in solution or held in suspension. Such was the testimony of all persons consulted, this water being used for many years for bleaching, and noted for its fitness, indicating it was free from color," etc. Again, on page 33, Mr. Davis writes: "The usual water of Sudbury River is pure and clear." These were his conclusions, although at the time there was some discoloration, due, as he says, "to the taking up of vegetable matter during a freshet after an unusually dry summer." Professor Remsen's more recent examination supports this opinion so far as it goes.

Stony Brook does not seem to have received so much attention, presumably for the reason that not even a suspicion of impurity has ever been raised in regard to it. A farmer living near it, just above No. 3, tells me he "has always known the water to be clear and good." I can find no authoritative statement that either receive any considerable amount of sewage, but, on the contrary, many reports that it does not exist to any appreciable extent in the water of either of these streams.

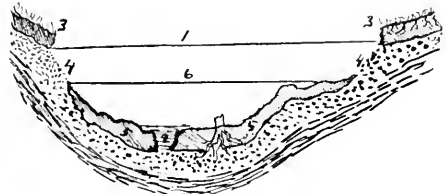
There remains the natural basin of Farm Pond to describe, which before the introduction of Sudbury River water was pure and clear. It received the drainage of a very limited area of the flat territory around, not even a good-sized ditch emptied into it, and its outflow was into the Sudbury River. The clean stone and gravel bottom could be seen from many parts of the surface. At either end there is a peat bog of several acres, and in the deepest parts considerable mud, which the Water Board state measures thirty feet in some places; but this may be fairly questioned when we take into consideration that it is a shallow pond, situated on a plain which abounds in quicksands as easily penetrated by a pole as mud would be. I have been familiar with the pond for the past twenty years, and have always known the water to be pure and clear until the water from No. 3 was let into it, when it became dark and turbid. Mr. Davis, in City Document 29, page 26, 1873, says "that Farm Pond being a natural basin, but little work is needed to put it in good order."

The water of this supply was first used in the summer of 1872 by constructing a temporary dam on the Sudbury River just below the outlet of the pond. At the other end a channel was dug to conduct the water into Beaver Brook, a tributary of Lake Cochituate, and by these means the lake was supplied and kept full most of the time until the completion of the new conduit connecting Farm Pond directly with the Chestnut Hill Reservoir, and for seven years we had no trouble with this water. The local engineer reports in City Document 79, page 128, 1879, "that the surface of Lake Cochituate has by this means been kept higher than usual, and the quality fully up to the standard of previous years."

The trouble with the water began after the comple-

tion of Basin No. 3. This basin was filled for the first time in the winter and spring of 1878 and 1879; the following September there was a general complaint throughout the city of bad-tasting water. Algae were found in all the basins, and Mr. Davis, in one of his reports to the Water Board, said it was conveyed from No. 3 to the others. Professor Nichols attributed it to vegetable matter taken up in the storage basins.

Let us now examine No. 3, and notice what changes took place there. I have a sectional view of this basin as it appeared after the water was drawn down last summer.



SECTION NO. 3.

1, High-water line. 2, Bed of brook. 3, Vegetable mould. 4, Clean gravel bank. 5, Mud banks and flats. 6, Water line acting on mud banks.

Mr. Davis anticipated this effect, for in Document 29, page 43 of his report in 1873, he urged the rapid construction of the new basins that they might have time to decompose the vegetable matter," and on page 35 he says: "No. 3 includes an extensive swamp and lands supporting a rich vegetation, which it is desirable to have removed by grubbing and excavation, as it will otherwise have to be gotten rid of by a slow process of decomposition, which will be apt in the summer months to deteriorate the water." One would suppose that with this recommendation and the experience the Water Board had gained by disregarding it they would seize the first opportunity to free the basin of this material. Not so, however; they caused it to be refilled to the line of clean gravel, and it purified itself during the winter. The next year it was drawn on, but to a limited extent. There were some algae, but the water was fair during the year. Last spring, being full to the line of clean gravel, it was so good that with water from Basin No. 2 the entire supply of the city, save that furnished by Mystic River, was taken from this source. The effect was to lower the water rapidly in No. 3, and expose vast mud flats and banks in the early summer, which, exposed to the hot sun, became very offensive. The alternate rise and fall of the water, the waves and the currents, assailing the banks, washed away great quantities of these overflowed farm lands, which for many years had received the products of the barn-yards, and were full of dead animal and vegetable material. The earth-worms alone, Mr. Darwin tells us, number twenty-six thousand per acre, and their excrement amounts to ten tons a year. Beetles, moles, grasshoppers, sewer-bugs, and many other forms of animal life make up material undergoing the process of decomposition. Do you wonder that these flats have been infested by large flocks of crows, here doing excellent work as scavengers? Then as to the decaying vegetable matter, do any of you as boys remember the opening of a vegetable cellar in spring, and its disgusting stench, or the decay of hay about the barn-yard? Is it to be wondered at that

Mr. Remsen should say "the water tastes of the pignep," and ought not to be used, or that the citizens of Framingham should complain of the smell?

Now let us trace this filthy water to Boston. It is conducted, as I have shown you, through Basin No. 1, without mingling with its waters, into Farm Pond. Drawn from the lowest point of the basin, the greatest amount of suspended material is swept into the pond, there to spread over this shallow sheet of water, to steep and macerate during the summer; much is deposited, for the current is slow, and since the pond has been drawn off I have taken pains to measure the depth of the deposit.

About the upper gate house, an inch at least overlies the clean gravel and the new channel cuts through it all the way to the gate house at the other end of the pond. As you approach the natural channel it is much deeper, there are three to six and even ten inches of this material filled with sticks, roots, and blades of grass, such as you will see in one of the bottles I show, the presence of which leads me to infer that it is recent. Mr. Van Vliet found this mud to emit very offensive gases, another fact tending to show that the deposit is recent.

The spongilla was found by this gentleman distributed only in that part of Farm Pond which Mr. Wightman, the present city engineer, pointed out at a meeting of the Natural History Society as being the natural channel between the two gate houses, and it was found in greatest abundance about the upper gate. Professor Hyatt, at the same meeting, described the habit of the spongilla as attaching itself to hard surfaces and living by absorbing quantities of water from which it selected its food. I find in Griffith and Henfrey's Micrographic Dictionary that algae are its chief nourishment. Is it not fair to infer then that the luxurious growth of the spongilla in Farm Pond subsists on the organic material introduced from "pignep," and that it is living at the expense of quite as noxious material as itself?

Farm Pond is not capable of acting as a settling basin, for all the material from it comes into our houses in Boston to clog the filters and pollute our tanks. I found in mine a deposit of mud three quarters of an inch deep, which a short time after being taken out became very offensive; half a dozen or so of coagulated masses partially suspended near the bottom, and the sides were lined with a soft slimy-feeling substance which under the microscope showed abundant algae. The tank was at the top of my house and fed by a faucet governed by a floating ball insuring a slow current, and thus giving the most favorable chance for the material to settle in the pipes, and be drawn off through the faucets in the lower stories. It was cleaned and securely covered eight months before. If these conditions suggest anything it is that the supply is contaminated first in the new basins by taking up decomposing animal and vegetable matter. Mr. Davis hoped that the new basins would be "completed sometime before it would be necessary to use the water, that they might assume the character of natural ponds" by this process. Professor Nichols recognizes the dangers of vegetable matter in storage basins when he writes, "deposit in storage basins goes on continually and is preparing evil for the future as this deposit undergoes a slow process of decay."<sup>1</sup> Instead of a slow

process of decay these vast lands were uncovered early in the summer and the most rapid process of decay and decomposition possible was the result. Professor Edes, of New Jersey, examined Boston's water last summer, and states in brief, "that it contains pollution amounting to seventy per cent. above the limit of health, and that he found it abounding in decomposing organic matter."

Does any one but Boston's Water Board pretend that all this filth comes from the once beautiful Farm Pond? No, gentlemen, it comes from the new basins, and you can see it, passing as I did, December 10th, when the color of the water in the new channel cut around Farm Pond was that of good coffee.

In 1854 Dr. Jackson attributed the trouble in Lake Cochituate to the decay of vegetable matter. In 1873 the Water Board having Mystic in charge, "congratulate the city on having provided additional pumping power and enabling them to draw off the water, giving a long desired opportunity to clean the basin." The Mystic basins were chiefly built like those on Sudbury River, and you know how often complaint has been made of the bad taste of the water. In dry seasons vast mud banks here have been exposed, I am told.

Cochituate has been drawn low several times, exposing the mud particularly in that part of the basin next to Natick, which receives the sewage of Pegan Brook. It can hardly be doubted but that this has operated to vitiate the water of Lake Cochituate. Westborough, Mass., has had trouble with its system, and the engineer under whose charge the work was done, writes me that he attributes the trouble to vegetation left in the basin, the gentlemen representing the town disregarding his recommendation to remove it. Newton, taking Charles River water, excavated a basin something like one thousand feet long, from which the water is pumped, and it has always been good.

Mr. Wilde, member of the Water Board having the care of Spot Pond, tells me "the trouble was caused there three years ago by the exposure of vast mud banks during a dry summer. The following spring the ice which had frozen to this mud raised a great quantity of it which was distributed in the water when the ice melted." Albany, taking its supply from Lake Rensselaer, thought to increase the area by raising a dam, a bad taste of the water was the result, and Professor Chandler considering the decaying vegetable matter to be the cause advise its removal, which was done and relief followed. The basins at Chestnut Hill gave us no trouble when first constructed, for the wash of the banks was guarded against by a clean stone lining. The water of one of them is said to have had a bad taste for a short time in 1875. I do not attempt to explain the trouble, but in view of its receiving water from Lake Cochituate through the old conduit which Mr. Wiggin reported, after an examination, "to be lined with a growing substance resembling sponge," and Mr. Davis subsequently reported "the sides covered with a vegetable growth," it is suggested only that the trouble might be introduced from this source. The late Dr. Jacob Bigelow said "that the water of Sudbury supply would not be good until the basins were cleaned," and Professor Sharples, in an interview published in the *Herald*, November 21st, says, "I do think that in every case, so far as reported, the smell and taste can be traced to decay of vegetable or animal matter."

You will naturally ask why the water of basin No. 2

<sup>1</sup> City Doc. 38, page 135, 1872 or 1873.

on Sudbury River should be good this fall while Nos. 1 and 3 were bad. It differs from them in that its banks are steep and there are no extensive mud shoals to be exposed when the water is partially drawn off. It is a small basin supplied by the considerable amount of good water flowing in Sudbury River. The steep banks have been effectively washed down to the clean gravel, and it has been kept full except for a short time in the early part of last summer.

I do not discuss the theories advanced by able men as to causes of trouble, for I admit that all save "the fish story," have an abundance of evidence to support them.<sup>1</sup> But I do claim that they each depend on the organic matter taken up in the basins decomposing and furnishing nourishment for the many forms of noxious life found in our water, and which impart to it taste, smell, and color by their decomposition.

## RECENT PROGRESS IN DISEASES OF CHILDREN.

BY T. M. ROTCH, M. D.

### CHLORATE OF POTASH POISONING.<sup>2</sup>

THE use of chlorate of potash as a household remedy, especially for children, is so common, that it is well to note the somewhat frequent occurrence of the fatal effect of overdoses of this drug. Dr. Sadow, of Leipzig, reports the case of a boy fifteen and a half years old, convalescent from diphtheria, who was attacked with symptoms of poisoning after swallowing a solution of chlorate of potash and water amounting to from twenty-five to thirty grammes of the salt. On the night of December 24th, after drinking the mixture, he was seized with frequent vomiting of dark green masses very similar to thin fecal discharges; at midnight a small quantity of dark urine was passed; at daybreak the patient was noticed to be jaundiced. December 25th, nine A. M., the temperature was 37° C.; pulse 124; weak; respirations 40. Skin cyanotic; lungs normal; heart sounds normal, excepting that the first sound was somewhat prolonged; some epigastric tenderness; liver enlarged and palpation both in this region and over the spleen, which was also enlarged, caused great pain. There was suppression of urine, none having been excreted since the small quantity passed in the night, the bladder having been found by the catheter to be empty. The patient complained of weakness, præcordial anxiety, and dyspnoea; the mind was clear; the vomiting continued every fifteen minutes. The anuria continued until December 26th, four A. M., when a few drops of dark-red, dense urine were passed accompanied by burning pain; the vomiting continued. Temperature 38.2° C.; pulse 104; respirations 28. At four P. M. the patient felt a little better, but a slight convergent strabismus of the left eye was noticed. The symptoms continued although stimulants were freely given and transfusion resorted to twice, and on the morning of December 28th the patient died, his mind remaining clear to the last, and death resulting gradually from increased weakness of the heart, accompanied by dyspnoea and subjective feelings of coldness

and paralysis of the feet progressively extending upwards. The post-mortem appearances, besides showing intense catarrh of the gastro-intestinal canal and enlargement of the liver and spleen, were especially interesting as showing the effect of the chlorate of potash on the blood, which was similar to the results obtained by the experiments of Marchand with this salt, the blood having the characteristic brown color (lackfarbig) and the density of syrup and the red corpuscles being especially affected, becoming pale and glutinous and gathering together in irregular clumps. A large quantity of reddish-brown fragments, supposed to be hæmoglobin, had been found in the urine passed on December 26th, and on examination of the kidneys these same masses were found in large numbers, especially in the convoluted and straight tubules, only sparingly in the glomeruli, and not at all in the interstitial tissue. It was also noticeable that there was no sign of an inflammatory condition anywhere in the kidney, the interstitial tissue being absolutely normal, and the epithelial cells of the tubules, although compressed by the masses of hæmoglobin, showing no trace of cloudiness or infiltration.

### HYPERTROPHY AND DILATATION OF THE HEART DURING SCARLET-FEVER NEPHRITIS.<sup>3</sup>

Dr. Oscar Silbermann in an elaborate article on this subject speaks of the comparatively few observations which have been made in this direction up to the time of Friedländer's investigations during the year 1881. This author found, on examining a large number of cases of nephritis occurring during attacks of scarlet fever, decided hypertrophy of the heart combined with dilatation, in some cases both sides of the heart being equally affected, but usually only the left side; he also made a careful comparison of the weights of hearts in healthy children with those who had died of scarlet-fever nephritis. In only a few cases was there found a partial fatty degeneration of the muscular fibres; the endocardium, pericardium, and blood-vessels were normal. There was no doubt according to these observations that the cardiac affection was related to the postscarlatinal nephritis and not to the scarlet-fever process itself, as the hypertrophy was never found where the children died in the early weeks of the disease. Silbermann draws attention to the short period which intervened between the first appearance of the nephritis and the consecutive heart hypertrophy, in many of the cases the time being not much longer than a week, and he refers to the physiological observations of Beneke and Gerhardt, which showed that the heart between the third and eighth year is relatively larger than in adult life, and that at this age there exists a physiological hypertrophy of the left ventricle, caused by a continuance of the aortic narrowing in the neighborhood of the ductus Botalli, and Silbermann thinks that this tendency to physiological hypertrophy between the ages of three and eight may account for the speedy dilatation and hypertrophy following the acute nephritis of scarlet fever, the cases in which it occurred being respectively four, five, six, three and a half, and six years old.

### HYSTERICAL ANALGESIA.<sup>4</sup>

Dr. Thomas Barlow draws attention to the fact that analgesia is not a symptom confined to young women

<sup>1</sup> Since writing the above the *Journal of Chemistry* reprints the "fish story." I saw half a peck of fish taken from Farm Pond by a net at the time it was drawn down; they were all lively and apparently healthy.

<sup>2</sup> *Jahrbuch für Kinderheilkunde*, October 4, 1881. S. 311.

<sup>3</sup> *Jahrbuch für Kinderheilkunde*, October 4, 1881.

<sup>4</sup> *British Medical Journal*, December 3, 1881.

living in the wards of a hospital where they are objects of repeated experiment and demonstration, but that it can be found in very young children, who manifest other signs of the hysterical neurosis, and he considers that the elements of feigned disease and expectant attention are less likely to embarrass us than in adults, citing the case of a little boy two years and nine months old, who had the skin between the roots of his fingers pricked with a needle, precautions having been taken that he should not know what was to be done. He neither winced nor withdrew his hand. When, subsequently, one side of his face was pricked there was the slightest possible play of his features. When the other side was pricked he cried. There was no reason to suspect any organic disease of the brain. The boy had been brought into the hospital on account of fits which were unquestionably of the hysterical type. They had followed upon a fall, which had not bruised but had frightened him.

He then reports a series of eight cases, which he had tested by the prick of a pin, the pinch of a pair of dressing forceps and the application of strong faradism. Great differences were noted in the degree of analgesia and its distribution. In the most marked case strong faradism was tolerated with complete indifference on one side, while a moderate current applied to the other side elicited an expression of pain, although not a loud one. The application of strong faradism for many minutes on a second occasion at length brought out a slight expression of discomfort. In another case strong faradism was tolerated with perfect indifference when applied to either leg; this was continued for a quarter of an hour, when there was a gradual return of sensitiveness, and at length some expression of slight discomfort. In another case, some distress was shown directly on the application of the faradism, although a needle had been pushed into the skin without the child withdrawing the limb. In a fourth case, the needle was tolerated for several minutes and then the limb was slowly withdrawn, but without any cry. As to distribution, although it was found to be more prominent on one side than on the other, yet it was usually a general symptom. It was more marked in the limbs than on the face. In all the cases there were symptoms either related or observed which strongly pointed to hysteria. In one case there was paraplegia, which had lasted for nine months without any wasting and which gradually cleared up after the use of faradism for a quarter of an hour. In the others there were convulsions, which in several cases had followed what might be called a moral shock. In regard to the convulsions, it was doubtful whether in any case there was loss of consciousness, although in some of them the patients fell down suddenly as though they had been shot. In most cases there were coordinated movements. Opisthotonos and to-and-fro movements of the trunk were marked features. Movements of the eyelids were noted, but no facial distortion, and in no case were the fits decided, so far as could be ascertained. The analgesia had not been tested in these children before they were brought to the out-patient room.

Of the eight cases above spoken of six were girls and two boys. The ages of the girls were, respectively, three years, five and one half years, eight years, nine years, nine and one half years, and eleven and one half years. One of the boys was two years and nine months old, and the other nine years. Dr. Bar-

low considers that a study of these cases supports the view that in the hysterical neurosis there is a torpid condition of the sensory part of the brain. In extreme cases this condition may involve the centres of the special senses, whilst in the very slight cases the only abnormality may be more or less blunting in the appreciation of ordinarily painful impressions. The sensorium of the hysterical patient may no doubt be awakened by many peripheral stimuli, the best of which is probably cutaneous faradism. The importance of the analgesia in these cases appears to rest entirely on the fact that it is a valuable aid to the diagnosis of hysteria, and hardly merited any special treatment beyond vigorous and well-regulated exercise of mind and body.

#### CHOREA.<sup>1</sup>

In connection with the two hundred cases of chorea analyzed by Dr. H. C. Haven, and reported in this journal September 29, 1881, we notice a series of one hundred cases treated by Dr. William Strange, of the Worcester Infirmary.

Dr. Strange concludes that the disease is to a considerable degree one of poverty, that it occurs usually during the period of active growth or during that second period when, the growth having been finished, often prematurely, the constitutional powers have not yet acquired a proper degree of consolidation and the nervous centres sufficient steadiness.

In regard to sex and age the same results were deduced from both series of cases, females being found to be especially susceptible, and the age from six to eleven years being most common.

Dr. Strange regards chorea as a pure, non-organic neurosis, implying by the term that it has no anatomical or true pathological basis, post-mortem examinations not having given to it any definite morbid anatomy, and his review of these one hundred cases makes him look upon it as merely a functional disturbance with alteration of nutrition of the nervous centres; he also says that the comparatively few fatal cases on record afford no clew to the true pathology of the disease, because it is clear that the complications of other distinct diseases with the chorea were answerable for the more considerable of the morbid changes observed. The writer next discusses the question of aetiology. He says that, looking upon chorea as essentially a disease of debility, we are not surprised to find in almost every case a want of power to restrain as well as duly to coördinate muscular movement. Now in all this there is surely debility or deficiency of nerve power. Over-action, we know, always indicates weakness, pre-existing or consecutive. With regard to the existing causes of chorea, he says that when the mobile frames of young children have been subjected to the influences indicative of poverty and weakness, it requires but a slight additional disturbance to throw the nervous apparatus out of gear, and to cause its movements to escape from the control of the will. Chief among the exciting causes is fright, which may operate in various ways, some simple, some more continuous and complicated; it need not be sudden, though that is generally the case. Ill-tempered parents, especially the mother, may keep a child in perpetual trepidation and dread of punishment for unavoidable disasters. In several instances worms were found in the intestines, but when these were got rid of the chorea which they were supposed to have excited had still to be cured. Dr.

<sup>1</sup> British Medical Journal, July 16, 1881.

Strange then discusses the question as to whether chorea is frequently dependent upon previously existing disease of the heart, rheumatic or otherwise. He says that in some fatal cases fibrous vegetations were found on the cardiac valves, and minute particles of these growths have doubtless at times become emboli, and given rise to minute hemorrhages in the brain. But if any such dislodgment were of frequent occurrence in cases of chorea, we ought to find signs of embolism in various other organs including the skin, which is not the case. The combination which he has observed in a few cases is, first, rheumatism in early life; next the heart is affected; then the patient recovers so far as such patients ever recover. Some time afterwards, perhaps two or three years, the same young person is brought to the hospital suffering from chorea. In this case it is impossible to say that minute fibrinous particles have not been detached from the cardiac valves or from the tendinous chords of the ventricles, but we have no proof of it. Indeed, if this were a frequent cause of chorea symptoms of this disorder ought to follow the heart affection more quickly than is generally observed, when, in fact, these minute fibrils are soft and fresh, and easily detached from their bases. The chorea in the above instance then being relieved, the patient ultimately dies of the original mischief done to the heart. In this case it is not more reasonable to suppose that the chorea is the result of disordered nutrition of the nervous substance, caused by the irregular and defective circulation which almost always occurs in such cases? It must be confessed, however, that there is a difficulty in accounting for cases of hemichorea upon the general principles of defective nutrition, for defective nutrition, unless it be caused by some local circumscribed obstruction, should operate on the whole nervous system alike. The symptoms, then, of chorea are those of incoordination and defective inhibition. These are the results of brain starvation, caused by morbid products which cut off the proper supply of blood to the nerve cells. The force residing in the brain cells is defective, owing, probably, according to Andral, to their defective aggregation or to want of firmness in the conducting white substance, or to both. The rapidity with which proper food and medicines calculated to give tone to the nervous system act in curing the disorder is the proof from treatment which confirms the verity of this view of the pathology of the disease.

The writer then says that if the above ideas as to the nature and causes of chorea are true little need be said as to the medicinal treatment of the disease. There being nothing special in the coarse pathology of chorea no specific remedy is required, or likely to be found if required. Dr. Strange has treated a large number of cases without any drugs whatever, and simply with three to six ounces daily of ordinary port wine. By this treatment a cure was effected in the average of cases in from three to six weeks, which certainly compares very well with the success attained by the arsenic treatment of chorea.

—There is ground for hoping that some thorough system may be adopted for the disinfection of old rags used for manufacturing paper, etc., since cases of small-pox have lately again been shown to have had their origin in this source of infection. The rags imported from Egypt and Asia Minor should be especially looked after.

## Hospital Practice and Clinical Memoranda.

### ST. LOUIS HOSPITAL NOTES.

REPORTED BY J. B. SHAPLEIGH, M.D.

#### TWO CASES OF GANGRENE OF SCROTUM.

**CASE I.** J. O. Male. Age forty. Irishman. Fell astride a joist on the day before entrance which was July 23, 1881. The scrotum, penis, perineum, and inside of thighs were much discolored and oedematous. A diagnosis of hematocoele had been made at the examining office but no fluid was found in the tunica vaginalis thin enough to pass through the canula. Free incisions were made in scrotum and penis to relieve tension and prevent gangrene if possible. Patient was unable to pass his urine and on the day after admission an attempt to puncture the bladder through the rectum was made but failed. Bladder was then aspirated above the pubis and 1050 cc. of urine drawn off. On the fourth day after the accident the urine began to dribble through the incisions in scrotum, and continued so to do for about ten days, when the whole was voided at one time, still through the cuts.

For the first week the patient had more or less fever, and the scrotum soon showed signs of sloughing. Under tonics the patient improved in strength and the line of separation rapidly formed. This ran round the base of the scrotum close to the body and left the testicles entirely uncovered when the slough separated. They were each provided with a small, but neat, scrotum of their own by the granulations and the retraction of the new tissue drawing skin from abdomen and thighs. The urethra had been almost completely divided by the fall, hence the dribbling through the scrotum, and when the new scrotum had been formed the external opening of the fistula was just behind it, and was about 0.05 decimetres in length. This gradually closed but was kept from narrowing the canal of the urethra by the use of bougies. The man left the Hospital December 19, 1881, having been able for a week to pass his water through the entire urethra as formerly, by holding his legs together, otherwise it came through the fistula.

**CASE II.** G. L. Age fifty-four. Born in Vermont. Had always had fair health except a tendency to chronic diarrhoea. Had had a stricture of urethra.

Patient was admitted October 29, 1881, suffering from blood poisoning, resulting from gangrene of scrotum. His story was that he fell upon the sharp edge of a barrel, striking his perineum. The scrotum soon began to swell and turn black, and he noticed that he could not pass his water. On examination the entire scrotum was found to be gangrenous, and very tense. An incision was made in the median line and the cavity of the scrotum laid open. This was found to contain a large quantity of very strongly alkaline urine, and a rent in the urethra was found just in front of the bulb. Scrotum was stuffed with salicylic acid emulsion on oakum, and patient treated for septicæmia.

In the course of a week his condition was much improved and the gangrenous portion of the scrotum had begun to separate. Everything looked favorable, when a diarrhoea, very similar to that of phthisis, attacked the patient, and, in spite of all treatment, continued

until his strength was exhausted and he died. Up to within a week of death there had been continuous progress in the healing of the serotum. The testicles, which had been entirely exposed, had drawn up toward the pubes and were half covered by the advancing granulations. The opening in the urethra was almost closed and a few drops of urine occasionally escaped from the meatus. The recovery would, without doubt, have been as good as in the first case but for the fatal diarrhœa, a tendency to which seems to have been constitutional with him.

#### ACUTE JAUNDICE; DEATH IN FORTY-EIGHT HOURS.

CASE III. D. T. Irishman. Age fifty; entered the Hospital November 9, 1881, for an ununited fracture of the tibia dating back to March of same year. He had been walking on it with the aid of a cane since that time. Ends of the fragments were rubbed together and the leg put up in plaster stirrup. Patient had decided cirrhosis of liver and confessed to having been a hard drinker in former years, but not lately. *Had never had any dropsy.*

On Thursday, December 15, 1881, the man seemed as well as usual and went to bed apparently in good health. During the night he was attacked with nausea and vomiting. Matter vomited tasted bitter but was not saved for inspection. On seeing him, at eight A. M. Friday, I found him much jaundiced, the conjunctivæ and the whole surface of the body being of a bright yellow. He was totally unconscious of this and was surprised when told. He had no fever, and pulse and respiration were normal. His mind was unaffected. There was no pain except slight tenderness on palpation over epigastric region. Ordered podophyllin and dilute nitro-muriatic acid.

At ten A. M. there seemed no change except that the color was appreciably darker. At four P. M. found no change. Had had several evacuations of a watery character from bowels. Unfortunately these were not preserved.

On Saturday morning at eight o'clock found him comatose with labored breathing. Pulse full and soft, rather slow and evidently failing. There were no convulsions and patient died in coma in the afternoon, not more than forty hours after he was first attacked with nausea.

Post mortem was held eighteen hours after death. The body presented a uniform yellow color. The ribs were much expanded laterally, making cavity of thorax much broader than normal, nothing else unusual. Thoracic viscera normal. Slight pleuritic adhesions in right chest. Stomach and upper part of duodenum presented evidence of recent inflammation, the rest of the intestinal tract normal. Spleen somewhat enlarged and engorged with blood. Liver was a type of complete cirrhosis, much contracted and roughened; in size only about half the normal. Gall-bladder about half full of thick, tarry bile. Cystic duct partially occluded by same material. Common and hepatic ducts free. All the tissues were very yellow, even the marrow of the bones looking like butter.

The striking features of the case are the absence of any dropsy with a liver in this condition, and the occurrence of jaundice so rapidly fatal, and apparently without cause. The former may be explained by supposing the general venous system anastomosing with the portal system, sufficiently enlarged to allow a return to the heart of blood destined for the portal veins,

without its passage through the liver. This would prevent any backward pressure of the blood on the portal venous capillaries, and so prevent ascites. Of the cause of the jaundice I am ignorant.

## Reports of Societies.

### BOSTON MEDICO-PSYCHOLOGICAL SOCIETY.

WALTER CHANNING, M. D., SECRETARY.

OCTOBER, 1881. At this meeting, which was the fourteenth regular meeting, Dr. J. B. AYER reported

#### A SEVERE CASE OF MELANCHOLIA FOLLOWING PNEUMONIA,

of over two and one-half years' duration, carefully treated at home, and during the past few months showing improvement.

In connection Dr. Ayer alluded to the following subjects as of especial interest:—

(a) *Insanity following acute disease* is of quite frequent occurrence. Of 5116 cases in the McLean Asylum during forty-three years, sixty-two were stated to be of post-febrile origin.

It is important to recognize the early symptoms of insanity occurring in connection with acute disease, for it is sometimes possible by judicious treatment to avert an impending attack.

(b) *Climacteric insanity* generally takes the form of profound melancholia with more or less excitement. Its frequency compared with other causes is shown by the following table:—

Out of 5116 cases

51 were attributed to disturbances caused by menopause,

42 were attributed to disturbances of uterine disease,

167 were puerperal cases.

(c) *The rarity of recovery* after the completion of the second year.

Blandford mentions two cases recovering at the end of five and one at the end of seven years, and says that melancholia is the only form of insanity where recovery occurs after such a long period.

Blandford explains the symptoms of the disease as follows: "During the whole period the general nerve energy is in a state of defect, causing intense melancholy and consequent delusions. All the ideas are tintured by the prevailing gloom, but if the nerve force is restored the mind resumes its proper work unimpaired."

The state of stupor, he thinks, has a close resemblance to the dreaming condition, the brain being only partially at work.

(d) *Treatment.* Morphia was not given regularly. When administered it generally controlled excitement satisfactorily, and put the patient to sleep.

Chloral and conium used, but it was impossible to decide with how much benefit.

Hyoseyanus (Squibb's alcoholic extract), used principally in one and one half grain suppositories, had a decided sedative effect. After using for a few days they began to lose effect, but after waiting a fortnight they could be resumed with undiminished benefit.

Hyoseyania (Mercer's and Morson's preparations tried) one sixty-fourth to one thirty-fifth grain two to four times daily, was of service at first, but soon lost



effect. It did not justify the name given it by its favorites, "chemical restraint."

Among other sedatives the elixir of the valerianate of ammonium and scutellaria were of service, but bromide of potash was used most frequently, in doses of fifteen to fifty grains. It relieved cerebral congestion and quieted excitement. If the mania had been attended by less excitement bromide of potash would have been less freely indicated.

Iron and quinine were given from the outset, at which time it was administered with nourishment through the stomach-tube.

Laxatives were given constantly, but rarely were cathartics needed.

Nourishing food and a moderate amount of stimulant were insisted upon throughout.

(e) *Home treatment.* This subject is now discussed in an energetic manner in the London journals.

Hon. F. C. Walker writes that a considerable number of cases of insanity of over two years' duration, treated at home, have been reported to the Census Department.

In this case the house was converted into a hospital. Devoted, unremitting, and skillful attention was afforded for the patient's every need. At the end of five months, when the physical condition had improved, she was taken to drive, then to walk, and later to make calls upon her friends.

When morning excitement could not be broken up by drugs or by offering food during the night, she was taken to ride in the horse cars early every morning, a plan which was completely successful.

She soon began to knit and do light housework. Now her time is occupied between recreation and employment, and she is allowed little time to dwell upon morbid feelings.

Last summer she spent in the suburbs of Boston in a rented house, taking daily rides and long walks.

The writer believed that during the first year of illness asylum treatment would have been as efficacious, but during the past eighteen months he felt that association with other insane patients would have had a depressing effect, and the mere fact of being in an asylum would have kept her from working, for "*asylums, as now conducted*," according to the trustees of the McLean Asylum,<sup>1</sup> "afford little more than a place where patients can be isolated from society, kindly treated, and a watchful oversight maintained."

The writer mentioned his experience at the McLean Asylum in trying to induce convalescents to work, in which attempt he decidedly failed.

In closing he referred to the possibility of treating satisfactorily a case of protracted insanity at home, but dwelt upon the untold difficulties and expense attending such course.

NOVEMBER, 1881. Fifteenth regular meeting. At the meeting Dr. T. W. FISHER was chosen secretary *pro tem*.

Dr. C. P. BANCROFT read a paper entitled

#### NORMAL CEREBRATION FOLLOWING THREE YEARS OF DISEASED MENTAL ACTION; THE MYSTERY OF ITS PATHOLOGY.<sup>2</sup>

In the discussion which followed the reading of the paper, Dr. DENNEY remarked that it is extremely dif-

ficult to determine how much true consciousness remains in such a case. The recurrence of lucid intervals does not presuppose a return of the normal vigor of mind. The avenues of consciousness are apt to be obstructed more or less by sensory defects and impairment. The constant agitation and activity indicate disorder of the anterior portion of the cortex. There was probably an increased combustion in body and brain, as would probably have been shown by increase of hematoidin and diminution of urea. Pathology of insanity requires means of investigation not generally used. Sealing together of posterior cornua found after death indicated past inflammatory action, which is believed by some authorities to be causative of insanity.

Dr. C. F. FOLSON thought such cases not extremely rare. Consciousness is probably not so much diminished as it seems to be. He related a case of previous mania in which the patient seemed to take no notice of anything. But on recovery remarks made in the hearing of this patient were repeated. Sometimes the inattention to surroundings was due to delusion, as in a case of a man who thought he was dead, yet he would get up, eat, and return to his passive condition again.

Dr. COWLES reported a case of hebetude in a woman lasting a year. Once made a sensible remark and seemed clear for an hour or two and then relapsed into seeming unconsciousness.

Dr. FISHER mentioned several cases of recovery after long-continued and extreme mental disorder. The lucid intervals occurring in consequence of intercurrent physical disease, the cases of extreme dementia show that the mind is less deeply impaired than would appear. The ease with which many insane persons passed from consciousness into a trance-like condition was remarkable, some cases fluctuating day after day, between the two states.

#### PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. W. SWAN, M. D., SECRETARY.

OCTOBER 15, 1881. Dr. BAKER read a paper on

#### CANCER OF THE UTERUS,

which was reserved for publication.

Dr. C. M. GREEN spoke of the early age of many of the subjects of cancer of the uterus, and of a number of cases in Vienna in which the age was not more than twenty or twenty-five years. The operation there was essentially the same as that detailed by the reader, and cases were reported in which there had been no return of the disease for a number of years, varying from two to seventeen. As to the question of constitutional taint, Dr. Green cited the instance of a woman twenty-eight or thirty years of age, who was apparently perfectly well, yet in whom an examination revealed disease involving the entire cervix and extending into the body of the uterus.

Dr. ABBOT asked what had been the results when the entire uterus had been removed.

Dr. BAKER replied that the operation had been successful, and that the longest respite from the disease after that operation which he had seen recorded was a year and a half.

Dr. BLAKE said he should judge that the result

<sup>1</sup> Report for 1876.

<sup>2</sup> See page 76 of this JOURNAL.

would be substantially the same as that by the ordinary method of scraping with a sharp curette followed by the caustic, which, as far as he could see, accomplished as much as the knife followed by the caustic. Further, he would operate in any case where the symptoms were distressing, as a means of palliation, removing what he could and following the curette with chromic acid. Dr. Blake said he would heartily coincide with the reader as to the propriety of treating local symptoms in the virgin as thoroughly and directly as in the married woman, and that he believed it to be the duty of every physician to treat cervical ulcerations and abrasions whenever these came under his notice. Dr. Blake thought more attention should be paid to affections of the uterus and more care exercised in examinations and measurements.

DR. CHADWICK said that the operation by Dr. Baker was an advance in that it extended the number of cases to which surgical interference per vaginam was applicable. The results shown were impressive. The length of time since the operations was not yet great, but Dr. Chadwick thought there was no question that the removal of the whole of a cancerous growth does prolong the life at least and in some cases give perfect exemption from recurrence of the disease. As Dr. Baker's operation involves an opening of the peritoneal cavity, the danger of the operation must be nearly as great as that from the total extirpation of the uterus, by Freund's abdominal or by Schroeder's vaginal methods, with the results of which operations Dr. Baker's results must consequently be compared. The protection from a recurrence of the disease can hardly be claimed to be as likely as by these methods. While theoretically Dr. Baker demonstrates a removal of the entire disease, practically this success must be problematical in almost every instance, owing to the difficulty of distinguishing sound from diseased tissues during such an operation. His results are, however, good.

DR. BAKER referred to a case which he had seen with Dr. Brown, of Stoneham, three years ago. In this instance the uterus was fixed, and with this condition he would not operate for entire removal. As to the spoon and caustics these would not be considered sufficient in the case of an open ulcerating cancer of a movable breast, and he would consider it unwise to use that method in a like condition of the uterus. It would be better to remove the whole disease, keeping within healthy tissue throughout the operation. Caustics, moreover, require more dressings, and are more apt to cause constriction of the vagina than the thermo-cautery. In cases in which the disease was constitutional from the start Dr. Baker said he would operate to relieve hemorrhage or prevent sloughing.

DR. FIFIELD avowed that it was impossible to discriminate between cases with and without cachexia. The surgeon, he said, who sees cancer in other parts does not judge the case from the general appearance. How often the skillful removal of a diseased breast is followed by disease elsewhere! When the breast or the testicle is cancerous it is cut out, and it would be better in like manner for like reason to cut out the whole uterus.

DR. W. SYMINGTON BROWN, of Stoneham, said that he had operated a great many times for cancer of the breast, and but once successfully as regards recurrence. He was inclined to think that the disease, cancer, was at first local, but soon constitutional. He remarked that all cancerous disease, especially that of the uterus,

was attended with a great deal of discomfort, and that it was a duty to remove the cause of the discomfort or the offense. Dr. Brown mentioned a case of cancer of the face in which the actual cautery, used on four different occasions, gave his patient great relief from pain and nervous irritation. In a case of cancer of the vagina, removed about eighteen months ago, the disease returned in six months; the patient was operated on a second time by Dr. J. R. Chadwick, and the actual cautery freely applied. The disease appeared again within six months, and the patient died two months later.

DR. LYMAN said he agreed with Dr. Brown; that it was desirable to operate to arrest pain, hemorrhage, odor, etc. He thought it the better plan to remove the whole uterus, as with a less radical operation one did not know when the disease was wholly included in the removal. For partial purposes he preferred the curette and the subsulphate of iron. He did not, however, believe in the radical cure of the disease, and in a case living ten years after the operation he should be very much inclined to doubt the diagnosis. He considered it the imperative duty of the physician to repair lacerations of the cervix, under the belief, now so generally entertained, that these, subject as they are to constant irritation, are a hot-bed for malignant growths. Dr. Lyman remarked upon the slowness of progress of many cases of uterine cancer, and instanced a case in a lady seventy years old. The disease, which was diagnosed in Paris, between five and six years ago and fully confirmed here, has during the last four years made but trifling progress.

In answer to a question by Dr. Reynolds, as to breach of cervical continuity as evidence of foregoing childbearing, Dr. LYMAN said that no other cause being given, such conditions of the cervix were, to his mind, a strong proof of previous labor. On the other hand, the absence of any such lesion was no proof that the woman had not been delivered, and instanced a case now in the hospital in which the external os was round, small, and perfectly intact, and the fourchette also unruptured, although the woman had given birth to a child at full term. He had shown the case to the students as important in a medico-legal point of view.

#### OBSTINATE VOMITING OF PREGNANCY.

DR. FIFIELD said that for several years he had prided himself on being able to subdue this symptom either by the administration of the bromide of potassium or by the injection of chloral hydrate, one half drachm, into the rectum. These had never failed him till about a week before the meeting, when the case of a woman, three or four weeks pregnant, fell into his hands. She had been vomiting for several weeks before he saw her, and then was rejecting everything. Dr. Fifield first tried the bromide, then the chloral, with the simplest diet, then ingluvin, ten grains at five or six A. M., fifteen at nine o'clock, iced milk bubbled with water from the siphon, and a slice of bread; the second morning the same plan, the third day three grains three times, as directed by an English gynecologist. Meanwhile, so far from amending the patient got into an alarming state, and began to vomit blood. On the morning of the day before the meeting Dr. Fifield applied Sims's speculum, drew down the cervix, a little excoriated, and covered it thoroughly with nitrate of silver. He then ordered bromide of potassium,

ten grains, every two hours. The next day she was well.

DR. BLAKE remarked that the most obstinate cases of vomiting in pregnancy had been associated with abrasions of the cervix.

DR. BENJAMIN CUSHING said he had seen in his own practice of twenty-eight years two cases only which threatened a fatal termination. In the first case the patient seemed in danger of starvation, she also had convulsions. Dr. Cushing gave as the last, and apparently effectual, remedy fifteen drops of Smith and Melvin's elixir of opium, twenty minutes before each meal. The vomiting ceased, and the patient went her full time. In the second case all remedies taken internally failed. The os uteri was dilated with sponge-tent, miscarriage followed, and the patient recovered.

Another case was mentioned where long, obstinate vomiting, not due to pregnancy, was followed by relief on using suppositories of sulphate of morphia. One quarter of a grain was given at bedtime for a few nights, and then the quantity gradually diminished. The morphia was used for about three weeks.

DR. W. SYMINGTON BROWN remarked that he had seen two fatal cases of the vomiting of pregnancy, one of which was reported in the *Journal of the Gynecological Society of Boston*, Vol. II., p. 208. The other occurred in the practice of the late Dr. Wm. F. Stevens. Abortion was induced by means of a sponge-tent, but the patient died. The emesis was somewhat relieved by the operation.

DR. ABBOT had seen one fatal case, in which the most relief had been found from large doses of morphia and dilatation of the cervix. He called attention to the fact that abortion is not allowed the Catholic patient as a means of relief. The patient referred to belonged to that church.

DR. LYMAN referred to a severe case which was treated by Copeman's method; abortion accidentally ensued, and the patient got well.

#### PROCEEDINGS OF THE MONTHLY PHARMACEUTICAL MEETING OF THE MASSACHUSETTS COLLEGE OF PHARMACY.

B. F. DAVENPORT, M. D., REGISTRAR.

At the regular meeting of January 10, 1882, a paper by F. A. DAVIDSON, Ph. G., on Stearine and Stearic Acid, was read, calling the attention of pharmacists to commercial stearine, the by-product in the manufacture of lard oil and glycerine, at present used mainly in the manufacture of soap and a few mechanical applications, as a lubricant, and leather stuffer in the process of currying, and costing less than ten cents per pound. He recommends it as a cheap and useful base for ointments, especially for the many old "salves" that the pharmacist is often called on to dispense for veterinary use. As not requiring the addition of wax, it can replace the petroleum products in this class of preparations.

PROFESSOR MARKOE spoke of the fact of commercial lard being made not from the "leaves" alone, as in the Pharmacopœia, but the fat from the entire hog being thus rendered. That the Pharmacopœia rightly directs only that perfectly fresh and sweet should be

used, for that no manipulation can ever restore that which has become in any degree rancid.

MR. SHEPARD spoke of the fact of pharmaceutical preparations made up with the paraffine products not being so readily absorbed by the skin as those in which a fatty base was used.

MR. B. F. STACEY spoke of mutton tallow as being in common country domestic use found to be a most efficient emollient.

MR. G. F. DINSMORE explained his ingenious modification of the plaster machine, by which he is enabled to readily spread them of any desired size.

It was the opinion of several that there was at present a decided reaction in favor of the plasters of the Pharmacopœia over the proprietary article.

DR. DAVENPORT drew attention to the recent extensive and very valuable additions to the College library, the College now having in its library one of the most extensive collections of pharmaceutical literature in the country. It receives the current numbers of about every journal relating to pharmacy which is published in the English language. It has also the leading German and French publications, such as the *Archiv der Pharmacie* and the *Journal de Pharmacie et de Chimie*. Of the former of these, the most valuable of all those published, it has a complete file, and of the latter a set not fully complete, but which is expected to be so before long. The collection of the pharmacopœias of all nations, in all their various editions, is believed to be far beyond any rival anywhere in America, at the least.

— In regard to the Harvard Dental School, the Dean, Dr. Chandler, reports that the graduating class consisted of five, and adds:—

Attention has been frequently called to the pressing pecuniary needs of the School, and early in the year an attempt was made to obtain from the generously inclined of the community a small sum to enable the School to pay off its debt and obtain quarters in the new medical building now being erected. A committee was formed to solicit subscriptions, consisting of the professors and instructors of the School. These men, who were already giving about one twelfth of their working hours to the School without compensation, found it impossible to take more of their time from their business, and impracticable to accomplish anything by evening calls; therefore this subscription has practically dropped, and some other method must be adopted, if anything is to be accomplished in this direction. At the last meeting of the Alumni of the School, however, an attempt was made to interest the graduates of the School in the matter, and a paper was signed on the spot by thirteen of their number, agreeing to give to the fund one hundred dollars each in five years, or twenty dollars each year. This number has already been increased, and more will probably be added as their attention is called to the subject. If it were fairly understood by the community that not only a School of Dentistry, but a Dental Infirmary, averaging eight thousand cases each year, depended upon the gratuitous services of half a dozen men, any one or all of whom may at any moment grow weary of the burden imposed upon them, it does not seem that this condition of things would be allowed to continue.

# Medical and Surgical Journal.

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## THE RESULTS OF AN EXAMINATION MADE IN 1880 OF SEVERAL SEWERAGE WORKS IN EUROPE.

SOME eighteen months since the National Board of Health sent Mr. Rudolph Hering, of Philadelphia, in his capacity of civil and sanitary engineer, to examine and report upon several sewerage works in Europe. That gentleman's report to the Board has just been published as Supplement No. 16 to the Health Bulletin. It is a voluminous and carefully prepared document, whilst stating with conciseness, with fairness, and, in general, very clearly the objects to be sought in sewerage systems, the modifying influences of locality, the various systems at present in more or less successful operation, and the important questions of first cost and cost of maintenance. We shall give a brief abstract of some portions of this Supplement in the hope that some readers may be induced to read the original who otherwise might not do so, and that others may at least know where to find information in a convenient form, in regard to which physicians are liable at one time or another to be consulted.

After a short introduction Mr. Hering takes up general systems and their application; these fall under two heads, (1) dry removal by (a) disinfection, (b) casks and pails; (2) water-carriage or sewerage proper by (a) the combined system, (b) separate systems. The common cess-pit is not considered, as it, generally speaking, violates the sanitary requirements.

In the introduction reasons are given to account for the existing diversity of opinion regarding the best method of removing offal and waste-water from houses and towns, which gain the confidence of the reader, and show that the writer has investigated his subject in a judicial and broad spirit, and not as the advocate of any pet theory, although it is evident in the course of the report that where there are no exceptional local contra-indications he favors the combined system of water-carriage. In this question even more, perhaps, than in some others the habitual engagement of the mind in certain directions tends greatly to influence opinions, and to cause a professional bias. It was observed in Europe, as a rule, that chemists, physicians, and agriculturists are prominent among the opponents of the water-carriage system, their professional studies leading them to dwell upon the evils coincident to, though not inseparable from, sewers, as soil contamination, gases and germs, pollution of river and sub-soil water, the possible dangers of sewage farming, and the manurial value and economy of un-

diluted excreta; that engineers are quite generally in favor of water-carriage, though divided in their estimates of the combined and separate systems as their experience may have been gained in large cities or small towns. From these and other reasons the conclusion was reached that a careful inquiry into various points must be made before we can understand the numerous works and designs, and that we must be aware of the fact that some opinions are given from a sanitary point of view alone, others solely from financial considerations, or from conclusions gained in dissimilar localities to those in question.

The sewerage question must be treated from two aspects. As the works are to receive, convey, and discharge organic waste products, the decomposition of which is, either directly or indirectly, the cause of unhealthful influences, it is necessary to examine them first of all from a *sanitary* point of view. When a satisfactory standard in this direction can be reached, the next inquiry is into the expense attached to their execution, in other words, into the least possible *cost* at which a sanitary condition can be attained.

These two considerations alone decide their merits. It will be found that several of the systems, if properly designed, constructed, and maintained, will have no serious sanitary defects, and that their relative advantages will depend mainly on the question of cost. As the latter varies with the local conditions it is evident that these will almost wholly determine the selection of the system.

These points it is important to keep in view when trying to determine the relative value and applicability of the different methods and systems for the removal of excreta, waste and surface water.

(1.) *Dry Removal.* Among the methods for dry removal the only ones to be recommended from a sanitary point of view are disinfection and subsequent removal at convenient intervals, or storage in sealed casks or pails with removal at fixed intervals. Disinfection is accomplished by facilitating oxidation through the addition of porous materials, such as dry earth or charcoal, or by decomposition and the conversion of injurious into uninjurious compounds through the application of carbolic acid, chloride of lime, creosote, etc. The well-known earth closet is an example of the one kind of disinfection; the *fosse filtre* and *fosse mobile* of Paris, the *torne* of Germany, and the "pail" of England are examples of the other kind, the *fosse filtre*, however, being practically a transition stage between the common pail system (*fosse mobile*) and water-carriage, and is only practicable where some form of sewer exists.

The sanitary value of dry removal being determined, the form to be adopted would be influenced by financial considerations imposed by local conditions, though by all the forms mentioned a concentrated and valuable manure is produced.

To compare favorably with water-carriage the common "pail" system must be restricted to: (1) Small towns, on account of the expense of cartage; (2) Towns where the regular exchange of the pails can be enforced with almost military strictness, which is

seldom found outside of a few European countries; (3) Dwellings where water-closets cannot be used; (4) Localities where sewerage would be very expensive; and (5) Where the waste water can be led over the surface of the ground without causing offense.

From a purely sanitary point of view the "dry-earth closet" is preferable, but the supply and removal of the substance used as a disinfectant renders it slightly more expensive.

(2) *Sewerage Proper or Water-Carriage.* — A historical review of the development of sewerage from the time when the first sewers in the more modern European towns were obtained simply by arching over the natural water-ways, which had become fouled by general refuse continually cast into them, — their position along the valley lines requiring a size sufficient for the conveyance of storm-waters, — to the present day leads Mr. Hering to the statement, as a result of his inspection, that: —

The present time furnishes the engineer with enough experience and facilities to economically design, construct, and maintain sewerage works which can effectively satisfy the just demands of sanitarians. If this is to be the conclusion, it must on the other hand be based on the condition that engineers pay greater attention to these demands, and not ignore the fact that they are the *prior* claim which the works should satisfy.

Also for dwellings, where sanitary precautions are even more important than in the streets, water-closets are preferable to the best-managed dry closets, because a much greater degree of cleanliness can be attained. Therefore, if all other governing points are equal, water-carriage should always be recommended *versus* dry removal. But the rapid and continuous flow of water-carried sewage from its entrance into the sewers to its final outfall forms the chief claim of superiority over the dry removal.

The remaining point of comparison is the cost. It has already been stated under what circumstances dry removal will be most economical, which implies to a certain extent the conditions under which sewerage is to be preferred. These can now be directly stated as follows: —

(1) Where a regular water supply in sufficient quantities is furnished to the dwellings, this being the most essential condition.

(2) Where waste water is sufficiently abundant and foul, and therefore requires rapid removal to a distant point, which will usually follow the former condition, especially in large towns.

(3) Where the population is dense, which relatively decreases the expense per inhabitant.

(4) Where the topographical features and location of the town do not require an unreasonable outlay of money. Water-carriage would, for instance, not be economical in small towns, on very steep and irregular slopes, with bed-rock near the surface, or where the site is a long, narrow strip along the shore of a large river, when the expense of sewerage would be out of proportion to its benefits over the dry removal.

(5) Where the disposal of sewerage offers no great difficulties or expense. It is questionable, for

instance, whether sewerage could be advised for an inland town having a very cold climate and where, from the absence of a large river, its sewerage must be purified.

(6.) Finally, in general, where the interest of the amount invested in sewerage will be smaller than the cost of dry removal, provided the latter is kept up to a sanitary standard. This condition will cause the advantages of water-carriage to increase with the size of the cities, but the exact point beyond which sewerage is cheaper than dry removal can only be determined from the local peculiarities.

A water-carriage or sewerage system of removal being determined upon for any locality a selection must be made between the "combined" and "separate" systems, or some compromise between the two. The combined system may be roughly described as serving the double purpose of removing sewage and rain-water by means of the same sewers; the separate system is the separation of sewage from rain-water and their removal by different channels, and originated from causes mainly financial. As modifications of the separate system the report mentions the Shone system, proposed by Mr. Shone, of Wrexham, England, and the Liernur system, proposed by Captain Liernur, of Holland. The Shone system, which is as yet on trial on a small scale only, is intended for localities where, for some reason, sewerage requires a frequent lifting. Self-acting sewage ejectors are distributed over the district and operated by compressed air supplied from a central station. The sewage runs into an iron container, holding from one to two cubic yards, and is then automatically ejected and lifted to any desired height. The advantage of this class of pumps consists in lifting small quantities at any number of convenient points, so that it can continue its course each time in shallower sewers and with better gradients. The economy and convenience of compressed air for transmitting power to long distances, in comparison with steam, makes the principle a practical one.

The Liernur system evidently had its origin in the cess-pool system, and is practically an extension of the vacuum cylinder used to evacuate the contents of water-tight pits, notably in Paris. In its original form it should hardly be classed under water-carriage systems, and even now the matter which it is intended to remove is rather suspended in water than carried by it. Yet the character of the sewage and the entire works themselves are so similar to what is given under this head that an absolute distinction is not warranted.

The present system, as used in four or five towns in Holland, may be briefly described as follows: The excreta drop into an ordinary hopper-closet, which is ventilated from its upper edge by a pipe leading to the roof. Water is permitted for flushing, although there are restrictions as to its quantity. Under the closet is a trap from which the matter drops into a vertical soil-pipe, and then passes horizontally to the "barometrical" trap and on to the street mains. These unite in an underground iron reservoir, sufficiently large to hold the excrements from the number of buildings in connection with it, and provided with

necessary stops and valves. From here a delivery-pipe leads directly to the central station where the air pump is situated, and where the sewage is run into barges and taken away to the place of final disposal.

The combined and "separate" systems of removal with their modifications being shown, when properly executed, to satisfy sanitary requirements in the abstract, the factor which will mainly govern a preference is less the sanitary value, as frequently asserted, than the cost of construction and maintenance. But as also the cost depends on the locality, on its physical features, on social requirements, and on the value of ground and materials, it is evident that the criterion for judging the relative advantages of the different systems, both from a sanitary and financial point of view, is the locality itself. And as the conditions presented by the various cities and places are exceedingly different, not one particular system will be the best for all localities, but different external conditions will demand as radically different solutions, both in general and detail.

This division of the report, therefore, concludes with a brief recapitulation, which, from its importance and clear conciseness, we give entire, of the principal local conditions under which each of the water-carriage systems seemed to be best applicable, as far as it is possible to judge from a general point of view. In some cases it may require the closest local examination, however, to determine a preference.

The combined system is suitable —

Where rain-water must be carried off under ground from extensive districts, especially when they are closely built up, as in large cities, and where new sewers must be built for this purpose.

Where purification is not required or is not difficult, and storm-water overflows are not objectionable in polluting the streams.

Where a sufficient amount of water or sewage is available for flushing the larger sewers.

The best examples were found in Frankfurt, London, Hamburg, Brighton, Liverpool, Berlin, and other towns.

The separate system is suitable —

Where rain-water does not require extensive underground removal, and can be concentrated in a few channels slightly below the surface, or where it can safely be made to flow off entirely on the surface. Such conditions are found in rural districts where the population is scattered, on small or at least short drainage areas, and on steep slopes or side-hills.

Where an existing system of old sewers, which cannot be made available for the proper conveyance of sewage, can yet be used for storm-water removal.

Where purification is expensive, and where the river or creek is so small that even diluted sewage from storm-water overflows would become objectionable, especially when the water is to be used for domestic purposes at no great distance below the town.

Where pumping of the sewage is found too expensive to admit of the increased quantity from intercepting sewers during rains, which can occur in very low and flat districts.

Where it is necessary to build a system of sewers for house drainage, with the least cost and delay, and the underground rain-water removal, if at all necessary, can be postponed.

Under such conditions the ordinary separate system can generally be applicable, yet certain special features of the locality may determine in favor of Shone's system; for instance: —

Where pumping of the sewage to moderate elevations is advantageous or required at several or numerous points not greatly distant from each other, in order to increase the grade and velocity between them.

Where deep excavation is very expensive, either from being under the level of subsoil water or in rock, and where shallower sewers with better grades and intermediate lifts could be substituted, as in undulating grounds with rock near the surface when

the sewage is to be carried across the ridges, or in low-lying and very flat districts with excavations under water.

Finally, in mentioning the applicability of Liernur's system, it must be added that it is extremely doubtful whether it can compete with the other systems in any locality. The most favorable conditions are: —

Where the district is flat and low-lying, where a sufficient gradient cannot be had for a gravity flow, and where ordinary sewers are for some reason or other not expedient.

Good examples of the ordinary separate system are found at Oxford, Reading, Tottenham, and other small English towns. The best works on the Liernur plan are at Amsterdam. The Shone system has not yet been applied, except at Wrexham for trial purposes.

In conclusion, it may be said that as quite different conditions may occur in the same town, it is possible and practicable to adopt several systems for it. It may be found expedient to exclude rain-water from certain areas, whereas the combined system would be advisable in others.

The rest of Mr. Hering's report is occupied with  
III. Designs and Construction of Sewerage Works.  
IV. Maintenance of Sewerage Works. V. Cost of Sewerage Works. VI. Disposal of Sewerage.

In regard to the disposal of sewage the following conclusions are stated as those to which the opinions of authorities engaged with the subject converge and which the writer's personal inspection of the various methods and works warrant.

(1.) The expectations entertained for a long time that town sewage could be converted into a valuable manure, which would not only pay for the conversion but render it profitable besides, have been given up, save by a few parties interested in patent processes. The general opinion held at present is that sewage must, beyond all other considerations, be disposed of in a way which is least injurious to the community, that pecuniary profit cannot be looked for in every case, and that essential differences in topographical, physical, and geological conditions will require essentially different modes of treatment.

(2.) When sewage can be safely discharged into a large river or the sea this will generally be the most satisfactory and economical mode of disposing of it. This method is practiced in London, Vienna, Liverpool, Hamburg, and a large number of sea-coast towns, without presenting any objectionable features, care being taken that the sewage is not brought back to the towns by currents or winds.

(3.) When sewage must be purified before it is discharged into a stream, the most satisfactory method is by means of *irrigation*, provided a sufficient amount of suitable territory and soil can be had at the price of good farming country.

(4.) When sufficient land cannot be had for irrigation, on account of expense, etc., or during the winter months, when vegetation cannot absorb the sewage, *filtration* is sufficiently effective to purify it. During the winter it may be constantly applied; during the summer it should be intermittent. Examples are found at Kendal, Merthyr-Tydvil, and Abingdon, in England, and in the winter basins at Berlin.

The ground for this purpose must be a free soil, and the areas level, to allow the sewage to stand and gradually soak away. Here, too, the entire ground must be deep-drained.

(5.) Where land is not suitable for irrigation or filtration, or where none can be had on account of topo-

graphical conditions or expense, sewage can be purified by means of *precipitation* with sulphate of alumina or milk of lime, with subsequent filtration on a very small area, through prepared basins if possible.

(6.) It may finally be said that an absolute standard of purity for the effluent should not be given, but that its degree should depend on local conditions, on the size of the sewer, on the use to which its water is thereafter to be put, and on the distance from the next town. In many cases it will even suffice to purify only a portion of the entire sewage of a town, the rest not being considered objectionable in the river. Although the cost of sewage purification is greatly modified by local conditions, it will be found in general to increase as land becomes less available, or in the order given above. As the expense of land near a city generally increases in proportion to the size of the latter, the cost of purification per head of population will, *ceteris paribus*, be more expensive for large towns than for small ones.

The remainder of this excellent document of fifty-four pages is occupied by three appendices, No. 1 giving a tabular arrangement of data for eleven cities, No. 2 maximum rainfalls, No. 3 a catalogue of the literature on sewerage.

We have confined our too brief abstract to the portions of the report most nearly concerning the medical profession and sanitarians, namely, the general systems and their application, and the disposal of sewage. The other divisions, though no less admirably treated, are more especially devoted to the work of the civil engineer.

Mr. Hering deserves much praise for the manner in which his work has been executed, and credit is due the National Board of Health for making accessible to the public in so clear, concise, and reliable a form such valuable and much needed information on a very vital subject, the importance of which is yearly increasing with the growth in size and numbers of our American cities and towns.

#### VACCINATION IN BOSTON.

THE daily press is recording the outbreak of small-pox in various sections of the country, and its rapid spread in those cities and towns in which it has once fairly obtained a foothold. During the past year numerous cases have occurred in Boston, but, owing to the efficiency of the Board of Health, the prompt removal of the patient to the Small-Pox Hospital has prevented the disease from assuming an epidemic form. It is now more than ten years since the Massachusetts State Board of Health addressed a circular to the mayors of cities and the selectmen of towns in the Commonwealth, urging the importance of protecting the people by careful vaccination before small-pox, which was then, as now, threatening to revisit us, should appear.

Realizing the importance of early adopting prophylactic measures to prevent the occurrence of an epidemic of the disease in this city, the Board of Health has issued a circular, which we print elsewhere, call-

ing upon the citizens to see to it that they and those under their care are properly vaccinated. In spite of all the efforts of its opponents no unprejudiced person to-day doubts the efficacy of vaccination as a preventive against the spreading of small-pox.

It is to be hoped that the profession will use their best efforts in aiding the Board of Health in their endeavors to prevent the recurrence of an epidemic such as visited the city some years since.

#### VACCINATION: PRINCIPLES OBSTA.

SUBSEQUENT events, we think, have amply shown that the JOURNAL was neither too prompt nor too emphatic a year ago in calling the attention of the profession to the many indications that another outbreak of small-pox was probably at hand. An editorial of February 10, 1881, began with these words: "Our readers are doubtless aware by this time of the many indications that another outbreak of small-pox may be at hand. The last epidemic subsided early in 1871, after a duration of two years, in the course of which the disease proved fatal to 1040 persons in Boston. Since then we have enjoyed an unusually long period of immunity, extending over seven years. The disease is now, however, awaking from its long slumber, and, like a giant refreshed, is ready to renew its onslaught. From Europe, where it has prevailed during the past year, it has reached this country, and has established a foothold in several of our great cities of the Atlantic coast."

This same editorial ended thus: "Let our motto be *principiis obsta*; the means of resistance, vaccination, isolation, and revaccination."

There was, perhaps, a little disposition to criticise us at the time as alarmists and borrowers of trouble. But when it is remembered that since then New York, Philadelphia, Baltimore, Pittsburg, Cincinnati, St. Louis, Chicago, and the towns and States of the Northwest have suffered, some of them very severely, and all far more than Boston, from small-pox, we cannot but feel that the agitation of this subject, which the JOURNAL started last winter, has been sufficiently justified. In saying this we do not wish to be understood as under-estimating the value of the vigilance, efficiency, and discretion of the Boston Board of Health, but non-official activity is often desirable at a stage of events where official action or expression would be indiscreet. There can be little question but that vaccination and revaccination were practiced more promptly and more generally in Boston than elsewhere, and it is certainly to be hoped that a further continuance of this voluntary submission, which depends much upon the urgency of individual physicians, will avoid the necessity for the expensive and unpleasant machinery of compulsory vaccination as well as any remaining danger of an outbreak of small-pox in this neighborhood. Circulars which we are frequently receiving from State and city boards of health near by and at a distance—the last being from New Hampshire—show that all are now fully awake to these dangers and to the importance of prophylaxis.

## MEDICAL NOTES.

— The Royal College of Surgeons of England has voted to contribute twenty-five dollars to the guarantee fund of the Index Medicus.

— The late empress of China having recovered from her former serious illness, some half a dozen surgeons, chosen by governors of provinces, and sent to Peking according to imperial instructions to attend upon her majesty, have been rewarded by various appointments. One, it is announced, is to be made a taotai, or intendant of circuit, another a prefect, another a district magistrate, and so forth. "This," says the *Shanghai Courier*, "is very much as if, after the recovery of the Prince of Wales from his historic illness, Sir William Jenner had been made a county court judge, and Sir W. Gull a stipendiary magistrate."

— The Linacre professorship of physiology at Oxford, vacant by the death of the late Professor Rolleston, has been filled by the appointment of Mr. H. N. Moseley, M. A., F. R. S., Fellow of Exeter College and Assistant Registrar of the University of London. Mr. Moseley is well known as a comparative anatomist, and more especially for his good work as a naturalist of the Challenger expedition. The University of Oxford has made a good choice in selecting him from the several candidates. As Professor Rolleston laid the foundation of biological knowledge in Oxford, so his successor will have to build the superstructure. Biology has made such strides during the last twenty years that no single professor can again hope to occupy Professor Rolleston's unique position. Anatomy and physiology have to a large extent been divorced from each other, and separate teachers for each of these great divisions of science must be appointed at every university and college in which they are expected to make their special lessons and teachings manifest. The new régime in science at Oxford which must shortly come will have to take into consideration these developments of modern biological research.

Those of the readers of the JOURNAL who knew Mr. Moseley in Vienna will read with pleasure the above extract from a London letter to the *American Practitioner*.

— Professor Freund, of Strasburg, is reported to have been offered and to have accepted the chair of Obstetrics in Breslau, formerly occupied by the late Professor Spiegelberg.

## Miscellany.

## ALBUMINURIA IN PREGNANCY.

MR. EDITOR, — While albuminuria, especially when in connection with other symptoms of diseased kidney, is, in pregnant women, apt to be accompanied by convulsions, yet it is not always so. Until the subject shall be better understood the report of individual cases may be of use.

In the following case the urine of a primipara was examined July 15th, early in the ninth month, purely as a matter of routine, her condition being good. It contained a trace of albumen and a few epithelial casts.

August 1st. Feet much swollen. Finger rings a

little tight. Urine contained one eighth albumen and numerous epithelial casts.

August 12th. Delivered in about four hours from the first serious pains, the only thing worth noting being the force and frequency of the pains. Urine, drawn by catheter some hours later, contained one fifth albumen and many epithelial and granular casts. There was no milk, but nothing else to note for a week, the patient having been drinking freely of cream-of-tartar water since the swelling began. August 21st there was for the first time headache and diminution of urine, with a pulse of 110. The cream of tartar was increased, and one dose of spirits of nitrous ether given, when these symptoms disappeared.

There has been no other symptom referable to the kidneys. The urine has been of sufficient quantity, but was not examined until January 18th, owing to the absence of the patient for much of the time. It then contained neither albumen nor casts.

EDWARD M. BUCKINGHAM.

Boston, January 20, 1882.

## PREPARATORY MEDICAL EDUCATION.

MR. EDITOR, — I was much interested in the article by Dr. C. S. Minot, printed in a recent number of the JOURNAL.<sup>1</sup> The ideas advanced by Dr. Minot may seem novel, but doubtless many of them in a slightly modified form would be cordially endorsed by all advanced medical educators. It would seem that no one at all imbued with the scientific spirit can deny that a thorough, practical knowledge of biology is the best possible introduction to a course of medical study, but it seems too much to require medical schools to furnish instruction in general biology. A knowledge of general biology, as well as general chemistry and physics, ought to be made a requirement for admission to a medical school. A medical student should be well versed in these sciences, but their study ought to be made a part of his preparatory course. There would seem to be no more reason for reckoning general chemistry a branch of medicine than physics or botany.

Professor Huxley, in his discourse at the opening of the Johns Hopkins University, Baltimore, in 1876, made some extremely logical remarks upon this subject. He believes that a medical school has no right to include any of the fundamental sciences or branches of natural history in its curriculum. But we know that Huxley would be the last man to discourage the study of biology in its proper place.

Dr. Minot's arrangement of studies for first-year medical students would double the amount of work now required of them, which is already amply sufficient to engross all the time, and to tax the best powers of the most capable students.

In the writer's opinion a certain amount of attainment in biology, physics, and chemistry should be made a requisite for admission to the Harvard Medical School. Students who come unprepared in these subjects should be required to pursue courses of study at Cambridge until they have made good their deficiencies.

The institution in this country which has laid the most stress upon the need of a special preparatory course for the study of medicine is the Johns Hopkins University. Here a course, admirable in plan, is given

<sup>1</sup> A Grave Defect in our Medical Education, Boston Medical and Surgical Journal, December 15, 1881.



under the direction of Dr. Martin and others, which is fully described by Dr. Martin in his address at the opening of the biological department of the university, which was published in the *Popular Science Monthly* for January, 1877.

Besides an acquaintance with general biology, it is very desirable that students commencing the course at the Harvard Medical School should have an elementary knowledge of human anatomy and physiology. Such a knowledge could be obtained by the careful study of such works as Huxley's *Physiology*, Mivart's *Elementary Anatomy*, or Martin's *Human Body*. With such a preparation the student would be in a condition to better comprehend and retain the lectures on those subjects which it would be his privilege to listen to in the school. It is only by constant review, constant revolving around the subject in wider and more comprehensive circles, that we are enabled to grasp and firmly retain the slippery details of anatomy and physiology. Yours truly,

FRED. W. ELLIS, M. D.

MONSON, MASS., January 16, 1882.

EXTRACT FROM DR. EDWARD REYNOLDS' ADDRESS AT THE DEDICATION OF THE MASSACHUSETTS CHARITABLE EYE AND EAR INFIRMARY, 1850.

THE following extract from the address delivered at the dedication of the present building of the Massachusetts Charitable Eye and Ear Infirmary in 1850, by the late venerable Dr. Edward Reynolds, will have an interest for some of the readers of the JOURNAL.

As the London Eye Infirmary owes its origin to the Institution at Vienna, so the Massachusetts Infirmary, where we are this day assembled, must claim its parentage from that. The valuable work of Saunders, published in 1816, and the occasional reports of the Infirmary of which it was the first-fruits, began to excite a spirit of inquiry among several eminent individuals in our country. But no general movement was made in its favor until 1821, when the first eye infirmary in America was established by Dr. John Kearney Rodgers and Dr. Edward Delafield, two of the most distinguished physicians and surgeons in New York, who may be called the fathers of American ophthalmology. Filled with the spirit first received at the London institution, and finding on their return from Europe a great number of poor people afflicted with diseases of the eyes, they were desirous of extending a similar blessing to their native city. Accordingly, at the request of several of the senior members of the profession, they founded the New York Eye Infirmary, where they have ever since labored with praiseworthy diligence, devoting to its interests a great amount of time, that was with difficulty spared from other professional pursuits, uncheered by any adequate patronage of the public, though thirty-six thousand fellow-beings have received the blessings of sight and hearing at their hands, and reaping no other reward than the happiness of doing good.

"Two years after, in the latter part of 1824, the example was followed in Boston, and the first effort made whose noble result we are this day assembled to celebrate. Perhaps on this occasion I may be pardoned in saying that the Massachusetts Charitable Eye Infirmary partly originated in the fact that one of its

founders had the happiness of restoring a beloved father<sup>1</sup> to sight by the operation for cataract. The tender relation in this case of surgeon and patient, becoming extensively known among the small population then composing our community, brought to his observation a large number of ophthalmic patients, and soon revealed the fact that the poor and laboring classes are peculiarly liable to these diseases, a fact now familiar to every one acquainted with the results of these institutions. Whoever would study the diseases of the eyes must pass by the houses of the affluent and enter those of the poor. The great majority of all these cases belong to the humbler ranks of society, and have their prolific parentage in the various privations and sorrows unavoidably consequent upon poverty."

A TEST CASE ON SKIM MILK.

WE have already noticed in our columns the attempt which was to have been made in this city to sell skimmed milk and the probable action of the Health Board.

It appears that a case has already come up, and, as was inevitable, was taken into the courts for settlement. Ten cans of skimmed milk were offered for sale at three cents per quart, but the entire lot was seized by the Inspectors of the Board, and action commenced against the offender.

The case is one of unusual interest and importance as being the first of an organized movement to sell skimmed milk under its true name.

The Board based the prosecution on the ground that such milk is an adulterated and unwholesome article of diet, and that the sale of it is in violation both of the city sanitary code and the State law against adulteration.

The defense held that the article in question could not be called "adulterated," and that the law prohibiting its sale was unconstitutional. As to the former point it seems clear that it is an adulterated article according to the meaning of the State law, for in Section 3 of said law we read: "An article shall be deemed to be adulterated within the meaning of this act;" "b. In the case of food or drink;" "3. If any valuable constituent of the article has been wholly or in part removed."

As to its constitutionality, that is a matter for the courts to decide. But in the present case, in charging the jury, the Recorder said he should uphold the constitutionality of the law. He said also that in view of the importance of the case he should require the jury to hand in a special verdict consisting of answers to four questions propounded by the court. The answers to these questions were subscribed to by every member of the jury. By this special verdict the jury found that the defendant exposed for sale "impure, adulterated, and unwholesome milk;" that the milk had not been "watered, or adulterated, reduced, or changed in any respect other than by the removal of the cream therefrom," but "that milk which has been reduced by the removal of the cream therefrom" is "both injurious and unwholesome."

The case will, of course, be carried up to the Supreme Court and the Court of Appeals, but the Board's attorney thinks the result will not be changed.

<sup>1</sup> Edward Reynolds, Esq.

The Board is to be congratulated on this its first victory in the attempt to suppress so great an evil. Probably few people outside the medical profession realize the danger and harm that must result from the unrestricted sale of this article. Milk has been, and will continue to be, the chief article of infant diet, and for this use above all others it should be in its pure and natural form. Not only are the poor tempted to buy the inferior article from its lower price, but they often get the cheaper while paying for the better kind, by calling indiscriminately for "milk," and not knowing or not noticing the difference.

For the sake of the multitude of helpless poor, we wish the Board continued success in its good work in this direction.

The experience of New Jersey goes to show that a law permitting the sale of skimmed milk, as such, does not protect the public. The New Jersey law permits the sale of skimmed milk, provided the can has a label stating the fact that the milk is skimmed soldered on the side. This label is small, and very rarely noticed by the public, as the can is usually either set in the ice-box of the retail dealer's store, or is carried about in the milk dealer's wagon. The milk is not sold as skim milk, but for whatever a customer asks. The conclusion of the New Jersey authorities, therefore, is that just so long as skim milk is allowed to be sold will fraud be practiced.

In this connection we may refer to the condemnation recently, at Camden, of eight hundred quarts of skim milk by the State Inspector, Dr. Newton. We understand that \$1,500 has been raised to be applied toward securing the repeal of the New Jersey law. We hope the common sense of New Jersey legislators will oppose any scheme to abolish a law which has been of the greatest benefit to the agricultural community as well as to the public who buy; protecting them from fraudulent dealers, and securing for the honest dairyman a better price, and giving him an equal chance with the man who prefers to skim and water. — *Sanitary Engineer*.

## THERAPEUTIC NOTES.

### IODOFORM AS A DRESSING FOR WOUNDS.

Mikulicz (in *Wiener Med. Wochenschrift*, 1881, No. 23) gives results of the use of iodoform in Billroth's wards. He claims that it is in antiseptic qualities equal to carbolic acid, is more easily used, and less apt to cause constitutional disturbance by absorption. Symptoms of poisoning are, however, seen in rare cases, and in the *Deutsche Med. Woch.*, 1881, No. 34, A. Henry describes two fatal cases. (See page 460 of last volume of this journal.) The symptoms are of the narcotico-irritant type.

In open wounds the iodoform is sprinkled on the surface and covered with lint and gutta-percha tissue, fixed by a bandage. The results have been very satisfactory; the dressings require changing but seldom, discharge is slight, decomposition never occurs, and there is rapid formation of healthy granulations. In incised wounds healing is even more certain than with carbolic acid, and there is much less fear of absorption causing constitutional disturbance.

Wounds implicating mucous surfaces, as of the mouth or rectum, are usually very difficult to treat an-

tiseptically. In such cases iodoform, applied on gauze compresses, has been found to completely prevent offensive smell, and to cause no discomfort to the patients.

In a case of removal of an abdominal tumor iodoform was sprinkled into the cavity, and the wound closed at once. The patient recovered without a bad symptom.

In septic, gangrenous, or sloughing wounds the results were especially satisfactory. Sprinkling with iodoform removed all smell in from four to six hours, and the wounds healed rapidly and without discharge, even in some cases where severe constitutional symptoms had already appeared.

In strumous diseases iodoform is said to give such brilliant results as almost to entitle it to the rank of a specific. (See also V. Mosetig-Moorhof in *Wien. Med. Woch.*, 1881, No. 13.) Fungating ulcers with spreading undermined edges and offensive discharge healed rapidly and completely under a thick layer of iodoform.

In lupus also its effects are gratifying. Riehl (*Wien. Med. Woch.*, 1881, No. 19) gives the results of twenty cases in Kaposi's clinique. The epidermis, when necessary, having been removed by the application of five to ten per cent. solution of caustic potash, the iodoform is laid on in a layer several millimetres thick, and fixed as above described. On removal of the dressings in from three to eight days the disease is found completely removed, redness and swelling gone, and the sore skinned over.

In deep wounds, when the powder would be difficult to apply, Mikulicz recommends pencils composed of one part of iodoform to two of cacao butter, and for injection a twenty per cent. ethereal solution. The smell of the drug can be overcome by adding one minim bergamot to ten grains of the iodoform, or moistening with an ethereal or alcoholic extract of Tonquin bean. Local irritation can be effectually prevented by previously oiling the sound skin near where the iodoform is to be applied. — *Centrbl. f. Chir.*, 1881, Nos. 32 and 39.

### IODOFORM SUBCUTANEOUSLY IN SYPHILIS.

Dr. E. Thomann, of Graz, has treated a series of cases of recent syphilis with well-marked skin manifestations and glandular enlargements by the administration of iodoform subcutaneously, and states that even after ten to twelve injections great improvement in all the symptoms is manifest. The preparation he used consisted of 6 parts of iodoform suspended in 20 parts of glycerine; this was administered in doses of 0.3 gramme, increasing gradually to 0.75 gramme. No abscesses were produced, though the skin became slightly red and tender, and the spots operated on were harder than the surrounding parts, and slightly swollen for a few days. Iodine may be detected in the urine in two hours after the first injection; no smell of iodoform was perceptible either in the breath, perspiration, or urine. There was no constitutional disturbance or drowsiness, and the temperature and pulse were unaffected. A solution of iodoform in almond oil (0.3 gramme in 6 ccm.) was also tried, but proved too irritating; it caused an erysipelatous reddening of the skin. The feeling of local hardness was absent, however, as the oil was so much more quickly absorbed than the glycerine preparation. — *Chl. f. d. Med. Wiss.*, 29th October, 1881. — *Glasgow Medical Journal*.

## THE FINANCIAL CONDITION OF HARVARD COLLEGE.

The financial condition of Harvard College proper gives much concern to the Corporation, according to President Elliot, who says in his annual report: The withdrawal of nearly \$100,000 from the free capital in 1875-76, to pay for the extension of Gore Hall, the fall in the rate of interest on its invested funds (two per cent in seven years), and the heavy additional expenses which it has been yearly obliged to incur, taken in connection with the cessation since 1876-77 of the former rapid increase in the number of students, have occasioned three deficits within the past four years. These three deficits have taken from the free capital of the College nearly \$50,000. To be sure, no such loss would appear if the total capital of the College on September 1, 1877, were compared with the total capital on September 1, 1881; because in that interval new gifts of unrestricted funds have been received to an amount somewhat greater than \$50,000; but it remains strictly true, nevertheless, that the College has been living beyond its income for four years, to the average amount of \$12,500 a year. The deficit for 1880-81, amounting to \$34,469.19, is the largest which the College has ever incurred, and has forced the Corporation to consider anxiously the measures

necessary to prevent the recurrence of such a reduction of capital. After deducting from the deficit all those expenses of the year which can properly be called extraordinary, there remains an excess of current expenses over receipts to the amount of at least \$15,000. Since the beginning of the current year a gift of \$100,000, derived from the estate of the late Eben Wright, has been received from T. Jefferson Coolidge, Esq., who has directed that the income go towards the cost of administration and service in the Library. As the College bears the whole cost of carrying on the Library, this most timely gift will relieve the College by the whole amount of the income to be derived from it, namely, by \$1,000 a year from January 1, 1882. The Corporation will this year cut off certain expenses in the Library of recent origin, and charge their just proportion of the expenses of the Gymnasium and of clerk hire in the Bursar's office to the Divinity, Law, and Scientific Schools; and next year will in addition charge special fees for supplies to all students who work in laboratories, and abolish a few unimportant courses of instruction, the loss of which, they believe, will not be seriously felt. They see some reason to believe, moreover, that the number of students will next year increase. It will, however, be impossible to avoid a large deficit for the current year.

## REPORTED MORTALITY FOR THE WEEK ENDING JANUARY 14, 1882.

| Cities.                            | Population by Census of 1880. | Reported Deaths in each. | Deaths under Five Years. | Percentage of Deaths from         |                |                       |                |                     |
|------------------------------------|-------------------------------|--------------------------|--------------------------|-----------------------------------|----------------|-----------------------|----------------|---------------------|
|                                    |                               |                          |                          | The Principal "Zymotic" Diseases. | Lung Diseases. | Diphtheria and Croup. | Typhoid Fever. | Diarrheal Diseases. |
| New York.....                      | 1,206,590                     | 761                      | 334                      | 27.59                             | 21.02          | 7.75                  | .78            | 2.36                |
| Philadelphia.....                  | 846,984                       | —                        | —                        | —                                 | —              | —                     | —              | —                   |
| Brooklyn.....                      | 566,689                       | 291                      | 125                      | 24.39                             | 18.55          | 8.59                  | 1.03           | 1.37                |
| Chicago.....                       | 503,304                       | —                        | —                        | —                                 | —              | —                     | —              | —                   |
| Boston.....                        | 362,535                       | 167                      | 35                       | 11.96                             | 17.94          | 3.58                  | 1.79           | 1.79                |
| St. Louis.....                     | 350,522                       | 155                      | 64                       | 20.67                             | 17.40          | 7.10                  | 1.29           | 1.93                |
| Baltimore.....                     | 332,190                       | 169                      | 55                       | 22.50                             | 7.10           | 16.56                 | 1.77           | .59                 |
| Cincinnati.....                    | 255,708                       | —                        | —                        | —                                 | —              | —                     | —              | —                   |
| New Orleans.....                   | 216,140                       | —                        | —                        | —                                 | —              | —                     | —              | —                   |
| District of Columbia.....          | 177,638                       | 71                       | 21                       | 21.12                             | 11.26          | 9.85                  | 1.40           | 4.22                |
| Pittsburgh.....                    | 156,381                       | 92                       | 36                       | 58.32                             | 18.36          | 4.32                  | 14.04          | 1.08                |
| Buffalo.....                       | 155,137                       | 69                       | 25                       | 42.02                             | 8.69           | 17.38                 | 7.24           | —                   |
| Milwaukee.....                     | 115,578                       | 44                       | 16                       | 13.64                             | 20.46          | —                     | —              | 2.27                |
| Providence.....                    | 104,857                       | 40                       | 11                       | 15.00                             | 10.00          | 2.50                  | —              | —                   |
| New Haven.....                     | 62,882                        | 27                       | 11                       | 11.10                             | 22.20          | —                     | —              | —                   |
| Charleston.....                    | 49,999                        | 28                       | 5                        | 10.74                             | —              | 7.16                  | —              | —                   |
| Nashville.....                     | 43,461                        | —                        | —                        | —                                 | —              | —                     | —              | —                   |
| Lowell.....                        | 59,485                        | 28                       | 14                       | 10.74                             | 10.74          | 7.16                  | 3.58           | —                   |
| Worcester.....                     | 58,295                        | 23                       | 10                       | 13.04                             | 39.12          | —                     | —              | —                   |
| Cambridge.....                     | 52,740                        | 20                       | 7                        | 15.00                             | 20.00          | 10.00                 | —              | —                   |
| Fall River.....                    | 49,006                        | 28                       | 10                       | 25.06                             | 3.58           | 14.32                 | —              | —                   |
| Lawrence.....                      | 39,178                        | 28                       | 10                       | 7.16                              | 3.58           | —                     | 7.16           | —                   |
| Lynn.....                          | 38,284                        | 9                        | 3                        | 22.22                             | 33.33          | 11.11                 | —              | —                   |
| Springfield.....                   | 33,340                        | 10                       | 2                        | 10.00                             | 30.00          | —                     | —              | —                   |
| Salem.....                         | 27,598                        | 8                        | 1                        | 12.50                             | —              | —                     | —              | —                   |
| New Bedford.....                   | 26,875                        | 7                        | 3                        | 14.28                             | 14.28          | 14.28                 | —              | —                   |
| Somerville.....                    | 24,985                        | 6                        | 3                        | 33.32                             | 16.66          | 33.32                 | —              | —                   |
| Holyoke.....                       | 21,851                        | 11                       | 5                        | 18.18                             | 9.09           | 18.18                 | —              | —                   |
| Chelsea.....                       | 21,785                        | —                        | —                        | 14.28                             | —              | —                     | —              | —                   |
| Taunton.....                       | 21,213                        | 14                       | 3                        | 20.00                             | —              | 7.14                  | —              | —                   |
| Gloucester.....                    | 19,329                        | 5                        | 3                        | —                                 | —              | 20.00                 | —              | —                   |
| Haverhill.....                     | 18,475                        | 4                        | —                        | —                                 | —              | —                     | —              | —                   |
| Newton.....                        | 16,995                        | 6                        | 2                        | 50.00                             | 16.66          | 50.00                 | —              | —                   |
| Newburyport.....                   | 13,537                        | 2                        | 0                        | —                                 | —              | —                     | —              | —                   |
| Fitchburg.....                     | 12,405                        | —                        | —                        | —                                 | —              | —                     | —              | —                   |
| Seventeen Massachusetts towns..... | 132,712                       | 49                       | 11                       | 14.28                             | 12.24          | 2.04                  | 6.12           | 4.08                |

Deaths reported 2172 (no reports from Philadelphia, Cincinnati, Chicago, New Orleans, and Nashville); 825 under five years of age; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and fevers) 531, consumption 293, lung diseases 369, diphtheria and croup 175, scarlet fever 119, small-pox 42, typhoid fever 44, measles 36, diarrheal diseases 36, whooping-cough 22, malarial fevers 18, erysipelas 11, cerebro-spinal meningitis nine, puerperal fever nine. From *scarlet fever*, New York 68, Brooklyn 27, Buffalo 10, St. Louis and Baltimore four each, Boston and Worcester three each. From *small-pox*, Pittsburgh 24, New York 13, Boston two, District of Columbia, Milwaukee, and Holyoke one each. From *measles*, New York 28, Brooklyn four, Buffalo two, St. Louis and Pittsburgh one each. From *whooping-cough*, New York nine, Boston and Providence two each, Brooklyn, Baltimore, District of Columbia, Pittsburgh, Milwaukee, Cambridge, Fall River, Taunton, and North Adams one each. From *malarial fevers*, New York six, Brooklyn and St. Louis five each, District of Columbia two. From *erysipelas*, St. Louis four, Providence two, Brooklyn, Baltimore, Lynn, Salem, and Holyoke one each. From *cerebro-spinal meningitis*, New Haven three, New York two, Milwaukee, Charleston, Fall River, and Springfield one each. From *puerperal fever*, St. Louis and Milwaukee two each, New York, Brooklyn, Boston, Providence, and Fall River one each.

Ninety-one cases of small-pox were reported in Pittsburgh, 15 in St. Louis, seven in Holyoke, six in Brooklyn, three in Baltimore, Boston and Milwaukee one each; diphtheria 26 cases, scarlet fever 14, typhoid fever nine in Boston; diphtheria seven, scarlet fever seven, in Milwaukee.

In 34 cities and towns of Massachusetts, with a population of 1,016,433 (population of the State 1,783,086), the total death-rate for the week was 20.97, against 18.45 and 21.52 for the previous two weeks.

For the week ending December 10th, in 149 German cities and towns, with an estimated population of 7,936,736, the death-rate was 22.9. Deaths reported 3492; under five 1626; pulmonary consumption 437, acute diseases of the respiratory organs 279, diphtheria and croup 203, diarrheal diseases 117, scarlet fever 113, typhoid fever 52, whooping-cough 50, measles and röteln 45, puerperal fever 20, typhus fever (Thorn) three, small-pox (Aachen) one. The death-rates ranged from 11.4 in Bremen to 32.9 in Essen; Königsberg 24.7; Breslau 28.8; Munich 26.2; Dresden 24.6; Berlin 25.2; Leipzig 23.7; Hamburg 21.4; Hanover 24.1; Cologne 28.8; Frankfurt 16.7; Strasburg 23.1.

For the week ending December 17th, in the German cities

and towns, with an estimated population of 7,895,018, the death-rate was 24.3. Deaths reported 3682; under five, 1745; pulmonary consumption 538, acute diseases of the respiratory organs 304, diphtheria and croup 252, scarlet fever 106, diarrheal diseases 94, measles and röteln 67, whooping-cough 63, typhoid fever 47, puerperal fever 18, typhus fever (Thorn, Tilsit) two, small-pox (Aachen) one. The death-rates ranged from 11.9 in Bremen to 36 in Munster; Königsberg 28.4; Breslau 25.4; Munich 29.2; Dresden 21.7; Berlin 25.5; Leipzig 22.6; Hamburg 24.6; Hanover 25.8; Cologne 29.5; Frankfurt 16; Strasburg 19.7.

For the week ending December 24th, in the German cities and towns, with an estimated population of 7,697,184, the death-rate was 25.7. Deaths reported 3798; under five 1828; pulmonary consumption 513, acute diseases of the respiratory organs 375, diphtheria and croup 283, diarrheal diseases 101, scarlet fever 95, whooping-cough 67, measles and röteln 51, typhoid fever 51, puerperal fever 22, typhus fever (Thorn four, Memel) five, small-pox (Königsberg, Dresden, Aachen) three. The death-rates ranged from 15.6 in Mannheim to 38.3 in Chemnitz; Königsberg 32.8; Breslau 28.3; Munich 31; Dresden 28.1; Berlin 25.5; Leipzig 23.3; Hamburg 24.5; Hanover 22.4; Bremen 16.9; Cologne 26.2; Frankfurt 19.7; Strasburg 27.6.

For the week ending December 31st in the 20 English cities, with an estimated population of 7,608,775, the death-rate was 27.3. Deaths reported 3976; acute diseases of the respiratory organs (London) 596, whooping-cough 181, measles 134, scarlet fever 126, fever 45, diphtheria 42, diarrhoea 34, small-pox (London 32) 34. The death-rates ranged from 16.9 in Bristol to 32.2 in Nottingham; Sheffield 22.1; Leeds 23.2; Birmingham 25.8; London 28.3; Manchester 29.8; Liverpool 31.9.

For the week ending December 17th, in the 21 chief towns of Switzerland, population 479,934, there were 28 deaths from acute diseases of respiratory organs, pulmonary consumption 25, diphtheria and croup 12, diarrheal diseases eight, typhoid fever and whooping-cough each four, small-pox, measles, and scarlet fever each one. The death-rates were, Geneva —; Zurich 25; Basle 24.3; Berne 21.1.

For the week ending December 24th, in the same towns, there were 41 deaths from acute diseases of the respiratory organs, pulmonary consumption 31, diarrheal diseases 22, diphtheria and croup 19, typhoid fever and scarlet fever each six, whooping-cough four, puerperal fever two, small-pox one. The death-rates were, Geneva 21.2; Zurich 26.4; Basle 25.1; Berne 46.8.

The meteorological record for the week ending January 14th, in Boston, was as follows:—

| Date.            |    | Barom-eter. | Thermom-eter. |       | Relative Humidity. |          |            |            | Direction of Wind. |       |            | Velocity of Wind. |             |            | State of Weather, <sup>1</sup> |             |            | Rainfall.  |             |                       |
|------------------|----|-------------|---------------|-------|--------------------|----------|------------|------------|--------------------|-------|------------|-------------------|-------------|------------|--------------------------------|-------------|------------|------------|-------------|-----------------------|
|                  |    |             | Mean.         | Mean. | Maximum.           | Minimum. | 7.23 A. M. | 3.23 P. M. | 11.23 P. M.        | Mean. | 7.23 A. M. | 3.23 P. M.        | 11.23 P. M. | 7.23 A. M. | 3.23 P. M.                     | 11.23 P. M. | 7.23 A. M. | 3.23 P. M. | 11.23 P. M. | Duration, Hrs. & Min. |
| January, 1882.   |    |             |               |       |                    |          |            |            |                    |       |            |                   |             |            |                                |             |            |            |             |                       |
| Sun.,            | 8  | 30.084      | 36            | 47    | 25                 | 88       | 69         | 93         | 83                 | W     | S          | S                 | 3           | 6          | 13                             | F           | O          | R          | —           | —                     |
| Mon.,            | 9  | 29.880      | 42            | 53    | 36                 | 93       | 47         | 69         | 70                 | W     | W          | W                 | 12          | 20         | 17                             | O           | F          | C          | —           | —                     |
| Tues.,           | 10 | 30.283      | 34            | 41    | 29                 | 68       | 46         | 51         | 55                 | W     | NW         | N                 | 12          | 9          | 8                              | C           | C          | H          | —           | —                     |
| Wed.,            | 11 | 29.986      | 31            | 35    | 25                 | 100      | 83         | 74         | 86                 | SE    | W          | W                 | 8           | 4          | 16                             | S           | R          | C          | —           | —                     |
| Thurs.,          | 12 | 30.349      | 31            | 39    | 26                 | 78       | 46         | 72         | 65                 | W     | NW         | W                 | 13          | 10         | 6                              | C           | C          | C          | —           | —                     |
| Fri.,            | 13 | 29.859      | 30            | 34    | 22                 | 64       | 100        | 100        | 88                 | S     | SE         | W                 | 4           | 9          | 12                             | O           | Sleet.     | O          | —           | —                     |
| Sat.,            | 14 | 29.724      | 33            | 41    | 24                 | 59       | 53         | 73         | 62                 | W     | NW         | W                 | 18          | 14         | 9                              | C           | C          | C          | —           | —                     |
| Means, the week. |    | 50.024      | 34            |       |                    |          |            |            |                    |       |            |                   |             |            |                                |             |            |            | 36.10       | 1.00                  |

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., snow; R., rain; T., threatening; X., clearing.

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM JANUARY 14, 1882, TO JANUARY 20, 1882.

LA GARDE, L. A., first lieutenant and assistant surgeon, Granted leave of absence for one month, to take effect on arrival of Acting Assistant Surgeon Collins at Cantonment on North Fork of the Canadian River, Indian Territory. S. O. 12, Department of the Missouri, January 16, 1882.

BIRMINGHAM, H. P., first lieutenant and assistant surgeon, who returned to Fort Leavenworth, Kansas, on 12th inst., from leave of absence, to proceed to Fort Gibson, Indian Territory,

and report to the commanding officer for duty, relieving Acting Assistant Surgeon Collins. S. O. 12, C. S., Department of the Missouri.

WHITEHEAD, W. E., captain and assistant surgeon, died at Tartan, New York, January 15, 1882.

APPOINTMENT. — Dr. C. P. Bancroft, of Boston, has been appointed Superintendent of the New Hampshire Insane Asylum at Concord, to fill the vacancy caused by the resignation of his father, Dr. J. P. Bancroft.

ERRATUM. — Page 59, line 5, of the JOURNAL for January 19th, for "December 12, 1881," read "December 3, 1881."

## Original Articles.

IGNORANCE AS A LEGAL EXCUSE FOR MALPRACTICE.<sup>1</sup>

BY A. E. PILLSBURY, ESQ.

It is not proposed to attempt in this brief paper an exhaustive examination of the subject indicated in the title, but only to glance at these interesting questions:—

I. How far can the ignorance of the physician be relied on in avoidance of criminal or civil liability for medical malpractice?

II. Does the law recognize any distinction, in respect of this liability, between different classes of practitioners?

A prosecution for malpractice, criminal or civil, ordinarily arises out of an offense of omission rather than commission; that is to say, out of the failure of the physician to apply due knowledge, skill, or diligence in his professional service. For positive misconduct, unwarranted by any claim or pretense of proper medical treatment, a physician undoubtedly may be liable to prosecution, as for assault or various kindred offenses, according to the facts. But with such cases, happily of rare occurrence, we have at present nothing to do. They fall into their proper divisions in the classification of the criminal law, and are not to be considered merely as cases of medical malpractice.

In England the extent of criminal liability for malpractice is settled by a long course of decisions.<sup>2</sup> It is there held that any person, learned or unlearned, who undertakes to deal with the life or health of another, is liable for manslaughter if the death of the patient results from his failure to use reasonable skill and diligence in his treatment. It seems, also, that he is there liable criminally, as for misdemeanor, for any injury to the patient caused by his default, though not resulting in loss of life.<sup>3</sup> It is true that a criminal intent is an essential element of all criminal offenses, but this intent may be inferred from the circumstances of the case; and the English courts will draw this inference, or allow it to be drawn by the jury, from evidence of reckless or grossly ignorant maltreatment, endangering health or life, without proof of any actual purpose of the accused to do harm to his patient.

In this Commonwealth a different rule prevails, and although the leading Massachusetts case has been directly followed in but few reported cases in other States, it is believed to have been generally acquiesced in, and to express a doctrine which is or is likely to be generally adopted in this country.<sup>4</sup> Samuel Thomson, whose name came to be bestowed upon the root-and-herb "school" of practitioners, was indicted in Essex in 1809 for the murder of Ezra Lovett, Jr., by giving him, on the ninth day of January, a poison called lobelia, of which he died the next day. The evidence showed that Thomson announced himself as a physician, and professed an ability to cure all fevers by means of his peculiar medicines, to which he gave various grotesque names not to be found in the Phar-

macopœia.<sup>5</sup> He was called as a physician to attend Lovett, who was suffering from a cold, and subjected him for nine days to a course of sweats, emetics, and purgatives, which at the end of that period resulted in violent convulsions, collapse, and death. The court (Chief Justice Parsons and Justices Sewall and Parker) observed that the prisoner's ignorance was very apparent, and that it did not seem to admit of any reasonable doubt that the deceased lost his life by the prisoner's unskillful treatment; but that there was no evidence of express malice, nor that the prisoner was regardless of his social duty and bent on mischief, from which, if proved, malice might be inferred; and therefore held that he could not be convicted of murder. The prosecuting officer thereupon urged that the prisoner was guilty of manslaughter, in rashly and presumptuously administering to the deceased a deleterious medicine, which in his hands, by reason of his gross ignorance, became a deadly poison. But the court unanimously held that if the prisoner, notwithstanding his ignorance, acted with an honest intention and expectation of curing the deceased by his treatment, he was not guilty of manslaughter, although death was the consequence, unless, however ignorant of medical science in general, he had such knowledge of the dangerous character of his remedy that the jury might reasonably presume its administration to have been the effect of obstinate and willful rashness, and not of an honest intention and expectation to cure. There being no evidence sufficient, in the opinion of the court, to support the latter theory, Thomson was acquitted.

In the light of this case it appears that one who deals with the sick cannot here be held to criminal liability except in case of wanton or reckless maltreatment, accompanied by knowledge of the probable consequences. Ignorance, however gross, exculpates him, if that alone occasions his default: not because ignorance is morally a justification or excuse of his conduct, but because it excludes the malice which is an essential ingredient of a crime. There is nothing in the case to show that the court made or admitted any distinction, in the application of the doctrine, between the learned and the unlearned, or between those who hold themselves out and publicly practice as physicians and those who make no profession of the art and no claim to the learning and skill required in its exercise. Thomson, to be sure, held himself out as a physician, and was shown to have commonly practiced as such, but no reason appears why the same rule should not have been applied to him had Lovett been the only patient he ever attempted to treat. Indeed, the reason of the rule applies with greater force to a person who undertakes to act as a physician only on a single occasion, and so far as they adopt it at all the courts will probably extend it alike to all persons employed for medical service, under whatever circumstances.

It would be useless to speculate upon the reasons which moved the court in Thomson's case to depart from the current of English authority. A sufficient reason, perhaps, is in the fact that upon sound and familiar principles of the law of homicide the decision seems to be a logical and necessary result from the circumstances shown in evidence. It is further countenanced by a *dictum* of Lord Chief Justice Hale, ap-

<sup>1</sup> Read before the Massachusetts Medico-Legal Society.

<sup>2</sup> See the English cases collected in 1 Leading Crim. Cases (Ben-net), 56.

<sup>3</sup> 1 Bishop Criminal Law, 538.

<sup>4</sup> Commonwealth v. Thomson, 6 Mass. Reports, 134.

<sup>5</sup> One he called "well-my-gristle," another "ram-cats." It is not supposed that the profession will be able to identify them by this description.

parently founded on an obscure case in the Year-books, which the Massachusetts court cited with approval, but which has not been followed in the later English cases, that if a physician, whether licensed or not, give a person a potion without intent to do him bodily harm but to cure or prevent disease, and death results, it is no homicide. "I hold their opinion to be erroneous," adds the Lord Chief Justice, "that think if he be no licensed chirurgeon or physician that occasioneth this mischance that then it is felony, for physic and salves were before licensed physicians and chirurgeons: and therefore if they be not licensed according to the statute they are subject to the penalties in the statute; but God forbid that any mischance of this kind should make any person not licensed guilty of murder or manslaughter."<sup>1</sup> This view of the subject, characteristic of Sir Matthew Hale, though exceptional in his time and country, is more nearly conformable to general principles than the doctrine of the later cases. The existence of the English rule is probably due to the fact that it had become firmly established by a course of decisions before the humanitarian influences of modern times had begun to moderate the ancient rigor of the criminal law.

To educated physicians the American rule may appear to involve an unjust discrimination against themselves. Ignorance being held to excuse its own consequences, the more ignorant the practitioner the greater, apparently, his chance of escape; while the casual mistake or misfortune of the qualified physician is more likely to bring punishment upon him from the very fact of his education and the consequent increased difficulty of establishing to the satisfaction of the jury the theory of ignorance. But the rule of law applies with impartial benevolence to all, and the discrimination, if any, arises out of the facts. The law cannot be reproached that

"— where ignorance is bliss  
'Tis folly to be wise."

The extent of civil liability for malpractice, in respect of the persons against whom, and the circumstances under which, it arises, is less clearly defined in the books. The foundation of this liability is in the rule that he who offers his services to the public for employment in a special capacity is bound to possess and exercise a reasonable degree of the learning and skill ordinarily possessed by those who follow the same vocation in the same locality, and to use reasonable care and diligence in its application.<sup>2</sup> This rule is established in all countries where the common law prevails, and it affects all who profess any art requiring special skill or training. Professional persons are not held to insure the success of their efforts, nor to exercise the highest or even a high degree of skill; but they must be of average ability and diligence. Failing in this, they are answerable for resulting injuries. The principal issue of fact in actions for malpractice usually is whether the defendant has fulfilled these requirements. Under this rule it is obviously impossible for the ordinary physician to avoid liability if he fails in reasonable skill or care. Whether he be schooled or unschooled, "regular" or irregular, is immaterial. An action for malpractice may be maintained against him even if he be forbidden by express statute to practice medicine.<sup>3</sup> If he offers himself to the community as a

common practitioner he is held to guarantee his reasonable fitness for the business, within the limits above stated. The public profession of his calling forbids him to plead ignorance. He has thereby let the public to believe that he is reasonably well equipped for his work, and all who employ him have a right to rely upon his own representations.

But with reference to a class which hangs upon the outer verge of the medical profession, the inquiry is more difficult. There are in most communities, especially in great cities, numbers of persons—styling themselves clairvoyants, mesmerists, seers, *et id omne genus*—who do not profess to be physicians, who neither have nor pretend to have any professional knowledge or training, nor any scientific qualifications of whatever character for medical practice, who yet are constantly resorted to by multitudes of people for the treatment of disease. Beyond this, it occasionally happens that a person of another vocation, entirely unaccustomed to deal with the sick, is called to stand in the physician's place. It is said that a case of this character, in which a woman in labor lost her life under the hands of a shoemaker, acting for the nonce as accoucheur, is of recent occurrence in this city. Whether such persons can be held to civil liability for the consequences of their treatment, whatsoever they may be, must be considered still an open question. A hurried examination of the reports fails to disclose any direct adjudication of the point. Some light is reflected upon it from the circumstance that in many of the published cases the courts seem to rest upon the defendant's public offer of his services as a material element in the foundation of the action. The logical process which leads to a judgment against a physician for malpractice, when ignorance is relied on as an excuse, runs thus: (1) The plaintiff has been injured by the negligence or unskillfulness of the defendant; (2) the defendant says that he acted in good faith, and was ignorant of the patient's condition or the character of the remedy prescribed, etc.; (3) but he shall not now be heard to say he is ignorant, since he professed skill; (4) therefore he shall make good his default in damages. Obviously this argument does not apply to one who makes no profession of skill, nor of anything else except that he is a "clairvoyant" or what not. The common and public practitioner of medicine has undertaken to exercise skill, but this man has undertaken nothing save, perhaps, to do his best under the circumstances. If he does this, it is difficult to see how he can be held answerable for the consequences.

Another argument against his liability may possibly be drawn from the analogy between the action for malpractice and the ordinary action for negligence. The former rests upon the rule already stated, that he who professes especial skill must exercise it; the latter upon the rule or principle that every person shall so conduct himself as not to injure others. Between these rules there is a close relation, indeed; there is no essential difference between them, save that one is adapted only to particular cases, while the other is of general application to all the ordinary affairs of life. Ultimate analysis might show that the action for malpractice, unless founded in contract, rests alone upon the simple rule against negligence, modified to meet the special circumstances of the case. The essential elements of a cause of action for negligence are: (1) an injury to the plaintiff (2) resulting from the negligence of the defendant, (3) to which no negligence of

<sup>1</sup> 1 Hale's Pleas of the Crown, 429.

<sup>2</sup> Small v. Howard, 128 Mass. Reports, 131, and cases there cited.

<sup>3</sup> Musser's Executor v. Chase, 20 Ohio State Reports, 577.

the plaintiff contributed. If the third of these elements is wanting, that is to say, if the plaintiff has been guilty of any neglect or want of due care, to which the injury is in any material part attributable, he cannot maintain his action. The law will not hold one liable for an injury to another whose own default contributes to it, nor will it attempt to apportion the blame between them. Such an injury must lie where it falls. This principle of contributory negligence is constantly applied in actions of malpractice, with the result that the physician is not legally responsible for injuries attributable in any degree to the fault of the patient as an originating cause.<sup>1</sup> And the application of the principle to the case now supposed, of an action against an unskilled person for an injury done in a case which he has not professed himself competent to treat, seems to reinforce the argument against his liability, since it lays upon the plaintiff the disability which results from his own failure to exercise due care. If he calls an ordinary physician, relying, as he has a right to rely, upon his public profession of skill, and following his directions accordingly, no want of care can be imputed to him. But if he voluntarily chooses for the performance of a difficult and perilous task a person who neither has nor claims to have any special fitness for it, it is no hardship if he is left to bear the consequences of his own imprudence. In this conclusion the medical profession will probably concur with cheerful unanimity.

This latter branch of the subject still lies largely in the region of conjecture, and these suggestions are not offered with confidence as a statement of the law, but as having a possible bearing upon the determination of a question which has, fortunately, only an indirect interest for reputable physicians.

## REPORT OF A SUMMER COURSE IN OBSTETRICS.<sup>2</sup>

BY C. M. GREEN, M. D.]

In the summer of 1881 it was my fortune to instruct a class of six students in a course of clinical obstetrics. The material was kindly furnished me by the District Physicians of the Boston Dispensary, and was derived chiefly from the lowest class of the north and southeast parts of the city. The observations which I summarize below were made by the students; in most instances, however, they were verified by myself.

|            | Cases.          | Males. | Females. | Sex not Recorded. | Putrid Cases.  |
|------------|-----------------|--------|----------|-------------------|----------------|
| Multiparæ. | 27 <sup>2</sup> | 11     | 15       | 1                 | 1 male; 1 fem. |
| Primiparæ. | 8               | 5      | 3        |                   |                |
| Total . .  | 35              | 16     | 18       | 1                 | 2              |

Mortality : maternal *nil* ; infantile *nil*.

Abnormal symptoms during pregnancy : vomiting in early months four cases, one of which was obstinate ; vomiting in last months one case ; this was a case of twin pregnancy, and the gastric disturbance was prob-

<sup>1</sup> Hibbard v. Thompson, 109 Mass. Reports, 286.

<sup>2</sup> Read before the Boston Society for Medical Improvement, January 28, 1882.

<sup>3</sup> Including two cases of twin pregnancy.

ably due to the upward pressure of the greatly distended uterus.

Oedema of legs four cases, unattended by albuminuria.

Frequent micturition one case, relieved by a swathe.

Varix of labia one case, accompanied by severe cramps in the legs.

Ante-partem hæmorrhage one case ; about one ounce of blood escaped from the vagina on the sixth and again on the second day before delivery. The placenta was not prævia, but was very probably partly seated in the cervical zone, and the slight uterine contractions commonly occurring in the last weeks of pregnancy probably partially detached it.

### POSITION AND PRESENTATION.

| O. L. A. | O. R. A. | O. R. P. | S. L. A. | S. R. A. | Uncertain. | Total |
|----------|----------|----------|----------|----------|------------|-------|
| 23       | 6        | 4        | 1        | 1        | 2          | 37    |

It is worthy of notice that of the head presentations eighteen per cent. were O. R. A., or right occipitocotyloid, a larger proportion than is usually found in a large number of cases ; and that twelve per cent. were O. R. P., or right occipito-sacro-iliac, which is rather less than the usual ratio.

### AVERAGE DURATION OF THE STAGES OF LABOR.

|               | 1st Stage.              | 2d Stage.            | 3d Stage.         |
|---------------|-------------------------|----------------------|-------------------|
| Primiparæ . . | 11 h. 13 m. (22 cases.) | 56 m. (22 cases.)    | 19 m. (20 cases.) |
| Multiparæ . . | 24 h. 29 m. (8 cases.)  | 2 h. 7 m. (7 cases.) | 21 m. (6 cases.)  |

### CASES OF ESPECIAL INTEREST.

#### a. Cases of twins :—

(1.) A multipara, aged thirty-six, bore twins after a labor of ten hours. The children were male and female, and both presented the occiput. The second fœtus, which was smaller than the first, was born with membranes intact, or, as popularly designated, with a caul. There was a single large placenta, with a dividing ridge and two cords.

(2.) A multipara, aged twenty-seven, gave birth to two boys, the first presenting O. L. A., the second S. R. A. The diagnosis of twins was made by the student by abdominal palpation and auscultation. The placenta was double, and there were two cords.

#### b. Case of miscarriage, with dead fœtus :—

This case is of interest as affording a clear history of the cause of death of the fœtus. July 5th, when about six and one half months pregnant, while on Boston Common seeing the fireworks with her little boy, the latter being lost in the crowd, she spent two or three hours seeking for him, and returned home much fatigued. From this time she ceased to feel fetal motion, and experienced the sensation of having a cold, hard lump in the lower part of the abdomen. A month later she was delivered of a dead fœtus with macerated epidermis.

#### c. Case of brow presentation :—

This occurred in an Italian woman, aged thirty-five, whose two previous labors had lasted three and two days respectively, but which had terminated without operative interference. The woman had been in labor over thirty-six hours before the head passed the superior strait. On the occurrence of the first strong pain pressure

<sup>4</sup> In one case the head became extended and the brow presented.

upward was exerted on the frontal bones and the head flexed; the occiput then rotated forward, and the child was born without further difficulty. This is doubtless one of those cases in which, with a slightly narrowed pelvis, the head becomes extended in its efforts to pass the brim, and the bitemporal diameter passes where the somewhat larger sub-occipito-bregmatic diameter will not. Schroeder mentions this mechanism as affording good evidence of a slight pelvic flatness. Such malpresentations often correct themselves in the cavity of the pelvis, and thus escape notice unless detected early in the labor.

*d.* Cases of instrumental interference:—

(1.) A multipara, aged twenty-seven, whose last three of five children had been still-born, had been fifteen hours in labor when the pains proved ineffectual. The head was on the perineum, and the child was undoubtedly dead. At this juncture the student summoned a physician, who applied forceps and delivered the head, but was unable to deliver the body. One drachm of fluid extract of ergot was administered, and the putrid fetus was finally delivered by traction. The placenta was adherent, and it was necessary to introduce the hand into the uterus to remove it; it was small and shrunken. The woman was doubtless syphilitic. I mention this case in order to criticize (perhaps ungraciously) the application of forceps to a putrid head; the cranioclast would in my judgment have been more suitable and safer. I also disbelieve in giving ergot to stimulate a uterus to expel even a putrid child; for if the placenta is adherent, as it was in this case, it is much more difficult of removal when the uterus has firmly contracted upon it.

(2.) A primipara, aged twenty-four, had been in labor forty-eight hours, and the first stage was not completed; she had received forty-five grains of chloral hydrate in fifteen-grain doses; she had also had ether. As the pains were ineffectual the dilatation of the cervix was completed manually and forceps applied. To avoid rupture of the perineum it was incised laterally. The placenta was retained, and, failing to express it after the manner of Credé, I passed my hand into the uterus and found the placenta to be partially adherent and encysted; dilating the constriction with the hand, I removed the placenta without difficulty. The woman received carbolyzed douches for a week, and made a good recovery.

(3.) A primipara, aged twenty-four, had been in labor twenty-four hours, and the os was about half dilated. The head had not entered the pelvis, and as there was a good degree of hydramnios it was decided to rupture the membranes. The head now engaged in the brim but did not advance, owing to uterine inertia. At the end of another twenty-four hours, during which time the woman's condition remained good, forceps were applied at the superior strait. After strong traction a large child was safely delivered, but the perineum was completely ruptured, the tear extending 1.5 inches up the rectum. It was decided not to perform the primary operation on the perineum; the urine was drawn by catheter for a week, and during two weeks the woman received carbolyzed vaginal douches. At the end of this time it was found that the rectal tear had entirely healed; when she first got up the woman had one involuntary defecation, but since that time she has had complete control of sphincter. To prevent future displacements of the uterus, however, the operation for restoring the perineal body will

be performed at the completion of lactation. Examination with a Sims's speculum revealed a stellate laceration of the cervix, but not of sufficient extent to need treatment.

#### MANAGEMENT OF THE PERINEUM.

Students were instructed to prevent the passage of the head through the outlet until the perineum was completely dilated; to accomplish this they were to bid the woman cease bearing down, and to exert forcible counterpressure, if necessary, on the head. They were also taught to extrude the head between the pains by careful manipulation after the occiput had passed under the pubic arch. The results of their practice were as follows:—

Of eight primiparae, perineum not ruptured, four cases;<sup>1</sup> perineum slightly ruptured, two cases, needed no operation; perineum ruptured nearly to anus, one case, refused operation; perineum completely ruptured, one case.—high forceps case alluded to above, in which the rectum and sphincter healed spontaneously.

Of twenty-six multiparae perineum not ruptured in any case, possibly because sufficient rupture had occurred in previous labors.

#### TREATMENT OF THE THIRD STAGE.

In three of the thirty-five cases the placenta was retained, and it was necessary to pass the hand into the uterus to deliver it; in ten cases the placenta was expelled by the contracting uterus, either with the child or within twenty minutes; in the remaining cases the method of Credé was employed. One drachm of fluid extract of ergot was then given, and the fundus supported by the hand until the uterus was firmly contracted and remained so. The patient was not left until an hour after the birth of the placenta.

There was one case of post-partum hæmorrhage. The patient became pale and restless, and was bathed in cold sweat; the pulse was 100. Failing to arrest the hæmorrhage with ergot, stimulants, and ice in the vagina, the student resorted to the use of persulphate of iron applied on a swab.

#### THE PUERPERAL STATE.

Nearly all the cases convalesced rapidly. There was no instance of septicæmia, due undoubtedly to the assiduity of the students in charge, who prescribed, and in many instances administered, carbolyzed vaginal douches whenever the lochia became fetid. Thirty-two women suckled their infants, and one was prevented from doing so by depressed nipples.

One case is of interest as showing how much a puerperal woman will sometimes endure without apparent harm. A multipara, aged thirty-three, was in the Danvers Asylum four years ago. Again, in March, 1881, she was sent to the Taunton Asylum, but was discharged about July 1st against advice. On July 5th she was consigned to the Tombs for extreme violence while under the influence of liquor, but was discharged the next day. At all times she was irritable, jealous of her husband, and she beat her children unmercifully. She was taken in labor August 14th, six weeks after her discharge from the Taunton Asylum. On the evening after the labor (which was normal) she demanded some liquor of her husband. She then got up, and proceeded, among other things, to wash

<sup>1</sup> In one forceps case rupture was prevented only by making lateral incisions.



soiled linen by placing it on the floor and pouring water over it, to the discomfiture of the tenants below her; she also cooked and eat beefsteak. The baby was fed on watermelon and whiskey, and finally quieted with laudanum. The next morning, beyond looking somewhat wild and disarranged, the woman showed no ill effects; the pulse and temperature were normal. It seemed to me, considering the woman's history, that this could scarcely be regarded as an instance of intoxication simply, but rather an outburst of transitory mania, of which alcohol was the exciting cause.

### IS ACUTE FOLLICULAR TONSILLITIS A CONSTITUTIONAL DISEASE?<sup>1</sup>

BY DR. MORTON PRINCE.

ASIDE from the severity of the symptoms which sometimes accompany acute follicular tonsillitis or catarrhal sore throat, the frequency with which the disease occurs seems to me to endow it with an importance which is rarely granted it. In the opinion of the reader there is no similar self-limited disease which is capable of producing in so short a time such a profound impression upon the strength and well-being of the patient as acute follicular inflammation of the tonsils. So severe are the constitutional symptoms that are often met with, that I have been led to believe, contrary to the general opinion, that this affection, in a large number of cases, should not be regarded as a local disease, but rather be classed among the constitutional fevers; and this belief has been confirmed by what I believe to be a fact, and that is, that there is no constant relation between the local lesion and the general disturbances. It has been the experience of the reader that, along with a local inflammation of an apparently trifling nature, there may occur a very high fever, severe headache, backache, loss of flesh, and what perhaps is the most striking symptom, extreme prostration and weakness. So marked, indeed, is this last symptom that I have known patients, after a four or five days' attack, to present the appearance of a convalescent from a mild attack of typhoid. And the converse of this is also true, that along with very severe local inflammation the constitutional symptoms may be of only moderate severity. In confirmation of these statements I will mention, in brief, the following cases, selected simply because the histories are known in full.

Case I. Self; at the time house officer in the Boston City Hospital. Woke up one morning feeling poorly, and with a sore throat; towards noon felt feverish; while making the morning visit had a chill; went to bed with a temperature of 103° F. During the next three days the temperature varied between 103° and 104° F., and on the fifth day subsided. During most of this time there was very severe headache, but the most prominent symptom besides the fever was a backache, which was excruciating. For this last it was necessary to give morphia subcutaneously in one fourth grain doses. There was a tendency to delirium, as shown by its being present for a few minutes after waking. The throat was very sore, especially on swallowing. In the glass I could see that the tonsils were reddened, moderately enlarged, and from the mouths of the follicles exuded a white secretion. There was also some redness of the pharynx

and neighboring parts. There was great loss of strength and some loss of flesh. These persisted for some days after cessation of the acute symptoms. I never had an attack before or since.

Case II. Mr. A., clerk, age twenty-three, came home in the evening complaining of sore throat and fever. The fever lasted three days, the maximum point reached being 101° F. During this time was very somnolent, sleeping heavily most of the time. He complained mostly of severe headache and backache. There was complete anorexia notwithstanding the high fever. The local disturbance was slight, not being even sufficient to elicit particular complaint, or to induce him to use the gargle which was prescribed. On inspection the tonsils were seen to be slightly enlarged and reddened, as were also the neighboring parts. Two or three white spots marking the mouths of the occluded and inflamed follicles could be made out upon the tonsils. The subsidence of the fever was rapid, as in Case I., leaving the patient pale and in a debilitated condition, from which it took some time to recuperate. He never had a similar affection before or since.

Case III. Mr. B., merchant, age thirty-one, returned home one afternoon complaining of slight sore throat, headache, and general malaise. That night he had a chill; temperature was 102° F.; tonsils slightly enlarged and reddened, one or two white spots, as in the preceding case, marked the mouths of the inflamed follicles; there was no marked soreness of the throat; was able to swallow readily without great pain. The patient complained principally of headache. The next morning the thermometer recorded only 101° F.; during the day he complained principally of headache, backache, and general weakness; there was great drowsiness, the patient saying that he could not keep awake; no appetite; the same evening temperature rose to 102.5° F., the highest reached; the next day it fell to normal, and there was a subsidence of the symptoms, but the patient was left weak and prostrated, and convalescence required a number of days. Though this patient has what is called a "delicate throat," he never had such an attack before or since.

Case IV. Miss X., age twenty-seven, was ill for four days with follicular tonsillitis. The local symptoms were moderately severe; complained of considerable pain on swallowing; the tonsils were slightly enlarged, reddened, and from the mouths of several follicles exuded a white secretion, which could be pressed out and removed with a probe; the temperature ranged about 102° F.; there was great headache and backache, which persisted most of the time, and gave rise to considerable complaint; the strength of the patient was considerably reduced, and she was left in the same debilitated condition as in the other cases, with slow convalescence, lasting a week or more. Although it might be easy to multiply cases, I do not consider it necessary, as it would make dull reading, and one case is nearly a repetition of another.

There is one difficulty in collecting statistics from a large number of cases, and that is the physician is not usually called till after the disease has reached its maximum intensity, so that the first stage is not usually recorded, and any observation of the temperature is apt to be imperfect. Further, as the disease tends to spontaneous recovery without danger, the services of a physician can be quickly dispensed with.

In the cases just reported it will be noticed that in

<sup>1</sup> Read before the Suffolk District Medical Society, December 31, 1881.

Cases II. and III. the local disturbance was so slight as hardly to call for treatment, and yet the general symptoms were very severe. Again, in Case II., while the tonsils were only slightly inflamed the temperature was high, reaching  $104^{\circ}$  F., but in case III., with about the same amount of tonsillitis, the temperature was very moderate, but notwithstanding this moderate temperature and slight local inflammation, the constitutional disturbance was very considerable. This patient frequently remarked during convalescence, "How," to use his expression, "tonsillitis pulled one down." In Case I., on the other hand, both the local and general symptoms were very severe, and in Case IV. they were moderately so. In none of them did the inflammation extend to any marked extent to the parenchyma of the tonsils as in the other variety which so often leads to abscess. On the contrary, the tonsillitis was of a follicular or catarrhal character, and the neighboring structures were only so far implicated as to show reddening of the mucous membrane.

The question arises, Why should not the constitutional disturbances met with be considered as dependent simply upon the local inflammation? Of course it is impossible to absolutely disprove such a possibility, but it does not seem to me that a local inflammation alone can satisfactorily explain the symptoms. That the constitutional disturbances are not due to the high temperature is shown by the fact that in many cases, as in III. and IV., the fever may be of only slight intensity, and yet the other constitutional symptoms were very marked.

Four cases are too few to found a hypothesis upon, and I do not present them for that purpose, but rather as types of a large number of cases which it has been my good fortune to meet during the past year, and which were studied with particular reference to the point under discussion.

I think the following conclusions may be safely drawn:—

First. There is no constant relation between the local inflammation and the constitutional symptoms.

Second. There is no constant relation between the local inflammation and the height of the fever.

Third. There is no constant relation between the height of the fever and the remaining constitutional symptoms.

Fourth. The fever is often so high, sometimes reaching  $105^{\circ}$  F., as to be far out of proportion to the local inflammation, which may be slight.

Fifth. With slight fever and slight local inflammation we may have severe constitutional disturbances, such as weakness, loss of appetite, headache, backache, general prostration, and prolonged convalescence.

Another thing which is suggestive of the constitutional character of this affection is the frequency with which it occurs amongst internes and nurses in the hospitals. I have taken pains to obtain some statistics which would determine this point, and have been able to obtain accurate information in regard to twenty-seven of the past house officers of the Boston City Hospital, principally by letter, or by direct inquiry of each individual himself. Of these twenty-seven, I find that seventeen had "hospital sore throat" while serving in the hospital, and ten did not. Consequently *sixty-three per cent.* of the internes suffer from the disease during their service.<sup>1</sup> Several gentlemen have

kindly sent me accounts of their attacks. One writes that he had two attacks, one while externe. He says "It was a follicular inflammation of the tonsils, and confined to the right side; lasted ten days; it was very exhausting. Temperature rose to  $105^{\circ}$  F. the first night. In four days I was out, but did not return to duty until the tenth day. The second attack was when I was house surgeon, and during the second month of my service. . . . During the last month before I was taken ill we had a good many erysipelas cases, and three pyemias, one of which was the worst I ever expect to see. Dr. ——— was my junior at the time. After I recovered he was taken down, and gave up for over two weeks. This second attack was similar to the first, but much more prostrating, and laid me up for two weeks. . . . My cousin, Dr. ———, had two severe attacks while at the hospital, and he was much more prostrated than I."

Dr. Withington, of the Boston City Hospital, has, at my request, kindly made inquiries amongst the house officers and nurses at present in the hospital, and furnished me with the following account: Of ten house officers six, or sixty per cent., have had the disease, and four have not. All of these four are juniors with six months now of service before them, and consequently, I may remark, with plenty of time before them in which to catch the disease. Of thirty-two women, mostly nurses, nineteen, or fifty-nine per cent., have had the affection, and thirteen have not. This ratio may be increased by some of these thirteen taking the disease before leaving the training-school.

Since these inquiries were made, Dr. Withington has kindly informed me of an epidemic which occurred lately amongst the nurses connected with the uterine ward. In one week seven nurses employed in this ward were taken ill with follicular tonsillitis. None of the patients in the ward took the disease, and there were no cases of diphtheria or other contagious disease there. The water-closet, which was suspected, proved on examination to be in good order. There were no cases in other wards at this time.

This great frequency of tonsillitis in the hospitals, of course, does not of itself prove the constitutional nature of the disease, but taken in connection with other facts, such as the great severity of the symptoms often observed under these conditions, and the fact that the number of cases is sometimes sufficient to justify the term epidemic, it is enough, to say the least, to make one suspect that, whether local or general, it is caused by some of the many morbid influences by which one is surrounded in a hospital; and if this is so, it is more in accordance with our knowledge of the influence of such poisons on the organism that a general disease should result than a local one.

In regard to the origin of the so-called septic cause of tonsillitis I do not pretend to advance an opinion. The cases I have investigated in regard to this point are too few, but it may be proper to state that of the four cases recorded above one occurred in the hospital and three at different times in the same house, in which the drains were so extensively out of order that the odor of sewer gas was plainly perceptible. And in dispensary practice I have again and again met with cases where the hygienic surroundings were wretched, though I could not positively say the drains were defective, however much it might be suspected from the foul smells present.

Another point in favor of the septic nature and

<sup>1</sup> I think this percentage is slightly too high, as there is a source of fallacy in the possible error of diagnosis.

constitutional character of this form of tonsillitis is to be found in those cases which occasionally occur in an epidemic form. An epidemic of this kind has lately been reported<sup>1</sup> by Dr. George Wilson as occurring in the Rugby School, England.

In this epidemic the disease appeared in three out of the eight boarding houses, and about thirty boys in each house were more or less affected, making about ninety boys in all. Dr. Wilson thought he had traced the cause of the epidemic to infected milk; one of the cows belonging to the milkman who supplied the school being found to have garget. This seemed to be confirmed by the fact that, out of thirty-seven families in the town who were supplied with milk by this dealer, in fifteen, one or more members were more or less affected. Clement Dukes, physician to the school, in a letter to the *British Medical Journal*,<sup>2</sup> attempts to disprove the milk-infection theory, and thinks that the disease was due, like influenza, to atmospheric influences.

He thus describes the principal characteristics of the epidemic:—

- "(1.) Sudden onset of feeling of cold water being poured down the back, feverishness, aching of the limbs, headache, *malaise*.
- "(2.) Very painful stiff neck.
- "(3.) Enlargement of submaxillary glands.
- "(4.) Ordinary catarrhal sore throat in the majority of cases, but in some absent throughout.
- "(5.) It lasted about forty-eight hours.
- "(6.) Was in a few cases attended by sequelæ, true quinsy, pleurisy, acute rheumatism, and considerable debility.
- "(7.) None were followed by paralysis."

"The symptoms were analogous to — I may say identical with — influenza, with the exception that instead of catarrh of the eyes and nose we had catarrhal sore throat." He further declares that it was very infectious, that several went home and infected their friends, and that one person caught it in the railway train from two boys who had had the sore throat.

Dr. Ernest W. Cushing has kindly, at my request, furnished me with an account of an epidemic which he witnessed on board ship, and from which he himself was a sufferer.

"In September, 1869, the steamship *Holsatia* left New York for Hamburg with about thirty first cabin passengers and perhaps three hundred other persons, including the crew. One of the passengers in the first cabin was just recovering from an amygdalitis.

"On about the seventh day of the voyage several of the other cabin passengers were attacked by severe amygdalitis, with chilliness and fever lasting for some days, and dysphagia, great weakness, and prostration. Within a few days more than half of the cabin passengers were attacked with the same malady, which lasted about a week in the milder cases, longer in the more severe ones. One passenger landed at Plymouth, feeling too ill to proceed further. One elderly lady who landed at Cherbourg had to stay there a fortnight before she was able to travel.

"Two of the passengers entered the hospital at Hamburg, very ill.

"The surgeon of the ship used various gargles, etc., none of which apparently were of much use; one of permanganate of potash appeared to be injurious. The best was simply milk in which a fig had been boiled. There was no difficulty in respiration in any case, nor any patches on the soft palate, nor any induration of the submaxillary glands. The tonsils were swollen and inflamed, but did not suppurate; there were follicular ulcerations and white deposits in some cases, much resembling

diphtheria on casual observation. The soft palate and uvula were swollen, and the pharynx was covered with a tenacious mucus, causing incessant and atrociously painful efforts at swallowing. There were no cases among the crew nor among the steerage or second cabin passengers.

"This appeared to be a clear case of epidemic follicular amygdalitis, with a period of incubation and a distinct source of contagion, a constitutional affection, commencing with repeated light chills and decided fever; a period of great prostration lasting long after the violence of the local inflammation was over.

"The writer, who was himself a sufferer, has a very clear recollection of the facts, and remembers that Dr. Alonzo Clark, in his lectures, mentioned the occurrence of such epidemics. The last cases were more severe than the first. The sanitary condition of the ship was perfect, water and food excellent, weather fine during the whole voyage."

One epidemic, studied and reported by Flint, has thus been summarized by him:—

"The disease was an epidemic fever characterized by mild erythematic inflammation of the fauces as a constant local complication. Its character as essentially a fever is established by the febrile movement being in a marked degree out of proportion to the local affection. In other words, evidently not being symptomatic of the latter, and by its running a definite although a brief career. It was a fever of from three to five days' duration. Its epidemic character is sufficiently apparent. It prevailed extensively for about two months, reaching its acme gradually, declining gradually, and at length disappearing, affecting both sexes and different ages without discrimination.

"The small white patches . . . were evidently due to follicular secretion."

Now if we compare those cases occurring during an epidemic with the sporadic cases we shall find very little if any difference between them. The symptoms in both are essentially the same. The onset of an attack, the fever, the local lesion, the constitutional disturbance, the course and duration, are similar, and if the one is regarded as a constitutional fever I do not see why the other should not be also. I see no more reason for regarding epidemic tonsillitis as a so-called essential fever, and sporadic tonsillitis as a local affection, than for considering scarlatina to be a constitutional disease when it occurs in epidemic form and an erythema of the skin when it happens to be sporadic.

Furthermore, as the distinction between sporadic and epidemic cases is merely an arbitrary one, depending upon the number of cases occurring during any one period, any such distinction cannot have reference to the nature of the disease but only to the origin. The term epidemic hangs upon a sliding scale and may be pushed backward or forward at will.

In regard to the disease being infectious the following facts are suggestive merely. A patient of Dr. A. L. Mason was ill with what he (Dr. M.) tells me was acute follicular tonsillitis. Towards convalescence this patient was seen by one of mine reported above as No. III. Two or three days later No. III. was taken ill with the disease. Furthermore, three servants in the house with Dr. Mason's patient were successively attacked with sore throat at intervals of two or three days of each other. Unfortunately they were not seen by a physician, but, on the principle of what is good for the mistress is good for the maid, were treated with Dr. Mason's prescription. They were probably light cases. Four persons were accordingly attacked with sore throat after coming in contact with a person having follicular tonsillitis. I have repeatedly seen two or three persons in the same family successively attacked.

One argument which is constantly employed against the usefulness of the many remedies which are every day offered and highly extolled for the cure of diph-

<sup>1</sup> Abstract of Dr. Wilson's report in the *British Medical Journal*, September 3, 1881.

<sup>2</sup> September 24, 1881.

theria, is that many physicians meet with a large number of cases of diphtheria in their practice with a high percentage of recoveries, while another class of physicians see but little diphtheria and many cases of tonsillitis. It is generally held, and I must believe with truth, that a large proportion of the cases of diphtheria of the former class of physicians are merely cases of tonsillitis which have recovered from the natural self-limitation of the disease. And I think it is probable that the observers have been misled by the constitutional character of the symptoms so strikingly manifested. It is also much more difficult than is generally allowed to distinguish by mere inspection diphtheritic patches on the tonsils from the exudation due to follicular tonsillitis. Both often have to the eye the same appearance. And I have been able on several occasions by means of a reflector and a probe to prove what has been thought to be the exudation of tonsillitis to be in reality diphtheritic, and *vice versa*. Gargling is very inadequate as a test. In cases of doubt the probe should always be used.

On referring to the text-books I have been both surprised and disappointed. I find much, though, to support this view of the disease, although no writer, so far as I am aware, pronounces positively in its favor. Thus Mackenzie, without referring to any particular form of tonsillitis, says:—

"In those of debilitated constitution the fever occasionally assumes a typhoid character, whilst the local affection after a few days subsides into a subacute form in which the tonsils are partly covered with an ash-y exudation or honey-combed with ragged and indolent ulcerations."

Again:—

"Tonsillitis seems to have occurred in an epidemic form in some few instances, but from the published accounts there is great difficulty in distinguishing cases of simple tonsillitis from epidemics of scarlet fever. One instance, however, has been described with such care and precision by Mayence that little doubt can remain as to the purely tonsillar nature of the malady."

Cohen is very unsatisfactory, not distinguishing between the follicular and parenchymatous varieties.

Mandl dismisses the whole subject with a few words.

Bosworth, on the other hand, remarks:—

"The cause of this affection is from taking cold in a majority of cases; and yet behind this there is probably some especially predisposing cause of which we are ignorant. That it is something in the nature of an essential fever there is good ground for supposing; yet that it is contagious I do not believe. It often prevails somewhat as an epidemic and also endemically."

Among the works on general medicine those of Aitken, Jaccoud, Todd, and Bartholow do not mention the subject. Trousseau lays great stress upon the constitutional symptoms, but does not distinguish between the parenchymatous and follicular varieties, and regards it as a local affection. Squaney,<sup>1</sup> under common inflammation of the fauces, describes an affection similar to the one under discussion. He looks upon it as a local affection, due to damp and cold. He nevertheless says, "Overwork, especially when combined with the effects of a vitiated atmosphere, as is so often found in hospitals, gives rise so constantly on the least chill to this affection that the name 'hospital sore throat' is very commonly applied to it." Wagner,<sup>2</sup> Desnos,<sup>3</sup> and Niemeyer take the same view in regard to its local character. Flint regards the affection as constitutional in character when occurring in epidemic form; the sporadic

cases he seems to regard as a local inflammation merely, due to catching cold. Roberts, in enumerating the causes of acute inflammatory affections of the throat, says:—

"Certain forms of throat inflammation may perhaps be due to some poison in the atmosphere acting on the system. Some cases of hospital sore throat seem to arise in this way."

The following conclusions may now be added to what has been previously said:—

Sixth. The disease occurs in an epidemic form, when it is undoubtedly constitutional.

Seventh. There are strong, though not conclusive, reasons for believing it to be more or less infectious.

Eighth. The frequency with which it occurs in hospitals is such as to be best explained on the theory of a septic action on the system.

Ninth. It is probably often mistaken for diphtheria, from which it differs greatly in its symptoms and course.

Though I have endeavored in the above remarks to bring forward evidence in favor of the constitutional nature of acute follicular tonsillitis or catarrhal sore throat, I do not wish to be understood to maintain that every case of tonsillitis in which the follicles are involved is in reality a constitutional fever. On the contrary, cases of catarrhal inflammation of the throat, of a very simple nature and involving the tonsils, undoubtedly occur with considerable frequency. Such is to be expected, and there is no good reason why we should not have a simple inflammation of the tonsils dependent on cold or other influences as of the mucous membrane in other regions. But what I wish to draw attention to is this: that there is good reason to believe that *there is a form of sore throat of common occurrence in which the follicles and mucous membrane of the tonsils are chiefly involved, and which is the localized expression of an essential fever, not generally recognized.*

## RECENT PROGRESS IN FORENSIC MEDICINE.

BY F. W. DRAPER, M. D.

### DEATH BY DROWNING.

For a long time, authors have been particular to describe the special characters which are presented by the blood of those who have died by drowning. They have noted its color, its great fluidity, and the general absence of clots in the heart's cavities and in the great vessels. But hitherto no one has sufficiently indicated the cause of these changes and the conditions which determine their slight manifestation in some instances, their total absence in others. Recently this subject has been reviewed by MM. Brouardel and Vibert,<sup>4</sup> and their conclusions form an interesting chapter upon this important medico-legal topic.

The authors ask at the outset, "Does water reach the blood in appreciable amount during the act of drowning; and, secondly, if it does so, by what channel does it enter?" To ascertain if water really penetrates to the blood of the drowned, and to measure its amount, the experiment was tried of counting the number of blood-globules in a given volume of blood of an animal before and after submersion; and it was found that the number of globules was diminished by one quarter, and in some cases by one third, if the death

<sup>1</sup> Reynolds's System of Medicine.

<sup>2</sup> Ziemssen's Cyclopadia of Medicine.

<sup>3</sup> Nouv. Dict. de Méd.

<sup>4</sup> Etude sur la Submersion. Ann. d'Hygiène publique et de Méd. légale. Third ser., IV., 1880, page 452.

was induced slowly, the diminution being appreciably in proportion to the duration of the submersion: That this change was due to an actual increase in the aqueous part of the plasma, and not to a disappearance of the globules by the destructive agency of the water, the authors satisfied themselves experimentally.

If the animals experimented on were drowned rapidly, that is, by holding the head constantly under water till death was assured, the blood-globules presented no change in their relative number.

The channel by which the water reaches the blood is chiefly the pulmonary mucous membrane; the gastric mucous membrane, while aiding in the process, is of secondary importance, its power to absorb the water introduced into its cavity being relatively feeble.

The authors believe that the introduction of this considerable volume of water into the blood in the act of drowning, while effecting certain gross anatomical changes in the blood as observed post mortem, is of very little consequence in the mechanism of the death, and determines on its own account no important phenomenon. Moreover, it is far from exercising on the blood-globules themselves any such effect as might be expected. In dogs whose blood was diluted one quarter or more, not more than five globules in every hundred were changed, the change consisting in the assumption of a more or less spherical shape with an increase in size and a loss of hæmoglobine.

Upon careful examination of the pulmonary parenchyma and alveoli of animals which had been drowned, the authors found numerous small capillary hæmorrhages, and it is from these hæmorrhages, and not from any escape of blood through the bronchial mucous membrane, that, according to these observers, the froth which appears at the nostrils and lips of the drowned gets its rosy tint. These minute capillary hæmorrhages are relatively rare; more often one finds upon the surface of the lungs quite large patches, well-defined in outline and of a rather deep color. These are true subpleural ecchymoses, remarkable for their extent, their thinness, and their situation. They consist of a uniform layer of blood-globules, not thicker than the pleura, which has itself been separated from the lung tissue by the extravasation.

Among other changes described by the authors as resulting from submersion is a granulo-fatty degeneration of many of the cells of the pulmonary epithelium which have been acted upon by the water absorbed in the course of the drowning. This degeneration may supervene with great rapidity; it has been observed within half an hour from the submersion.

The medico-legal applications, which the authors make of their experimental observations, are as follows:—

The first and most important point is this. When a man in drowning can come several times to the surface to breathe, when he drowns slowly, he absorbs by the lungs a considerable amount of water: he admits water to his blood to the amount of from one quarter to one third of the total volume of the blood. There results a decided fluidity of the blood and no clots are formed either in the heart or the great vessels. Moreover the blood thus changed transudes through the vessels with extreme readiness and when gaseous putrefaction of the intestines develops and forces the blood from the deeper parts toward the extremities and surface, this blood rapidly colors the cellular tissue which surrounds the vessels and renders difficult, if

not impossible, the diagnosis of contusions or sanguineous extravasations which had accompanied death or preceded it.

If the body bears one or several wounds the fluid blood escapes with great ease, and one might readily believe that the drowned victim has just been thrown into the water, and that his wounds are recent and still bleeding, when, as a matter of fact, the wounding may have occurred hours or even days before.

When, on the other hand, death has taken place rapidly, and the drowning man, for any reason whatever (syncope, cerebral concussion, intoxication), has sunk at once to the bottom of the water without coming to the surface to breathe, the quantity of water absorbed by the pulmonary surface is slight and insignificant. The lesions do not differ materially from those which one finds after death by suffocation in a sand-bank or in grain, or in any irrespirable, but not poisonous, medium. The heart may then contain clots.

One understands, too, how in death by drowning which has been rapid there may be clearly defined, punctate, subpleural ecchymoses; in slow death, under water, on the contrary, these punctate ecchymoses are replaced by sanguineous extravasations which are large, expanded, and less striking. The difference in the two cases depends on the difference in the constitution of the blood.

The presence of blood-globules in the froth that issues from the bronchi of the drowned, especially in that found in the smaller bronchi, proves that the fine lather-like froth which we observe at the mouth and nostrils of a dead body recently taken from the water after drowning has its origin in the pulmonary alveoli, and is no proof that the drowning person came to the surface to breathe.

All these signs, taken together, will permit us to determine the conditions under which a drowned person has perished. If the blood is not fluid, if there are clots in the heart and punctate ecchymoses under the pleura, if the lungs do not present the peculiar appearance above described, which the authors call aqueous emphysema, we can say that the submersion occurred under circumstances that prevented the victim from struggling under impending asphyxia. If, on the other hand, the lungs are filled with water, if the blood is fluid, if the subpleural ecchymoses are large and somewhat indistinct, if the heart does not contain clots, we may conclude that the submersion has been slow and that the death has supervened upon a struggle, more or less instinctive in character, which has permitted successive mouthfuls of water to enter the trachea and to be absorbed by the pulmonary mucous membrane.

#### MEDICAL EXPERT TESTIMONY.

This is a topic of considerable concern to all who take any interest in forensic medicine. It will engage attention and excite discussion so long as the present deplorable methods of using medical opinion in court remain unchanged, and until the reasonable demands of the profession are heeded and some improvement is made in the traditional manner of exhibiting medical men on the witness-stand. All physicians, with the possible exception of a few who make the position of medical expert a matter of trade speculation, agree concerning the evils of the prevailing usage; but there is an unfortunate disagreement with regard to remedial treatment. Every year witnesses the publication of some new plan designed to meet the case. For ex-

ample, we find in a recent article<sup>1</sup> a very suggestive discussion of the whole subject by Prof. John J. Reese, whose experience and knowledge in all medico-legal matters endow his opinions with the title of authority. Dr. Reese recognizes to their fullest extent the defects already alluded to, points out the mischief resulting from the readiness with which many ignorant men, who call themselves "experts," are admitted to the witness-stand, describes the facility with which physicians of pronounced views lend their aid to partisanship, and denounces the still graver fault of our American method whereby "experts" make their views the subject of barter to the parties employing them and their fees conditional on the influence of their testimony.

The only true method, according to Dr. Reese, of meeting the difficulty, is to adopt a modification of the Prussian system. Let there be appointed, he says, for each of our States one or more thoroughly-educated practical physicians, properly trained in all the details of medical jurisprudence, including toxicology. These shall be known as State Medical Experts. The duties of such an official shall be to attend at every criminal trial in his district, when summoned by the court, as the skilled witness of the prosecution. He shall sit with the judges throughout the trial as *amicus curiæ*. He shall be prepared to make all requisite medical, microscopical, and toxicological investigations in any case requiring them. He should possess a chemical laboratory and all other appliances necessary to the thorough fulfillment of his duties. Although summoned by the State, he is by no means to be regarded in the light of a partisan, any more than the judge upon the bench. He can have no temptation to bias for either side. He would render his "opinion" grounded solely upon truth; and both his moral and professional character and attainments should be such as to preclude the possibility of error so far as human infirmity may admit.

In most criminal trials, the testimony of such an official expert would be deemed fully adequate to settle all scientific questions by both sides; but the defense should have the right of employing their own expert witnesses. The salary of the State expert should be sufficient to command the very best talent, inasmuch as he would necessarily be compelled to relinquish all practice and devote his time exclusively to his arduous public duties. He should not be appointed by the legislature, for the office should be lifted high above all political favoritism; nor by the Governor of the State, for similar reasons; nor by the State Medical Society because of the risk of ring influence; but by the judges of the Supreme Court of the State as being the safest body with whom to lodge the responsibility.

Whether it be practicable or not, Dr. Reese's plan has the merit of being positive and specific. It is in sharp contrast with the conclusions offered by a committee of the Connecticut Medical Society at the last annual meeting of that body.<sup>2</sup> The committee, which included in its number the president elect of the Society, having labored with the problem a whole year, "regret to find that they can suggest nothing of such positive or practical value as they and perhaps others anticipated." They admit the imperative need for some amendment, and do not hesitate to denounce the evils of the prevailing system. They say we must

bear these evils because we must not lightly infringe upon "the natural, fundamental, common-law, and common-sense right of an accused person to bring his own witnesses into court, to confront and freely question all witnesses, and, however many experts may have testified, to bring his own, as many as he is able or thinks proper. This right accords with the English notion of fair play, and never will be conceded or essentially modified." It is admitted that great mischief comes out of this, "but we see as the basis and foundation of our system the rights of the common man, and forgive the special evil through love of the principle."

After discussing the subject in its various bearings, the committee suggests that "the only remedy for a better condition of medical expert testimony lies with the profession itself. In elevating its general tone, encouraging learning and devotion to study, a high personal sense of honor and of the worth and dignity of the body, with a determination to do nothing unworthily, making the expert an honest, learned, reliable, common-sense man,—this seems about the extent of our remedial measures." [Prognosis very doubtful! REP.] The conclusion of the whole matter, according to the Connecticut view, is that "when the expert is content to speak only the honest truth, and the lawyer to seek only for the honest truth, then there will come about a better and more pleasant feeling than now prevails!"

[Better, as it seems to the writer, than either the radical and heroic line of treatment which Dr. Reese elucidates, whose final product would be an omniscient and infallible doctor coordinate with the chief justice, or the truly expectant course prescribed by the Connecticut consultants, whereby the desired amelioration might be realized when all litigation and criminal prosecutions had disappeared from human experience by virtue of the prevalence of the "honest" truth, is the proposition advocated before the Massachusetts Medico-Legal Society, and embodied in the following sections of a bill drawn for legislative action:—

Section 1. In any action, suit, or proceeding, civil or criminal, in which the testimony of a medical expert witness is desired by the parties, they may at any time before the trial file in the clerk's office a written agreement that such witness shall be summoned, designating him by name if agreed upon. The clerk shall thereupon issue a subpoena to the person designated, to be served in the manner provided by law. As soon as may be after service thereof the witness shall make such examination of the case as may in his judgment be necessary and practicable, and he shall attend as commanded in the subpoena, and answer such questions as may be put in relation to the case. . . .

Section 2. In any criminal proceeding the defendant may call and examine other medical expert witnesses in addition to those hereinbefore provided for, but at his own cost; and in such case other medical expert witnesses may be called and examined in behalf of the Commonwealth.]

IS "CONGESTION OF THE BRAIN" A CORRECT PATHOLOGICAL EXPRESSION?

In the course of his Croonian lectures on the influence of the circulation on the nervous system, delivered last spring before the Royal College of Physicians of London, Dr. Walter Moxon answers the question very emphatically in the negative.<sup>3</sup> After a very in-

<sup>1</sup> Philadelphia Medical Times, 1881, vol. xii, page 452.

<sup>2</sup> Proceedings of Connecticut Medical Society, 1881, page 24.

<sup>3</sup> Lancet, 1881, vol. i., Nos. 13 to 18.

structive analysis of the various anatomical, physical, and physiological elements involved in the subject. Dr. Moxon continues as follows:—

"Can you in any individual case prove by post-mortem appearances that death was caused by congestion of the brain, or even that a state of congestion of the brain or over-fullness of its blood-vessels preceded death? I believe these questions must be answered firmly in the negative. In establishing such a negative, one has to meet with a very strong prejudice, rooted in most tenacious grounds,—the grounds of convenience and of ancient and universal acceptance. After examining a body dead from brain symptoms, when all you are able to see in your examination is only that the veins are very full of blood, it is very convenient to be able to say that death was caused by congestion of the brain, and it sounds much better for a skilled witness than to say that death was caused by insensibility: so that the doctrine of congestion of the brain is convenient, and the universality of its acceptance may be illustrated by the naïve earnestness with which authors of great works adopt it. . . . We find writers giving four conditions as showing congestion. The first is the swollen state of the brain, so that it seems after removal from the calvaria almost too large for the cavity which contained it. The dura mater seems tightly stretched over it, and, on reflecting this, the convolutions appear broad and flattened, and the sulci less obvious. No allusion is made here to hypertrophy of the brain, which is known only, so authors say, by its causing a general enlargement of the whole organ. I have never seen such hypertrophy, but the flattening described has very frequently come under my observation, but always in the presence of some obvious cause of expansion of the brain, in the form, usually, of an increase of the intra-ventricular fluid or else of apoplectic bleeding or of tumor, in which case the swelling and flattening are more localized.

"The next evidence [of congestion of the brain] mentioned by writers is the distention of the veins and capillaries with blood, the veins are tortuous and varicose, the gray matter dark. Both this and the white matter show abundance of bloody points and gorged vessels, and the description ends with, 'It is extremely difficult to draw the line and say what is morbid and what is consistent with health.' Now, it is better, nay, it is necessary, to say firmly that it is simply impossible to draw the line and to say what is consistent with health. But the question is not about the degree of health to be inferred from a post mortem, but whether the mode of dying, the position of the body after death, or the manner of making the inspection will not determine the appearance of extreme over-fullness of the vessels of the brain of the dead person, independently of the conditions which were antecedent to all this. Can we infer from the amount of blood in the brain after death the amount during life? Kussmaul and Tenner, after numerous experiments, under various conditions and circumstances accurately predetermined, declare as the result of their investigations that they could not deduce any results from post-mortem examinations undertaken to ascertain the state of fullness before death of the most important parts of the vascular system. Now, if this is the conclusion where the conditions before and after death were determined and known, how can it be said that the amount of blood found after death in the human brain will show the amount present before

death when the conditions before and after death were unknown and undetermined?"

The author applies the same line of reasoning to other organs,—to the liver and to the stomach, with special reference to the appearances caused by sudden death by heart disease. He then continues: "During life, redness, when associated with swelling, heat, and pain, are at one with these associates in proving the existence of inflammation; but after death the redness, which was due to the enlarged scope of vascular play, ceases, because vascular play has ceased with life. The consequence is not doubtful, and it is quite certain that after death the redness goes from inflamed and congested parts. Such serious issues may turn upon this point that I think it very necessary to clearly recognize that no degree of redness, or pinkness, or over-fullness of blood about the brain or its membranes can prove that there was any morbid state of the circulation within the head before the act of dying. Death by asphyxia increases the amount of blood in the head, but a dependent position of the head after death, if only for a short time, will cause a similar increase. It should be taught that it is a sign of ignorance to say in a coroner's court that congestion of the brain was found on post-mortem examination to be the cause of the person's death."

[These emphatic words have an obvious medico-legal application. To those who are in the habit of making autopsies with what is deemed proper thoroughness for judicial purposes, and who have invariably opened the head of the cadaver with that end in view, and have noted and described, with more or less faithful attention to details, the blood supply of the brain and its meninges as an essential part of the examination, these new teachings will suggest the propriety of revising the usual interpretation of injected blood-vessels. But the observations of Moxon cannot serve to justify the examiner in omitting to examine the contents of the cranium in every instance of post-mortem inquiry in death by violence, no matter how evident the cause of death may seem to have been declared upon inspection of other regions of the body. If the medical jurist desires an excuse for saving himself extra labor with the saw, mallet, and knife when he thinks he has found the cause of death in some region below the head, he will find a distinguished American precedent in the record of the autopsy of late President Garfield; it will be remembered that before proceeding to the inspection of the body in that case it was "unanimously agreed not to open the head."]

#### THE CHARACTERISTIC APPEARANCE OF WOUNDS OF THE INTESTINES MADE DURING LIFE.

Accurate knowledge of the distinguishing marks by which to determine that a solution of continuity in an intestine is the result of violence to the living body rather than of accident during the autopsy is of very great importance to the medico-legal inspector; and Dr. W. F. Whitney has done good service in pointing out with clearness the means of differentiation.<sup>1</sup> The relation, he says, which the mucous coat bears to the edges of the wound is characteristic, and when carefully considered will leave little doubt as to the time when the wound was inflicted. In ante-mortem wounds the edges are covered by a protrusion of this mucous coat. The mucous membrane is loosely connected to the muscular coats and is movable upon them to a

<sup>1</sup> JOURNAL, 1881, cv., No. 3, page 54.

certain extent. If all the coats of the intestine are divided, the edges of the wound will gape from the retraction of the cut muscles, and the lax mucous coat is forced through the opening by the peristaltic movement as far as its attachments will permit and curls back over the edges of the wound through the action of its elastic fibres. Once over the edges of the wound, the membrane is not retracted again and in a few hours it develops inflammatory adhesions in its new position. Besides the new position and relations of the mucous coat, there is a slight thickening of all the coats immediately in the neighborhood of the wound from an infiltration with serum and new cells.

In a rupture or perforation from ulcer, the protrusion of the mucous membrane would not occur, because in these cases the mucous coat is extensively destroyed and fastened to the muscular coats by inflammation before the outer layers of tissue yield.

#### THE DIAGNOSIS OF BLOOD-STAINS BY THE MICROMETRIC METHOD.

Dr. J. G. Richardson, whose enthusiasm upon the subject is well-known, gives the following as a summary of his observations on the micrometry of red blood-corpuscles and their bearing on the diagnosis of blood-stains.<sup>1</sup>

(1.) That in unaltered blood-stains, as ordinarily produced by the sprinkling of drops of blood upon clothing, leather, wood, metal, etc., we can, by tinting with aniline or iodine, distinguish human blood-corpuscles from those of the ox, horse, sheep, and goat wherever the question is narrowed down by the circumstances of the case to these limits.

(2.) By the method of the author we can measure the size of the corpuscles and apply the two corroborative tests of tincture of guaiacum with ozonized ether and of spectrum analysis, to a single particle of blood-clot weighing less than one fifteen-thousandth part of a grain, a quantity barely visible to the naked eye.

(3.) Hence when an ignorant criminal attempts to explain suspicious blood-spots upon his clothing, weapons, etc., by attributing them to the ox, pig, sheep, or goat, or to any of the birds used for food, we can under favorable circumstances *absolutely disprove* his false statement and materially aid the cause of justice by breaking down his lying defense, even if twenty years have elapsed.

(4.) But if the accused person ascribes the tell-tale blood to a dog, an elephant, a capibara, or any other animal in Dr. Woodward's list, it is useless to attempt to dispute his story on microscopical evidence as to the size of the blood-corpuscles.

(5.) In cases of innocent persons wrongfully accused of murder and really stained with the blood of an ox, pig, or sheep, testimony of experts founded upon the measurement of the corpuscles would be valuable, but less conclusive, because under certain circumstances human blood-corpuscles may *shrink* to the size of those of the ox, while under no known conditions do ox or pig corpuscles *expand* to the magnitude of those in human blood.

(6.) In order to do away with ingenious objections of lawyers that the murdered person may have been affected with some disease which altered the size of his blood-disks, or that the articles of clothing, etc.,

upon which the stains were deposited had produced chemically or otherwise some similar change in their magnitude, it is very important promptly to obtain stains from the fresh blood of the victim made in the presence of witnesses upon portions of the prisoner's clothing or upon weapons analogous to those upon which suspicious red spots are found when he is arrested. When this cannot be done, spots of the murdered person's blood sprinkled on white paper, and fragments of his lungs and kidneys should be carefully preserved, the former by rapid drying, the latter by preservation in diluted alcohol. These precautions may, in any instance, prove to be of infinite importance.

## Hospital Practice and Clinical Memoranda.

### A CASE OF HEMOGLOBINURIA.

BY F. GORDON MOERILL, M. D.

A. B., aged thirty-nine, consulted me October 19, 1881. His previous history is as follows:—

He enjoyed good health until 1877, when he went to California, and assumed charge of a placer mine in a malarious district. During the next four years his life was one of exposure, and attended with great mental strain and anxiety. He soon contracted malaria, and more than once was obliged to leave his business and seek medical advice in San Francisco. Two years ago he had an enlargement of the spleen, which disappeared under treatment. From time to time he took large quantities of quinine. A few weeks previous to my first seeing him he came to Boston, and soon after arriving here began to present the symptoms which led him to consult me. His general aspect was thin, sallow, and very anæmic, and he complained of chills at irregular intervals, with headache, nausea, and general malaise. His pulse was 110, temperature 101° F. No enlargement of the spleen was detected. Two grains of sulphate of quinine four times a day were prescribed, with the result of stopping the chills, and obtaining some improvement in the general symptoms. November 3d he stated that he had passed (for the first time in his life, so far as he knew) "bloody urine." This had occurred several times on the previous day, but at night the urine was perfectly clear again. Tincture ferri chlorid., in twenty-drop doses, was ordered in addition to the quinine, and he promised to bring me a specimen of his urine should he notice any discoloration. November 12th he brought me a phial containing six ounces of urine of a dark-red color. He stated that he had had another attack during the interval succeeding his previous visit, but being very much occupied had kept about town all day, and found upon his return to his home in the afternoon that the redness of the urine had entirely disappeared. The specimen was found to be albuminous, specific gravity 1025. Reaction faintly acid. A dark-brown deposit showed amorphous granular matter, but no blood corpuscles or crystals of calcic oxalate under the microscope; occasional granular casts were seen. Each attack had been preceded by a slight rigor and considerable pain in the back; on one occasion the feet were wet and cold. The same treatment was continued, and when last seen (December 15th) the patient was apparently quite well. His color and general appearance

<sup>1</sup> Medical News and Abstract, April, 1881, page 214, from the American Medical Bi-Weekly.



were good, and he had had no further symptoms of urinary trouble.

The rarity of this affection would seem to warrant a brief review of facts resulting from observations of similar cases.

Of the various names suggested as appropriate to this disease, — hæmaturia, intermittent, periodic, paroxysmal hæmoglobinuria, and hæmoglobinuria a figure, the last would seem the best, as will be seen when I refer to the pathology. First observed in 1864, it has excited considerable attention abroad, more particularly in France and England, during the past two years. The symptoms preceding and during an attack are usually more marked than in the case I have reported. Never fatal in itself, occurring almost always in males (one case only in thirty was that of a female), the attack is preceded by a distinct rigor, and is accompanied with nausea, pain in the back and legs, and a sense of weakness. Occasionally retraction of the testicle has been observed. In a space of time varying from a few minutes to two hours the urine begins to present the characteristic appearance I have described. This may last a few hours, very rarely more than seven or eight. The intervals between the attacks vary from one or more days to a year, so that one is never justified in pronouncing a patient well unless he has been under observation a long time, say several winters. The urine, in addition to the appearances I have described, usually shows crystals of calcic oxalate. The color may vary from being slightly tinged to the deepest red. The amount of albumen present in any given specimen is said to be proportionate to the depth of color.

The etiology of the trouble remains obscure, but certain facts have been so frequently observed as to warrant one in accepting them as fixed. Exposure to cold will excite an attack in a person who is already subject to the disease. Warmth (however obtained) immediately after the premonitory symptoms will prevent the discoloration of the urine, which is then found to be albuminous only. Hence attacks at night, when people are usually comfortably housed, are very rare. I have been able to find but one case reported. It is now admitted that the discoloration of the urine is due to the presence of hæmoglobin. This fact has been repeatedly demonstrated by the use of the spectroscope. The theory that the presence of this element can be accounted for by some peculiar condition of the urine which destroys the red globules, and sets free the coloring matter (thus changing what would otherwise be a hæmaturia into a hæmoglobinuria), is easily disposed of by the fact that blood disks placed in urine already containing hæmoglobin only, preserve their form as seen under the microscope. The idea that a sudden congestion of the kidneys from exposure to cold in some way destroys the corpuscles, and at the same time squeezes out the coloring matter in the tubuli uriniferi would seem disproved by the fact that the disease can be artificially produced by the inhalation of certain gases, and also (in people already subjects of the disease) by the application of cold to a very limited surface. When and how the change in the blood takes place is not known, but the evidence is not in favor of the kidneys. The peculiarly sallow hue of the patient is thought by many to be due to the circulation of free hæmoglobin. Exactly what condition of the system renders a person liable to the trouble remains uncertain, but that in some cases syphilis plays

an important part seems established by the fact that two cases have been cured by Murri by specific treatment. These two remained under observation several winters, and continued well. Murri states that there is only one other case of recovery recorded, and here in addition to quinine mercury was used. At the necropsy of a man who was subject to the disease, a syphilitic lesion of the liver was discovered. A connection between hæmoglobinuria and malaria is hinted at by nearly all writers, and there certainly seems ground for this assumption in the case I have reported, although the patient may have had syphilis and concealed the fact. Hence, so far as treatment is concerned, we may place mercury, quinine, and iron in the front rank of drugs likely to be of benefit. Astringent remedies in ordinary use for hæmaturia and pilocarpine given to relieve a supposed renal congestion have been found useless.

## Reports of Societies.

### PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

T. M. ROTCH, M. D., SECRETARY.

JANUARY 23, 1882. DR. J. C. WARREN presided. DR. C. M. GREEN read a paper entitled

#### REPORT OF A SUMMER COURSE IN OBSTETRICS.

Vide page 99 of this journal.

DR. MINOT said that the more frequent employment of forceps of late years was not only a great saving of suffering to the mother, but rendered her convalescence more free from danger, and more rapid. He was accustomed to use forceps more frequently perhaps than most practitioners. In a series of 282 consecutive recorded cases in private practice he delivered the patients with forceps 92 times, or 32 per cent. of the whole number, equal to about one in three cases. He believed his results were as good as those of most practitioners. He had no death which could in any way be attributed to the use of instruments, and no unusual number of cases of laceration of the perinaeum, flooding, etc. In respect to hæmorrhage, in 12 cases of a series of 151 labors, serious hæmorrhage occurred; in three of these cases forceps were used, but in each case for exhaustion, inefficient pains, or tedious and difficult labor. In the 92 forceps cases there were 53 male children (58 per cent.), and 39 female children (42 per cent.). In 19 cases (20 per cent.) the occiput was posterior, — 11 male children and eight female.

Dr. Minot had often incised the thin edge of the perinaeum during delivery, in primipara, but, judging by the cases recorded in his notes, without much benefit, — in many instances it did not prevent a tear in the median line, sometimes to a considerable extent. In the treatment of hæmorrhage after delivery he desired to call attention to the fact that it was rarely fatal, and that the large number of remedies which were thought to be successful showed that probably the condition was not much influenced by any of them. He was accustomed to rely much on compression of the aorta, which was easily done, and, he thought, very efficient. Two cases, in which alarming symptoms had followed the employment of carbolyzed vaginal douches

during convalescence after labor, had convinced him that that proceeding was not safe, and where there was any fetor of the discharges he preferred the use of a swab dipped in a carbolic solution. Of course in the great majority of the forceps cases the head was on the perineum, and the instrument was used to prevent a tedious, and as he believed, useless delay.

Dr. W. L. RICHARDSON said that he had frequently observed a tendency to post-partum hemorrhage follow the use of ether. In his own practice he very rarely used ether and had never seen a case of post-partum hemorrhage. During the first stage of labor he almost invariably gave hydrate of chloral in fifteen grain doses every twenty minutes until the patient had taken forty-five grains, and thus he was able to avoid the use of ether. The uterus was, as it were, a hollow muscle, and he could not understand why ether should not tend to a relaxation of that organ as well as any other muscle of the body. He agreed with Dr. Minot as to the advantage of the frequent use of the forceps, for by their use not only was suffering prevented, but he believed that the subsequent convalescence was shortened and that we were able the better to protect the perineum from injury. He was especially interested in the case reported by Dr. Green in which the occiput had presented posteriorly. He thought physicians made a great mistake in contenting themselves with making out the presentation without also ascertaining as early as possible the position. In cases in which the occiput presents posteriorly we should remember that there is a danger of the head becoming extended. The application of pressure, as in Dr. Green's case, on the anterior part will promote flexion and thus allow of the subsequent rotation of the occiput forward. In several cases which he had seen in consultation he had been able, where pressure on the anterior part of the head had failed, to flex the head by the application of the forceps applied with the curve reversed. On examination of statistics he had been struck by the large number of cases of septicaemia which had followed the birth of a putrid child. He had therefore, the last few years, been in the habit, at the Boston Lying-In Hospital, of always using intra-carbolized injections after the birth of a putrid fetus. The results had been the avoidance of the high temperatures which had followed such confinements before the use of such injections.

Dr. REYNOLDS remarked that the paper just presented was certainly very interesting evidence of the valuable lessons which even a limited number of obstetric cases afford, when analyzed with the intelligence and thoroughness of detail which characterize this communication.

Dr. Reynolds did not admit that there was any danger of hemorrhage from ether provided the ether was administered with ordinary discretion, and said that he would weigh the strain upon the mother's system which the unrelieved suffering of labor induces very willingly against any supposed relaxation of the uterine fibre that the suitable use of this anæsthetic brings, as a factor of equal importance, if not greater, in the causation of hemorrhage. It was a matter of fact, that while only very rarely witnessing labor of any length without anæsthesia, he had not in private practice frequently occasion to observe serious hemorrhage. He believed that in the private exercise of obstetrics careful management of patients, in such particulars as the husbanding of strength and its increase before confinement, watch-

ful supervision of the process itself, and avoidance of too early departure after the delivery, would greatly diminish the chance of bleeding. After any free use of ether he was glad to administer a moderate dose of ergot, provided the uterus had first been wholly emptied.

Dr. Reynolds then said: "The importance of Dr. Richardson's remarks as to the early detection and treatment of loss of flexion in cranial presentation, where rotation will later tend to bring to the front of the mother's pelvis the frontal end of the cranium, instead of the occipital end, must be admitted; but when this subject comes up for discussion it is always desirable to emphasize very strongly the distinction between a mere posterior variety of either left cranial position or right, and such a variety when combined on the other hand with loss of due flexion. In the former case there is no interference with the normal mechanism, if we accept the possible loss of a few additional minutes while the occipital end traverses three eighths of the pelvic circle, instead of the shorter space. In the other instance, where flexion is greatly diminished, and where on digital examination the posterior fontanelle can only be reached with great difficulty, or not at all, everything presages a difficult expulsion, that perverse rotation which will bring the frontal end of the cranium to the front wall of the pelvis, and a probable emergence of the occiput backwards, over the perineum. The greatly increased suffering which this result creates, and the risk of injury to the mother, should always be borne in mind by the attendants. Here, as in so many thousand other obstetrical embarrassments, thoroughly good care involves on the part of the accoucheur presence during the earlier hours of labor, and a mind ever watchful and alert.

Two instances of adherent placenta were hardly to be expected in so small a number of obstetric cases. In one of them the existence of syphilis, a very sufficient cause, is noted. There is no evident reason for questioning the existence of real adherence in the remaining patient. True adhesion of the placenta to the uterine walls bears but an insignificant proportion to that great number which we find in obstetric reports, the majority of these latter being undoubtedly explicable as simply the sticking of the placental surface against the uterine wall, much as a man's boot sticks when he has trodden ankle deep in clay."

#### ANTISEPTIC INJECTIONS; BORACIC ACID AND CARBOLIC ACID.

Dr. CHARLES WILLIAMS spoke of the use of a saturated solution of boracic acid in the treatment of affections of the conjunctiva, and suggested its use in place of carbolic acid for injections after child-birth.

Dr. WAIREN, commenting on the dangers which are supposed to have arisen from the use of carbolic acid for injections, remarked that the tendency of surgeons was at present to use weaker solutions and to avoid using carbolic acid for washing out internal cavities, as the bladder. He also said that he had used boracic acid as an injection for the bladder.

As illustrating further the danger sometimes arising from vaginal injections, Dr. DUE mentioned the following case which had recently occurred in his practice:—

The patient was a multipara, and the labor had been

perfectly normal. Vaginal injections of carbolic acid, one part to 120, had been ordered to be given three times a day. On the morning of the sixth day, as the nurse was giving the injection, the patient remarked that "she had thrown the water up to her stomach," and immediately complained of abdominal pain, which soon became intense and attended with a condition of semi-collapse. I saw her three hours later. Her countenance was very pale, pulse weak and thready, abdomen distended, tympanitic, and very sensitive on percussion. The pain had considerably abated. Stimulants, morphia, and hot applications to the abdomen were ordered, and on the following day the pain, distention, and tenderness of the abdomen had disappeared and no ill results followed.

#### CONTINUED VOMITING OF TWIN PREGNANCY.

DR. DOE referred to the case reported by Dr. Green of continued vomiting in twin pregnancy, and asked if it had been the experience of members present that the vomiting in twin pregnancies was more persistent and intractable than in single pregnancies. Such had been his own experience.

DR. MINOT said that he had not had the same experience as Dr. Doe, for that the severe cases of vomiting which he had met with were with single children.

DR. GREEN remarked that it seemed to him very probable that the nausea and vomiting so common in the early months of pregnancy were due to the sinking of the uterus in the pelvic cavity, and that therefore it was reasonable to expect a greater intensity of these symptoms in twin pregnancy when the uterus is naturally heavier.

DR. FIFIELD reported two cases of

#### STRANGULATED HERNIA

which he had operated upon, and remarked upon the greater success which he had lately obtained in this operation, being probably due to closely stitching the hernial sack in its whole length and then closing the outer wound.

#### PERITONITIS AND PLEURISY.

DR. MINOT reported the case of a married woman, twenty-two years old, who entered the Massachusetts General Hospital January 14th and died January 21st. She had left the Lying-In Hospital in good condition, on the 8th, a fortnight after her labor, which was quite normal. Returning home she kept about house, did some washing, and hung out the clothes January 10th. While doing this she made a misstep, and thought she "strained herself." Pain in the hypochondrium followed, and was severe enough for her to go to bed. There was no chill and no cough. The pain extended over the abdomen and was followed by vomiting and diarrhoea. On entrance, four days afterwards, she seemed almost moribund, with involuntary discharge of urine. The mind was clear. There were symptoms of general peritonitis. The uterus seemed normal. On the 17th there were signs of pleurisy on both sides, and also moist bronchial râles. In the upper part of the right lung fine crepitant râles and bronchial respiration between the scapula and the spine were heard. Each expiration was accompanied by a slight groan. There was a dark, circumscribed flush on each cheek, with general cyanosis. The urine was

albuminous, but no blood nor casts were found; chlorides not much diminished. There was slight delirium the night before her death. The temperature rose steadily from 103° F. the evening of her entrance to 107.6° F. shortly before death, which was on the eleventh day of the disease.

DR. FITZ described the appearances found at the post-mortem examination, stating that they consisted chiefly of a general fibrinous peritonitis and pleurisy. The latter was double, the more abundant effusion being present in the right chest. The uterus was normally involuted, the lining membrane shreddy and injected, without offensive odor. The connective tissue of both broad ligaments slightly infiltrated with pus. The vagina and ovaries showed nothing abnormal. There was granular degeneration of the heart, liver, and kidneys. A reddish thrombus, some five inches in length, and centrally softened, extended towards the heart from the bifurcation of the inferior vena cava to the posterior wall, to which it was internally adherent.

DR. REYNOLDS said that the specimen was especially worthy of notice, as illustrating the development of general puerperal disease of grave import by extension along the connective tissue, in contrast to that which results from absorption of septic material through the inner surface of the uterus. It was well known that the latter order of sequences is thought by many of the best obstetrical authorities to be far more exceptional. The bearing which facts of this nature have upon our certainty of giving relief by intra-uterine antiseptics is evident.

In this very important and interesting specimen the surface of the uterine cavity showed to the unaided eye, at least, little evidence of the existence of pathological change. It is in the connective tissue of the broad ligaments that we see the beginning of the disease, which subsequently extended itself in the sub-peritoneal connective tissue to nearly every point of the abdominal cavity, and then developed itself still farther within the thorax. It was not now in our power to fix with accuracy the initial point from which the tissue in question was invaded. That point may have existed in some laceration at the level of the cervix; it was more probably a torn surface in the external parts, the labia or the perineum.

It was of course out of our power to exclude the surface of the uterine interior as a possible medium of septic infection in any given instance, so that the cleansing of the cavity for the chance of relief which this undertaking involves may often be obligatory, when at the same time a failure to obtain the desired improvement may be the necessary consequence of the fact that the poison was introduced through a different channel.

#### FETUS OF TEN WEEKS.

DR. C. M. GREEN showed a beautiful specimen of a fetus at about the tenth week of development. He had seen the woman five days before suffering with much nervous disturbance and in poor general health. She had weaned her first child in November, 1881, and had not menstruated since that time. The uterus was somewhat enlarged, and the os slightly patent. It was learned that the woman had believed herself pregnant, and had passed a knitting-needle presumably into the uterus; hæmorrhage occurred from time to time, and January 24th she aborted.

# PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

H. C. HAVEN, SECRETARY.

DECEMBER 31, 1881. Meeting called to order at 7.45. Sixty members present. Dr. R. M. HODGES in the chair. Dr. MORTON PRINCE read a paper entitled, —

## IS ACUTE TONSILLITIS A CONSTITUTIONAL DISEASE.

Vide page 96 of this journal.

Dr. E. W. CUSHING, in opening the discussion, spoke as follows: "I have been much struck with the fact that so little mention is made of this question in medical literature, as shown by Dr. Prince. The confusion on the subject is owing to loose and inaccurate diagnosis. It is pretty conclusively shown that an affection of the tonsils occurs with chill, fever, and general symptoms; infectious, epidemic, with a period of incubation, and as a rule occurring but once. These characteristics entitle it to rank as a constitutional affection, — a germ disease, as we should call it nowadays.

"It is distinct from diphtheria on the one hand, being more asthenic, with more fever, and less affection of the glands, and no patches except on the tonsil. The exudations, however, are very often quite similar to those of diphtheria, spreading between the individual follicles and pretty firmly adherent. It is very often called diphtheria, especially by our erring brethren of a certain school of medicine, and great glory is claimed for carrying a whole family through diphtheria without a death!

"Cases do occur, however, in which a diagnosis from inspection is very difficult, and if pronounced diphtheria and treated as such the error is unscientific rather than injurious to the patient.

"The disease is equally distinct from pharyngitis and common superficial or phlegmonous anginalitis, which, as every one knows, result easily and repeatedly in certain individuals from exposure to cold, wet feet, etc.; are not contagious nor epidemic, although in some rare cases there are patches on the tonsils. Follicular tonsillitis is frequently associated with bad drainage, and escape of sewer gas into the house, as remarked by Dr. Stickney, and in such cases is to be attributed to some organized living contagium, carried in the gas, and not to merely chemical or irritant local effects thereof. Isambert ascribes the disease to the darts of diathesis and considers it as a herpes of the throat, but he is probably speaking of another affection under this name. In effect Dr. Prince seems to have shown that there is a constitutional disease, epidemic, contagious, self-propagating, self limited, occurring as a rule but once. This may properly be called follicular tonsillitis or anginalitis, but not every affection ordinarily so called belongs to this class. The nomenclature and diagnosis of such affections are uncertain and confused."

Dr. T. A. DE BLOIS followed: "I wish to say a few words in support of my opinion, as well as that of many others, that acute follicular tonsillitis is not a constitutional disease. In the first place the disease confines itself to one or both of the tonsils, seldom implicating the pharynx, never the larynx nor trachea. That the onset of the disease is accompanied by a certain rise in temperature is true, but it is no more than is present in local inflammations of other mucous mem-

branes. This fever soon passes away, and the pain and discomfort incident to the tension due to blood pressure may be promptly relieved by scarification, so that it does not seem possible that any more than the gland under consideration can be involved.

"The general malaise may be easily accounted for by the interference with respiration and deglutition, and the altered secretion of the tonsils, changed from a clear fluid to a thick, sticky mucus.

"The cause of this affection can generally be traced to some local irritation — as from cold or irritating gases; the air of the dissecting-room being a prolific cause. The swallowing of caustic substances may, according to McKenzie, cause tonsillitis — thus, on good authority, we may produce a constitutional disease at will by local means.

"There are certain conditions of the body, which, though they have nothing whatever to do with the disease, yet by their debilitating influences render the part more susceptible to the local irritation: constitutional delicacy, the strumous, gouty, or rheumatic diathesis, or chronically enlarged tonsils, previous attacks, etc., may be mentioned among the predisposing causes, as La Segue states in his *Traité des Angines*: 'It is entirely local, and acknowledges for a cause the antecedent inflammation, and will itself in the future be the frequent cause of a series of relapses.' Bosworth states, 'As in all diseases of the mucous membranes characterized by fibrinous exudation, the onset of the attack is marked by a chill or decidedly chilly sensations followed by a fever more or less active in character. The cause of the affection is taking cold in the majority of cases, and yet behind this there is generally some predisposing cause of which we are ignorant.' He states again: 'Guaiac exercises a controlling influence in quinsy and this would seem to afford evidence of the truth of the view which regards quinsy as a manifestation often of a rheumatic diathesis. On the other hand, the whole subject of a special diathesis as governing the development of throat diseases rests on such uncertain clinical observation that it seems to me that it only serves to confuse, and that we obtain a clearer understanding of them by ignoring it, and regarding these affections as purely idiopathic and local.'

"One more point which weakens the constitutional side of the argument is the generally received law that one attack of a constitutional disease affords a certain amount of immunity from subsequent ones, as we see in diphtheria; but so far from doing so, one attack seems rather to pre-dispose to a second.

"I cannot conclude better than by quoting from a clinical lecture of Professor Jacobi's." Vide page 605, vol. cv., of the JOURNAL.

Dr. BUCKINGHAM said that it was impossible at present to deny or accept Dr. Prince's proposition on account of the great difficulty which often occurred in making a diagnosis; this rendered the statistics untrustworthy. Dr. Buckingham often found it impossible to make a diagnosis at first. He believed the possibility of introducing a probe into the opening of the follicles the only sure differential means at our command.

Dr. F. G. MORRILL declared his belief in the affirmative of the question, and cited several cases where the disease had apparently been caused by imperfect drainage.

Dr. H. I. BOWDITCH spoke of the great importance of investigating the different varieties of sore throat;

he believed the diagnosis of throat affections was yet in its infancy.

DR. HODGES, in closing the discussion, said that some of the obscurity which attaches to the etiology of the class of diseases under discussion appeared to grow out of inexactness in the use of words. The generic name "sore throat" includes many kinds and degrees of soreness in the different structures of the throat, and almost inadvertently a confused variety of affections are discussed in speaking of the causes of any one of the wide range of diseases embraced under this single comprehensive name.

At one end of the gamut, for example, there is a parenchymatous form of tonsillitis, attended by great swelling, sometimes extending beyond the limits of the gland itself, with an amount of inflammation so great in many cases as to lead to suppuration, or even sloughing,—and from this extreme we run down through forms of localized follicular tonsillitis, provoked by the irritation of accumulated sebaceous or cretaceous matter in the follicles of the tonsil; inflammation of different parts of the fauces, especially the uvula, the main feature of which is edema; pharyngeal folliculitis; various conditions involving the epiglottis, the vocal cords, or other parts of the larynx, chiefly marked by the symptom of hoarseness; until we come to that variety of sore throat, the characteristic of which is pain and painful swallowing, bad enough for a physician to be sent for, but with no signs of any inflammation, the parts presenting their habitual appearance, it being, in fact, a *throat-ache*, comparatively of short duration, occurring only in patients who are "run down," and disappearing with rest and good feeding.

As these and others of the varied forms of "sore throat" seem to be especially common in this city, particularly in childhood, the tendency to them diminishing towards manhood, it is desirable to keep within the limits of each individual form when questions as to their cause or pathology are being considered. This it is not easy to do; and the suggestive manner in which the subject has been presented by Dr. Prince is as interesting as it is valuable.

DR. H. J. BARNES read a paper entitled *The Water Supply of Boston*.

vide page 78 of this JOURNAL.

DR. H. I. BOWDITCH reported three cases of thoracentesis, where only a slight amount of bloody fluid had been evacuated. Dr. Bowditch stated that in his experience this condition had always been associated with cancer. (The cases will be published in full.)

DR. DAVID HUNT showed a beautifully perfect human embryo about four mms. long, with the membranes also very perfectly preserved. Its age was estimated to be about twenty-eight days.

## Recent Literature.

*Lectures on Electricity (Dynamic and Franklinic) in its Relations to Medicine and Surgery.* By A. D. ROCKWELL, A. M., M. D. New York: William Wood & Co. 1881. Pages viii. and 122.

This little book contains eight lectures, of very unequal lengths and merit, in which are considered the relations of electricity to physiology, diagnosis, and therapeutics, preceded by one on electro-physics.

The seventh lecture, on treatment of special dis-

eases, is the longest, and, so far as it goes, is generally satisfactory, but it is not possible to condense into thirty pages all that is important in the treatment of diseases by electricity. To many the narration of a few cases will add to the interest of this part of the book by giving a practical character and a little animation to the text, but the space thus used might have been utilized to greater advantage by giving more details as to treatment in certain diseases which are too briefly noticed. The section on treatment of diseases of women is well worth attention. In the various forms of catamenial disturbance electricity can be used with advantage, and it is well to have the attention of the profession called to this. The statements in regard to the use of electricity in hemiplegia of cerebral origin are good and true. In infantile paralysis the author advises faradization when the muscles respond to the faradic current. As a rule the galvanic current had better be used from the beginning.

The lecture on electro-diagnosis is only two and a half pages long, and is unsatisfactory. There are several samples of careless writing; on page 19 occurs this: "When the electrodes are applied to a nerve, and the current closed, we observe a momentary contraction." There is nothing to show what contracts. Of course it is meant that the muscle connected with the nerve contracts.

Again, on page 15, near the bottom, it is said: "By putting a bar of soft iron or a bundle of iron wire within the primary coil, the current becomes very much strengthened, and in this way the momentary action of the current, as it is closed, causes the iron bar or wires to become magnetic." It is not because the current is strengthened that the bar or wires become magnetic.

A very good *résumé* of Franklinic or static electricity is given in the fifth lecture, and the author describes very fully his method of general faradization and central galvanization in the fourth lecture. The last lecture is devoted to electro-surgery.

The book, as a whole, seems to be incomplete, and not so satisfactory as could be wished. There are many engravings, which add little or nothing to the value of the book. More care in writing and a little more space devoted to several subjects would have made a better book; if, however, one desires a brief account of electricity as used in medicine this volume will furnish much information, and can be followed with safety.

*Handbook for the Ship's Medicine Chest.* Washington. 1881.

This book has been issued, under the official authority of the Marine Hospital Service, as a means of furnishing information, in a more satisfactory manner than has heretofore been done, to masters of vessels belonging to the United States mercantile marine. It is succinct, practical, and clear. It does not fill the place of the medical man, but furnishes a very good substitute for him in places and under conditions where his services cannot be commanded. The contents are classed under the heads, Prevention of Disease, the Examination of Seamen, the Medicine Chest, Accidents, Diseases, and Extracts from the Regulations of the Marine Hospital Service. Coming, as it does, from the most competent medical authority, it cannot fail of receiving confidence.

F. H. B.

# Medical and Surgical Journal.

THURSDAY, FEBRUARY 2, 1882.

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NO. 4 PARK STREET, BOSTON, MASS.

## CONTROL OF DEFECTIVE SIGHT ON LAND AND SEA.

IN our number for March 10, 1881, we called attention to the great looseness of the bill reported by the Railroad Committee of the Massachusetts Legislature in reference to examinations of employees for defective sight and color-blindness. The *Boston Daily Advertiser* quoted our article and added: "The JOURNAL is quite right, and it will probably find the strongest support among those railroad men who have been examined by specialists." Moreover, the experience of Connecticut and several European states shows that an examination for color-blindness is not worth much unless it has been conducted by a specialist, who consumes perhaps a minute in making it. In the bill the words "some competent person" should read "a responsible ophthalmic surgeon."

The bill, however, was passed as reported in this respect, and experience has shown our criticism to be correct. His Excellency, the Governor, even called attention to it in his inaugural as follows: "Both in justice to railroad employees, and for the safety of the traveling public, it should be provided that the examination for color-blindness and other defective sight required by the act of last year be made by persons whose competency is beyond question. The statute is too loose in this particular." The Governor and Council, as president and directors of the Troy and Greenfield Railroad and Hoosac Tunnel, had opportunity of seeing the working of the present law, which is now referred to the railroad committee for reconsideration. We would again call attention to the act proposed to them last year, as also to the one for an inter-state commission, to agree upon what was fairly required of employees engaged in moving trains, in respect to their power of sight and color sense, and standard methods of testing these by those competent to do so. These and the arguments of the professional gentlemen supporting them may be found in detail in the *Boston Herald Supplement*, February 26, 1881.

November 9, 1880, the Council of the British Ophthalmological Society appointed a committee, "To consider defects of sight in relation to the public safety, with authority to communicate thereupon with the government on the part of the Society if they should think fit." As we stated in our number of May 5, 1881, sixteen examiners reported testing 16,131 males and 1,657 females, finding among the former 4.16 per cent. color-blind and among the latter 0.1 per

cent. only defective in chromatic sense. The full report is now in the first volume of the Society's Transactions. It must be remembered that medical gentlemen in England, especially those connected with railroads, greatly doubted the results previously obtained by the few experts at work in this country. This report, therefore, must be very gratifying to the latter, as it wholly substantiates their statements.

We have not room to quote from this extremely practical report more than the following as supporting our position as to expert testing:—

"Your committee becomes more and more convinced that a competent examiner is not made in a day or even in a month, and that, even with large experience, much judgment and capacity are needful to interpret rightly the acts of the examined. This necessity is perhaps most strongly exhibited in the case of intelligent persons who are incompletely color-blind. Such persons, though they may have a much feeblér appreciation of the difference between red and green, for example, than is normal, may, after accurate observation and comparison, separate the red skeins of wool from the green. When tested, however, at various distances with colored lights their defects are startlingly apparent, and it becomes clear that they are totally unfitted for responsible posts, in which rapid appreciation of color at a distance is required." The committee close their report by saying, "The relation of the subject matter of this report to the question of the preservation of life in traveling cannot fail to impress itself upon every one, but it has been thought expedient that our statement of the subject should end here, leaving to a future time the discussion of its practical bearings in relation to the use of colored lights in signaling, both by land and sea."

In our editorial of a year ago we complained of the Massachusetts bill as not calling for *any* definite standards, either as to methods of testing or requirements, and said that this was so important that a royal commission in Belgium, in an extended report to the government, urged the forming of an international commission to decide these points for the countries of Europe in general. The bill then in Congress to initiate a similar international commission for the ocean was not reached before adjournment. This commission has since received the endorsement of many medical and scientific societies, for instance, of our Massachusetts Medical Society at the Centennial Meeting. Among the resolutions adopted by the International Medical Congress, London, 1881, as to "tests of sight suitable to be enforced in the case of signalers and look-out men, and other persons by land or sea, with suggestions as to international arrangements for a uniform system of maritime, coast, and harbor signaling, with a view to the safety of life and property" are the following:—

"(7.) That the examinations should be conducted by persons of recognized competency, under the direction of a central medical authority in each country.

"(8.) That an international commission should be constituted to fix upon such further measures as to signals as may be necessary for safe navigation, and,

specially, upon the standard colors and the sizes of the signals employed.

"(7.) A central medical authority is requisite to insure the perfection of the system and its uniformity. He should propose the examiners, and be responsible for their fitness. They should be men of ascertained competency, and, as far as practicable, qualified as medical specialists.

"(8.) The measures recommended in Articles 2 to 7 should be brought into operation without delay. But an international commission would still have to determine the precise color of the glass, securing uniformity in that as well as in the size and disposition of the signal lights.

"The Congress lay the greatest stress upon the appointment of this commission in respect of marine signaling, as quite indispensable for the attainment of the object in view. The commission would have to inquire into and decide upon many matters on which information is at present incomplete, and regarding which only a few points have been touched upon in Article 8.

"Every government, especially the maritime governments, should be requested to place one or more members on the commission, and chiefly experienced naval officers and medical specialists.

"It is understood that this question of an international commission is about to be submitted to the legislature of the United States of America, supported by a petition largely signed by scientific men of that country."

The resolutions emanated from the Ophthalmological Section of the Congress, and were drawn up, in the first place, by a committee representing twelve different countries.

Bill No. 24, House of Representatives, Washington, 1882, introduced by the Hon. B. W. Harris, of Massachusetts, chairman of the naval committee, authorized the President to initiate this commission. It was referred to the naval committee, and considered by them January 23d. If, as before, a favorable report is made, and Congress will pass the bill, our government will have one of the few opportunities of leading in scientific matters. If Congress refuses, no money will be saved, as the United States could not decline to take part in an international commission of such importance, which England will inaugurate, and take, naturally, the honor of having so done.

#### ANNUAL REPORT OF THE UNITED STATES MARINE HOSPITAL SERVICE FOR THE FISCAL YEAR 1881.

DURING the year ending June 30, 1881, 32,613 patients received relief from the Marine Hospital Service of the United States, showing an increase of numbers of 7,753 seamen treated over the year preceding; 309,596 days' relief in hospital were furnished. The volume gives evidence of earnest and good work by the medical men in this important branch of the government. The receipts from hos-

pital dues and other sources were \$386,059.81, and the net expenditures \$100,101.06.

Of eighteen candidates who applied for admission to the medical staff, out of thirty applicants, two passed the board and were appointed assistant surgeons.

The furnishing of hospital and office relief to persons not sailors, or to sailors not rightly entitled to relief, occasionally happens, notwithstanding the great care exercised by medical officers at the various stations. Two convictions were made by the courts during the year, under the statute providing a penalty for frauds against the government, and other suits of a similar character are pending.

The physical examination of seamen, which has been looked on as so important a means of securing able men to man our vessels, is again, as it should be, impressed on the attention. While the evil exists of sending vessels to sea manned by incurable syphilitics, chronic invalids, and even lunatics, it is presumed that the legal remedy is not beyond reach, or its ultimate application altogether hopeless. Crews are openly sold, like cattle, in all our great ports, blood-money men control the sailor market, and advance wages work a great detriment to our commerce. All efforts to control the matter have been, thus far, rendered unavailing by combinations of sailor landlords and shipping agents.

A draft of a bill for the encouragement of American seamen and to provide for a National Snug Harbor is preceded by a memorandum giving important information regarding vital points in the conduct of the service.

The volume closes with statistical tables, reports on the sanitary condition of the stations at Portland, Me., and at Mobile, Ala., and with a full and well-written article on Beri-Beri. Eighteen cases of this disease — the first recognized in this country — were treated by Surgeon Hebersmith in the Marine Hospital at San Francisco. The seamen were landed from the Brazilian man-of-war *Vital de Oliveira* in August, 1880, while on an official voyage round the world. Cases of diarrhea, dysentery, asthma, and bronchitis, in addition to beri-beri, had called attention to the condition of the vessel itself. This was found to be poor in the extreme. An ill-arranged and poorly-ventilated berth-deck gave less than fifty cubic feet of air-space to a man, and a direct communication was found to exist for the passage of foul air between the hold and bilges and the quarters of the men. The vessel was without proper food and vegetables, not even potatoes being provided; no liquid stimulants or lime-juice or woolen clothing. Twenty-one cases were landed at San Francisco, of which eighteen were of beri-beri, uncomplicated, and one of phthisis and beri-beri. Fifteen cases of the latter disease recovered. Many of the physicians of San Francisco saw the cases and took part in its study, making microscopic specimens and sphygmographic drawings. Dr. Hebersmith epitomizes the various views regarding the disease as indicating it to be primarily and essentially a blood-poisoning, a zymotic disease, with increase of the white corpuscles, and a swollen or bursting, shriveled or

stellate, appearance of both the red and white corpuscles. These morbid appearances disappeared as the disease progressed to recovery, and were taken as an index of the progress of the disease. The pulse in this affection is high, the temperature low, and it was early observed that the two phenomena gave no adherence to the usual rules of pathology; pulse and temperature bore no relation to each other, for frequency of the former with lowness of the latter was the rule rather than the exception. Looseness of the bowels was observed in eleven of the cases. There was found to be uniform cardiac effusion. Seven patients presented an oedematous condition of the abdomen or extremities. The principal symptoms, indicating lesions of the nervous system, were confined to the lower extremities, the local anaesthesia appeared in the early stage, and at subsequent stages the ataxic gait and tendon reflex. The appetite was largely increased. Food, tonics, wine, and pilocarpin were used in the treatment. A detailed clinical record, with reports on the microscopic examination of the blood, and official reports from Ceylon and other places in the East Indies, complete the record.

#### MEDICAL NOTES.

— Five small-pox patients are now in hospital at Canterbury Street. The Board of Health have opened new stations for vaccination in some of the most crowded portions of the city.

— A petition to the following effect has been presented to the Massachusetts Legislature and referred to the committee on Public Charitable Institutions:—

That the rights and needs of persons who are actually insane, and of those who are charged with being insane, are not sufficiently protected by our law. Your petitioners believe that the condition of both these classes would be much improved by a law creating a Commission of Lunacy of one or more persons, whose duty it should be to watch over and protect those who are confined in lunatic hospitals and other places, and to suggest improvements in the laws regarding the insane and the regulations of hospitals for them. Such commissions in England and Scotland have proved exceedingly useful, and are urgently needed in Massachusetts.

Your petitioners, therefore, urge the passage of a law creating a separate Lunacy Commission.

— In the Massachusetts Senate an order was adopted recently, on motion of Mr. Crocker, of Suffolk, that the Committee on Public Charitable Institutions consider the expediency of discontinuing the State Board of Health, Lunacy, and Charity, and creating in its place separate boards; in other words, of annulling the present awkward arrangement. The Legislature may not find it expedient, for various reasons apart from the merits of the case, to take this step this year. But that an expediency which is already so manifest will before long enforce action there can be very little doubt.

— Were the interest in the efficiency of a State Board of Health among the members of the Massa-

chusetts Legislature as great as the importance of the subject and the welfare of their constituents would seem to warrant, we suppose the above resolution in the Senate would have been referred to the Committee on Public Health as well as to the Committee on Public Charitable Institutions.

In this connection our readers may like to know the names of the gentlemen composing these two committees, and we therefore print them:—

*Public Charitable Institutions.*—Messrs. Winship of Middlesex, Hastings of Worcester, and Mudge of Essex, of the Senate. Messrs. Burt of Boston, McSorley of Cambridge, Leonard of Boston, Tapley of Danvers, Roberts of Salisbury, Dr. Holbrook of Palmer, Ayres of Hadley, and Dr. Babbitt of North Adams, of the House.

*Public Health.*—Messrs. Horton of Essex, Tirrell of Middlesex, and Ingalls of Worcester, of the Senate. Messrs. Dr. Wilson of Boston, Rand of Medford, Hamlin of Boston, Dr. Harris of Arlington, Dr. Hodgkins of North Brookfield, Dr. Campbell of Boston, Smith of Andover, and G. D. Chamberlain of Cambridge, of the House.

— The State Board of Health of New Hampshire has issued the following circular:—

The National Board of Health has just declared small-pox to be epidemic in the United States. Considering its alarming prevalence, and the fact that it has already invaded nearly every State in the Union, ours thus far being an exception, we desire to spare no effort in our exertions to protect our citizens from its infection. To this end, should a case make its appearance within your locality or knowledge, within the State, you are requested to telegraph this office at once of the fact, and we will take such immediate action as the exigencies of the same demand.

— It is intended to attach to the iron railing in the London Post Office yard a weather-proof case containing a stretcher, splints, tourniquets, roller and triangular bandages, lint, and other useful appliances, all of which will be kept in readiness for immediate use in case of emergency.

— According to the *British Medical Journal* of January 7th there were thirty-two deaths from small-pox in London during the preceding week.

— Sir Erasmus Wilson has expended £30,000 in the erection of a new wing and Chapel to the Margate Sea-Bathing Infirmary.

— Dr. Robert Saundby uses inhalation-respirators for antiseptic inhalations in phthisis and finds them of service to many patients in checking purulent secretion and allaying cough. The *British Medical Journal*, December 21, 1881, contains two cuts of the forms of inhalers used.

— The death is reported of Dr. Jonathan Leonard, a much respected practitioner of Sandwich, and member of the Massachusetts Medical Society, at the ripe age of seventy-seven years.

— Professor Charcot has been recently transferred, at his own request, from the chair of pathological anatomy to a professorship of nervous diseases recently established by the Faculty of Medicine at Paris.



## Miscellany.

### NEGLECT OF VACCINATION; A STATE VACCINE ESTABLISHMENT.

THOSE who feel that vaccination as practiced to-day does not rest upon a basis of fact and observation sufficiently free from question to commend it to the full confidence of wise and thoughtful men, to say nothing of the ignorant and foolish, will find in the article on Neglect of Vaccination; How Shall We Treat It? by Dr. Z. B. Adams, of Framingham, in the last supplementary report on health of the health department of the Massachusetts Health, Lunacy, and Charity Board, a suggestion for the establishment of a State Vaccine Institution.

We make the following extracts from the closing pages of Dr. Adams' paper, feeling that his suggestion is in itself a good one, and though unprepared to express any opinion as to its practicability think it more likely to be realized as a National than as a State institution.

"After all, nothing will justify legal interference, nothing will satisfy common sense or scientific inquiry, like the assurance that vaccination will protect. Probably there will always remain a small fraction of mankind either insusceptible of vaccinia, or in whom it affords no protection against small-pox. Common sense will make allowance for this; science may perhaps restrict the number; while law is made for the general and not for the particular. It remains for art to secure for medical science, as far as possible, this certainty of protection, if we would prevent vaccination from falling into disuse, and perhaps contempt. The following plan seems feasible and likely to succeed.

"(1.) A State vaccine establishment, the chief business of which shall be to propagate vaccine lymph by animal transmission, or perhaps by artificial methods (as Mr. J. Lawrence Hamilton of London proposes), and from which all the physicians in the State shall be supplied. This lymph must be proved by constant testing; and the recipient must be required to report his results, and acknowledge receipt, ten days after date. With the matter should be sent a recommendation to the physician to vaccinate, if possible, every infant born in his practice within — months after its birth; also such instructions as may best prevent imperfect vaccinations, which are the opprobrium of the system as now practiced.

"(2.) Vaccination to be forbidden by law, except by the hands of those to whom lymph is intrusted by the institution.

"(3.) Annual examination by officers of the institution, or its appointees, of the schools of the Commonwealth, with two objects; first, to secure uniformity of results, and report and tabulate all exceptional or irregular cases; second, to disclose any neglect on the part of the school committee to enforce chap. 41, sec. 8, of the Revised Statutes.

"(4.) A note of advice sent annually by the institution to the Boards of Health recommending re-vaccination of every child on reaching the age of —. This is to be enforced by the school committee, with additional legislation for the purpose if found to be necessary.

"(5.) Notice to re-vaccinate whenever the protection of public health requires.

"(6.) Notification to superintendents or other officers of incorporated manufacturing companies, etc.,

that the regulations of chap. 26, sec. 30, of the Statutes, are in force, and must be complied with.

"(7.) An annual or biennial report from the institution, to be published in the public prints, calling attention to the subject, detailing experiments, methods, and results, and mentioning towns, cities, or manufacturing corporations where neglect of vaccination is found.

"It may be that we have in the prophylactic power of vaccination the germ of a general law or principle applicable to other diseases besides the small pox. This is not proven, but not improbable. Meantime vaccination must remain a law to itself. Until a discovery is made of analogous facts in other diseases, the plan here proposed seems the true method of arriving at the principle which governs the phenomena.

"If this plan can be carried out faithfully for a series of years, we shall gain two or three points of prime importance. (1.) Many vexed problems, the solution of which science can only obtain from systematized art, will be resolved. These problems are, many or some of them, certainly capable of answer, if not of complete solution. What constitutes a perfect vaccination? and, What is the significance of the imperfect revaccination sore-arm? are among these questions. (2.) Again, we shall not have to wait for epidemics to compel us by their cruel logic to submit ourselves or our children to the practice. (3.) No one will think of shrinking, as is now often the case, from contact with small-pox or varioloid. (4.) There will be no such thing, at least in Massachusetts, as a vaccine famine, like that seen in Philadelphia, in San Francisco and Sacramento, in the midst of an epidemic. These things we may confidently hope for; but that the last word will ever be said about vaccination or small-pox, we cannot expect until the millennium."

### INTESTINAL INOCULATION FOR TYPHOID FEVER AND PHTHISIS.

#### I. TYPHOID FEVER.

MR. EDITOR, — I desire to make a few suggestions through the columns of the JOURNAL on the value of intestinal inoculation of individuals, and especially children, by causing them to swallow the germs or *matrices morbi* of typhoid disease with the object of inducing mild, continued fever, the course of which wears out congenital susceptibility to the peculiar morbid poison, and thus obliterates all liability in after life to a more fatal form of the malady, and on the paramount importance of doing the same thing as a prophylactic against and remedy for incipient pulmonary consumption, phthisis pulmonalis, and tubercular meningitis, in order to weed out and abolish the *tuberculous diathesis*.

In considering the prophylaxis of typhoid disease the prodigious importance of the subject can only be fully realized by remembering not only the current deaths from this affection in a sporadic form, but also its fearful mortality when prevailing epidemically at irregular periods in thickly populated regions.

A recent writer in this journal, who has carefully looked up the medical statistics of Massachusetts, says that during the last forty years there have been in this State alone forty thousand deaths from typhoid fever.

During the height of the epidemic of this disease, which began in Great Britain about the close of the Franco-German war, the registrar-general<sup>1</sup> reported

<sup>1</sup> Summing up by the late registrar-general published in the London Times.

thirty-five thousand deaths as having occurred throughout England and Wales within a period of eighteen months.

Surely, with such fell mortality, inoculating children and adults to prevent their having in after life this disease in the natural, as is said of small-pox, and more dangerous way, is not less important than Jennerizing, vaccinating, or, of old, inoculating individuals to keep them from having frequently formidable and often fatal variola.

To show the disabling effects of typhoid fever, and how its prevalence acts as a hindrance to procedures of all sorts, it is needless to go beyond recent years. The prevalence of typhoid fever during the Franco-German war, together with the mortality from this disease, were grave sources of inconvenience and embarrassment to the respective medical staffs, and lessened considerably the efficiency of both armies.

In the Tunis war now going on, France has been obliged to recruit her ranks by ordering numerous reinforcements to supply the place of soldiers in Africa disabled by typhoid disease.

The success of Tom Hughes' colony in Tennessee has been seriously compromised by an outbreak of typhoid fever amongst his exiled Will Wimbles; and there is hardly a town of any size in the Union from which tourists to Italy have not either suffered from or died of Neapolitan or Roman fever — typhoid.

How much better it would have been for these soldiers, Will Wimbles, and American vagrants, had they been subjected to intestinal inoculation when children with the germs of typhoid disease, and had gone through the fever in a mild form, rather than have waited to become, later in life, victims to this malady of a more unmanageable and fatal type, and under circumstances where its management and treatment in camps, colonies, and human livery-stables — hotels and pensions — must be generally of a very insufficient and objectionable character.

In cold climates typhoid fever usually occurs in winter from house poison, and when the temperature is zero F. it becomes almost impossible to ventilate the sick rooms without the risk of giving the patients cold, and the result is many die from foul, irrespirable atmosphere. Would it not be much better to inoculate for this disease, and have it over during mild, summer weather, when the patients could be freely exposed to fresh air from without?

Moreover, age has more to do than anything else with the mortality of typhoid disease, youthful patients recovering almost uniformly without medication of any sort, while those of advanced years are apt to die in spite of all that can be done for them.

Of all the specific diseases happening once, and usually not occurring again, it is only in typhoid disease that non-recurrence may be regarded as absolute, because the elements on which it feeds being exhausted, the susceptibility to the morbid poison is also worn out, and never returns, while in all the rest the materials on which they flourish are often renewed, and with their renewal susceptibility to the action of the peculiar morbid poisons returns. Who has not seen scarlatina, rubella, variola, and whooping-cough twice in the same subject?

Cazenove,<sup>1</sup> after remarking that he had repeatedly seen variola of an intense form at different epochs in the same individuals, notes, on the trustworthy author-

ity of M. Thomson, the case of an individual who suffered from six attacks of variola, but that careful observer, the late Baron Louis, saw only two instances where the individuals might have had two separate and distinct attacks of typhoid fever, and in these the evidence of a second seizure was so cloudy that he remained to the last in doubt whether any individual had ever suffered oftener than once from this affection. I have never seen typhoid disease twice in the same subject.

The non-recurrence of typhoid fever is, then, a great leading truth of prime practical importance, since it renders its prophylaxis complete, while in variola and varioloid it is at best incomplete, and merely tentative, there being a constant tendency to recurrence at longer or shorter intervals, and yet with all this disposition to repetition requiring vaccination to be repeated, Jenner's discovery, above all others, is without doubt the greatest boon ever bestowed on mankind.

The question may be asked, How is inoculation to be effected? The answer is easy. Precisely in the way milk-men have produced epidemics of typhoid fever by serving their customers milk containing the germs of this disease, and as "milk sickness" has often been caused in the Western States of the American Union by drinking in milk, water, or some other fluid, bacteria, bacilli, or some *materies morbi* too subtle for micro-copic and too evanescent for chemical detection.

I have seen only five cases, and all of these in one group, where continued fever was evidently produced by the patients having swallowed the morbid poison of typhoid disease. It was composed of four white children and a negro youth of seventeen. In all a mild typhoid fever, of the mild, adynamic type, ran the usual classic course of twenty-one days. They were all marked by the usual subjective signs, including lenticular, rose-colored spots on the eighth, and sudamina on the sixteenth day, except that no roses bloomed on the abdomen or loins of the negro, but were presumed to be blushing unseen beneath *pigmentum nigrum*. Two of the children had a look of extreme innocence, caused by a loss of power or temporary paresis of the muscles of expression; they had also relaxation of the iris of both eyes, causing the pupils to be larger, and to respond more slowly to light than those of healthy individuals placed in like situations as regards light. None of them took a particle of medicine of any kind from the commencement of the attack to the end of convalescence, which was completed in about nine days after the fevers had run their courses. Their chief diet was milk, of which they were permitted to take as much as they wanted. One asked for coffee, and was allowed to have it. They all ate daily during the entire course of the disease two or three ripe, soft, open-stone peaches, which were in perfection the middle of August. They had from three to five stools daily. During the initiative fever, lasting about seven hours, the pulses ran high, but after that had subsided they were rarely at any time above one hundred. In all pinching the biceps developed a ring, and when the pectoralis major muscles were tapped with the end of the finger cones or pyramids stood up. In none was the temperature very high, there being no such thing in any of them as the *calor mordax* of the older writers.

The history relating to the origin of these cases is an old story. A case of mild, continued fever had been carried from the city three miles to a country house, the inmates of which, five in number, none of

<sup>1</sup> Cazenove, quatrième édition, Paris, 1847, page 232.

whom took the disease, were supplied with water from a spring from which ran a small stream into which the dejections from the patient were thrown. About four hundred yards lower down on the same stream was an excavation looking like a primitive spring, the water running into it from the source above described, through and over stones, and concealed by grass and undergrowth. From this small pond a family of seven, including the five fever cases, derived its water supply.

I know of one other instance in which individuals, children and adults, must have swallowed the *matrices morbi* of typhoid disease in well-water, and yet no ill results followed, which made me question whether diseases, like plants, might not be of two sexes or something equivalent, and whether it might not be the male or female variety only which is capable of inoculating or infecting the aggregated and isolated glands of the ileum, but it may have been that the *contagium* was destroyed by the coldness of the well-water, which had a temperature of 56° F., or that the well was supplied by an underground stream, which carried off everything thrown into it.

From the preceding observations it would appear that the last endemic of milk fever in London, observed more particularly by the late Dr. Murchison, as well as all similar outbreaks of typhoid disease occurring from a like cause in Great Britain and the United States, instead of being regarded as unmitigated evils, should, on the contrary, have been looked upon as boons of unmixed good, and that it would be a great blessing for all people under twenty years of age could they in like manner, and under favorable circumstances, become impressed with the contagion of typhoid fever. Particularly homateous would this blessing be in cold climates like Northern Russia, Norway, Sweden, and the Canadas, where patients might be subjected to intestinal inoculation, and go through the morbid probation of typhoid disease during summer, when they would avoid the great danger arising from close, ill-ventilated apartments, and get inexhaustible supplies of fresh, pure air, so essential to comfort and recovery.

Very truly yours,

T. H. BUCKLER, M. D.

PARIS, December, 1881.

# REPORTED MORTALITY FOR THE WEEK ENDING JANUARY 21, 1882.

| Cities.                               | Population by Census of 1880. | Reported Deaths in each. | Deaths under Five Years. | Percentage of Deaths from         |                |                       |                |                      |
|---------------------------------------|-------------------------------|--------------------------|--------------------------|-----------------------------------|----------------|-----------------------|----------------|----------------------|
|                                       |                               |                          |                          | The Principal "Zymotic" Diseases. | Lung Diseases. | Diphtheria and Croup. | Typhoid Fever. | Diarrhoeal Diseases. |
| New York.....                         | 1,206,590                     | 817                      | 375                      | 32.43                             | 19.07          | 9.17                  | .73            | .85                  |
| Philadelphia.....                     | 846,984                       | 459                      | 147                      | 16.88                             | 12.00          | 6.66                  | 2.22           | —                    |
| Brooklyn.....                         | 566,689                       | 282                      | 125                      | 27.66                             | 19.11          | 12.66                 | 1.06           | 1.41                 |
| Chicago.....                          | 503,304                       | 274                      | 115                      | 35.43                             | 17.88          | 7.22                  | 8.99           | 1.22                 |
| Boston.....                           | 362,535                       | 147                      | 59                       | 12.24                             | 18.36          | 5.44                  | 2.04           | 1.36                 |
| St. Louis.....                        | 350,522                       | 137                      | 55                       | 19.71                             | —              | 5.84                  | 3.65           | 2.19                 |
| Baltimore.....                        | 332,190                       | 154                      | 67                       | 22.73                             | 12.33          | 15.57                 | 1.29           | 2.59                 |
| Cincinnati.....                       | 255,708                       | —                        | —                        | —                                 | —              | —                     | —              | —                    |
| New Orleans.....                      | 216,140                       | —                        | —                        | —                                 | —              | —                     | —              | —                    |
| District of Columbia.....             | 177,638                       | 62                       | 22                       | 9.67                              | 19.35          | 3.22                  | 1.61           | 1.61                 |
| Pittsburgh.....                       | 156,381                       | 83                       | 36                       | 42.16                             | 6.02           | 1.20                  | 7.22           | 1.20                 |
| Buffalo.....                          | 155,137                       | 62                       | 30                       | 33.87                             | 6.45           | 12.90                 | —              | —                    |
| Milwaukee.....                        | 115,578                       | 69                       | 30                       | 13.04                             | 14.50          | 4.35                  | —              | —                    |
| Providence.....                       | 104,457                       | 40                       | 9                        | 15.10                             | 7.50           | 5.00                  | 2.50           | 2.50                 |
| New Haven.....                        | 62,882                        | 24                       | 0                        | 8.33                              | 4.16           | 4.16                  | —              | —                    |
| Charleston.....                       | 49,999                        | 25                       | 3                        | 8.00                              | —              | —                     | —              | 4.00                 |
| Nashville.....                        | 43,461                        | 15                       | 2                        | 50.00                             | 13.33          | —                     | —              | 6.66                 |
| Lowell.....                           | 59,485                        | 26                       | 10                       | 7.69                              | 15.58          | 3.84                  | —              | —                    |
| Worcester.....                        | 58,295                        | 31                       | 11                       | 22.60                             | 22.60          | 16.13                 | —              | 3.23                 |
| Cambridge.....                        | 52,740                        | 14                       | 3                        | 21.43                             | 28.57          | 7.14                  | 7.14           | —                    |
| Fall River.....                       | 49,006                        | 19                       | 7                        | 15.78                             | 5.26           | 10.52                 | —              | —                    |
| Lawrence.....                         | 39,178                        | 16                       | 4                        | 31.25                             | —              | —                     | 18.75          | 12.50                |
| Lynn.....                             | 38,284                        | 20                       | 7                        | 25.00                             | 15.00          | 10.00                 | —              | —                    |
| Springfield.....                      | 33,340                        | 7                        | 2                        | —                                 | 28.57          | —                     | —              | —                    |
| Salem.....                            | 27,598                        | 8                        | 2                        | 25.00                             | —              | 12.50                 | —              | —                    |
| New Bedford.....                      | 26,875                        | 12                       | 4                        | 8.33                              | 16.66          | —                     | —              | —                    |
| Somerville.....                       | 24,985                        | —                        | —                        | —                                 | —              | —                     | —              | —                    |
| Holyoke.....                          | 21,851                        | 7                        | 2                        | 14.28                             | 28.57          | 14.28                 | —              | —                    |
| Chelsea.....                          | 21,785                        | 8                        | 1                        | —                                 | —              | —                     | —              | —                    |
| Taunton.....                          | 21,213                        | 5                        | 0                        | —                                 | —              | —                     | —              | —                    |
| Gloucester.....                       | 19,229                        | 2                        | 0                        | —                                 | —              | —                     | —              | —                    |
| Haverhill.....                        | 18,475                        | 6                        | 0                        | —                                 | 33.33          | —                     | —              | —                    |
| Newton.....                           | 16,995                        | 5                        | 1                        | —                                 | 80.00          | —                     | —              | —                    |
| Newburyport.....                      | 13,537                        | —                        | —                        | —                                 | —              | —                     | —              | —                    |
| Fitchburg.....                        | 12,405                        | 1                        | 0                        | —                                 | —              | —                     | —              | —                    |
| Twenty-three Massachusetts towns..... | 192,610                       | 74                       | 11                       | 14.86                             | 9.46           | 8.11                  | —              | 1.35                 |

Deaths reported 2902 (no reports from Cincinnati and New Orleans): 1120 under five years of age; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 719, consumption 433, lung diseases 436, diphtheria and croup 235, scarlet fever 166, small-pox 83, typhoid fever 64, measles 49, diarrhoeal diseases 33, whooping-cough 25, malarial fevers 24, cerebro-

spinal meningitis 23, erysipelas 17, puerperal fever 11. From scarlet fever, New York 102, Brooklyn 28, Buffalo nine, Philadelphia seven, Chicago four, St. Louis and Baltimore three each, Pittsburgh and Lynn two each, Boston, District of Columbia, Milwaukee, Providence, Charleston, and Worcester one each. From small-pox, Chicago 29, Philadelphia 23, Pittsburgh 20, New York seven, St. Louis two, Boston and Milwaukee one

each. From *measles*, New York 41, Brooklyn three, Milwaukee two, Philadelphia, Pittsburgh, and Buffalo one each. From *whooping-cough*, New York 12, Brooklyn four, Pittsburgh two, Philadelphia, Chicago, Boston, St. Louis, Baltimore, Cambridge, and Fall River one each. From *malarial fevers*, New York 13, Brooklyn, Chicago, and St. Louis three each, District of Columbia and Nashville one each. From *cerebro-spinal meningitis*, Chicago five, New York four, St. Louis and Buffalo two each, Philadelphia, Baltimore, Pittsburgh, Milwaukee, New Haven, Charleston, Lowell, Lynn, Salem, and Quincy one each. From *cysticercus*, New York and Chicago four each, Philadelphia and Brooklyn two each, Boston, Pittsburgh, New Bedford, Brockton, and Marblehead one each. From *puerperal fever*, Chicago two, New York, Philadelphia, Brooklyn, Boston, Buffalo, Milwaukee, Providence, Nashville, and Palmer one each.

Ninety cases of small-pox were reported in Pittsburgh, 18 in Buffalo, 15 in Brooklyn, eight in Baltimore, five in New Haven, two in Milwaukee, and one in Boston; diphtheria 36 cases, scarlet fever 17, typhoid fever 11, in Boston; diphtheria nine, scarlet fever nine, in Milwaukee.

In 40 cities and towns of Massachusetts, with a population of 1,071,999 (population of the State 1,783,086), the total death rate for the week was 19.79, against 20.97 and 18.45 for the previous two weeks.

For the week ending December 31st, in 149 German cities and towns, with an estimated population of 7,777,635, the death-rate was 26.8. Deaths reported 4014; under five 1882; pulmonary consumption 540, acute diseases of the respiratory organs 367, diphtheria and croup 250, diarrhoeal diseases 133, scarlet fever 101, whooping-cough 65, typhoid fever 36, measles and rubella 49, puerperal fever 30, small-pox (Dresden, Essen) two, three, typhus fever (Thorn) two, Bromberg) three. The death-rates ranged from 15.1 in Potsdam to 41.1 in Essen; Königsberg 33.9; Breslau 32.7; Munich 31; Dresden 32.4; Berlin 25; Hamburg 23.5; Hanover 21.6; Bremen 18.2; Cologne 30.2; Frankfurt 16; Strassburg 35.5.

The list of large towns, of which vital statistics are given in

the first English weekly returns of the new year, has been increased so as to include all those municipal boroughs in which the enumerated population in April last exceeded 70,000 persons. For the week ending January 7th in 28 English large towns, with a population, estimated to the middle of the year 1882, of 8,455,308, the death-rate was 25.2. Deaths reported 4080; acute diseases of the respiratory organs (London) 489, whooping-cough 169, measles 145, scarlet fever 133, fever 57, diphtheria 34, diarrhoea 30, small-pox (London) 20. 24. The death-rates ranged from 13.3 in Halifax to 36.9 in Preston; Bristol 20.9; Sheffield 22.8; Birmingham 24.8; London 24.9; Manchester 25.3; Leeds 27.7; Liverpool 31.3. In Edinburgh 19.1; Glasgow 26.6; Dublin 36.

In the English towns for the week ending January 14th, the death rate was 23.3. Deaths reported 13783; acute diseases of the respiratory organs 457, whooping-cough 182, measles 129, scarlet fever 115, fever 56, diarrhoea 43, diphtheria 28, small-pox (London) 21. 26. The death-rates ranged from 14.5 in Leicester to 34.7 in Preston; Bristol 20.1; Birmingham 21.2; Sheffield 22.1; London 23.3; Leeds 23.4; Liverpool 25.9; Manchester 28.2. In Edinburgh 20; Glasgow 27.1; Dublin 35.1.

For the week ending December 31st, in the 21 chief towns of Switzerland, population 479,934, there were 26 deaths from pulmonary consumption, acute diseases of respiratory organs 24, diarrhoeal diseases eight, diphtheria and croup eight, typhoid fever three, puerperal fever two, scarlet fever one, small-pox one. The death-rates were, Geneva 16.7; Zurich —; Basle 20.1; Berne 38.4.

For the week ending January 7th, in the same towns, there were 50 deaths from pulmonary consumption, acute diseases of the respiratory organs 36, diarrhoeal diseases 20, diphtheria and croup 13, whooping-cough 11, typhoid fever four, puerperal fever four, scarlet fever 20. The death-rates were, Geneva 32.3; Zurich 27.7; Basle 28.7; Berne 28.5.

The meteorological record for the week ending January 21st, in Boston, was as follows:—

| Date.            | Barom-eter. | Thermom-eter.           | Relative Humidity. |            |             | Direction of Wind. |            |            | Velocity of Wind. |            |            | State of Weather. <sup>1</sup> |                       |                   | Rainfall. |                  |
|------------------|-------------|-------------------------|--------------------|------------|-------------|--------------------|------------|------------|-------------------|------------|------------|--------------------------------|-----------------------|-------------------|-----------|------------------|
| January, 1882.   | Mean.       | Mean. Maximum. Minimum. | 7.23 A. M.         | 3.23 P. M. | 11.23 P. M. | Mean.              | 7.23 A. M. | 3.23 P. M. | 11.23 P. M.       | 7.23 A. M. | 3.23 P. M. | 11.23 P. M.                    | Duration, Hrs. & Min. | Amount in inches. |           |                  |
| Sun., 15         | 29.943      | 32 44 20                | 78                 | 40         | 68          | 62                 | SW         | SW         | SW                | 10         | 20         | F                              | C                     | C                 | —         | —                |
| Mon., 16         | 29.774      | 41 47 31                | 89                 | 64         | 61          | 71                 | SW         | SW         | W                 | 7          | 9          | O                              | O                     | O                 | —         | —                |
| Tues., 17        | 30.172      | 19 48 11                | 93                 | 58         | 61          | 71                 | NW         | NW         | NW                | 12         | 12         | L. S.                          | C                     | C                 | —         | —                |
| Wed., 18         | 30.364      | 20 32 9                 | 72                 | 64         | 88          | 75                 | W          | SE         | NE                | 4          | 7          | 6                              | C                     | F                 | —         | —                |
| Thurs., 19       | 30.151      | 30 40 24                | 88                 | 53         | 73          | 71                 | NW         | NW         | NW                | 6          | 13         | 8                              | O                     | F                 | —         | —                |
| Fri., 20         | 30.338      | 31 31 15                | 67                 | 66         | 88          | 74                 | NW         | W          | N                 | 6          | 3          | 5                              | C                     | O                 | —         | —                |
| Sat., 21         | 29.956      | 34 38 26                | 82                 | 91         | 100         | 91                 | W          | E          | NE                | 6          | 4          | 8                              | O                     | S                 | —         | —                |
| Means, the week. | 50.100      | 30                      |                    |            |             |                    |            |            |                   |            |            |                                |                       |                   | 41.30     | .78 <sup>2</sup> |

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., snow; R., rain; T., threatening; X., clearing. <sup>2</sup> Melted snow and rain.

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM JANUARY 21, 1882, TO JANUARY 27, 1882.

STERNBERG, GEORGE M., major and surgeon. Granted leave of absence for one month, and during his absence Surgeon J. C. Bailey to attend the sick at Point San Jose, Cal. S. O. 9, Military Division of the Pacific and Department of California, January 16, 1882.

GAUDNER, WILLIAM H., captain and assistant surgeon. Now at St. Augustine, Fla., to proceed to San Antonio, Texas, and report in person to the commanding general, Department of Texas, for assignment to duty. S. O. 11, A. G. O., January 19, 1882.

COMBLES, E. T., captain and assistant surgeon. Now stationed at Columbus Barracks, Ohio, to report in person to the President of the Medical Examining Board, in session in New York City, for examination for promotion, and, upon completion of examination, to return to proper station. S. O. 19, A. G. O., January 2, 1882.

MADDOX, THOMAS J. C., first lieutenant and assistant surgeon. Having reported at these headquarters, in compliance with S. O. 2, C. S., A. G. O., will report to the commanding officer, Fort Clark, Texas, for duty. S. O. 6, Department of Texas, January 16, 1882.

ERRATA.—On page 99 of this number, in table of Average Duration of the Stages of Labor, for Primipara read Multipara, and for Multipara read Primipara.

BOSTON SOCIETY FOR MEDICAL OBSERVATION.—A regular meeting of the Society will be held on Monday evening, February 6, 1882, at eight o'clock, at the Medical Library, 19 Boylston Place. Reader, Dr. W. H. Baker. Subject, Vaginal Ovaryotomy. M. H. RICHARDSON, Secretary.

BOOKS AND PAMPHLETS RECEIVED.—The Official Gazette of the United States Patent Office, containing the Patents, Trade-Marks, Designs, and Labels, issued Tuesday, January 10, 1882. Published by authority of Congress. Vol. XXI. Nos. 2 and 3.

## Original Articles.

## SOME POINTS REGARDING THE DIAGNOSIS OF UTERINE ANTEFLEXIONS AND ANTEVERSIONS.

CLIFTON E. WING, M. D., BOSTON.

PERHAPS upon no subject connected with the treatment of the diseases of women is there a greater difference of opinion among gynecologists than upon the question of the practicability of remedying the forward displacements of the womb (anteflexion and anteversion), and relieving the symptoms arising therefrom, by the use of pessaries. One class of practitioners declare all supporters useless in such cases. The other class claim most excellent results from their use; of these latter, A will be enthusiastic over one particular kind, B will declare that the instrument which he has himself devised, different from all others hitherto in use, is the only one which he has found to yield satisfactory results, and will express astonishment that C should ever have invented his particular form of supporter since it is wrong both in theory and application, while C, upon being interrogated, will perhaps express a similar idea of B's instrument as well as of that employed by A. With the existence of such differences of opinion among the uterine specialists it is no wonder that the average general practitioner is a little skeptical, at times, as to the real value of supporters in such cases.

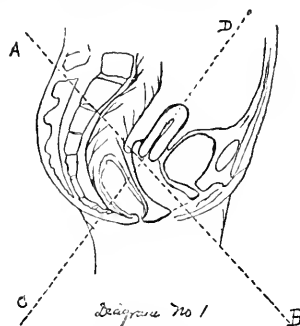
Why is it that different practitioners hold such diametrically opposite opinions upon the subject? I believe that "error of diagnosis," or, perhaps, I should rather say, "want of precision in diagnosis," is the cause. The anteflexion or anteversion of the one gynecologist, conditions which he finds but rarely, and then has but little success in treating, is a very different thing from the anteflexion or anteversion of his neighbor who diagnosticates these displacements very often and easily relieves the great majority of them by the use of pessaries of one kind or another. Such displacements the first practitioner will also treat successfully perhaps, but he will not consider that he has had to deal with either anteflexion or anteversion.

On making a uterine examination of a woman whose womb is in its normal position, the neck of the uterus is usually the only part of that organ to be felt by the finger in the vagina, unless the pelvic parts are forcibly pressed downward by the other hand upon the abdomen (bimanual examination).

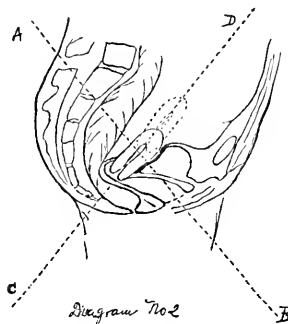
Now, if in his examination of a case, the physician's finger comes at once in contact with the body of the womb, which can be plainly felt through the anterior vaginal wall, he is apt to conclude that he has to deal with a marked case of forward displacement. Feeling with his finger a sulcus on the anterior surface of the womb, at or near the junction of body and cervix, he diagnosticates "anteflexion." Not feeling this place of flexion he settles to his satisfaction that the case is one of "anteversion." In point of fact the great majority of such cases are neither "anteflexions" nor "anteversions," but simply instances of the "sagging uterus" so-called. The subject can be made plain by diagrams.

In the first diagram the line *C D* is drawn in the axis of the uterus, which is in its normal position. The line *B A* is drawn in the axis of the vagina and indicates

the direction which the examiner's finger naturally follows. No part of the womb can be easily reached per vaginam, save the cervix. In the second diagram the position of a "sagging uterus" is shown. It will be noticed that in this position its axis is but little if any



changed from the axis of the womb in its normal position (represented by the line *C D*). But when the physician comes to make his vaginal examination, passing his finger in the direction of the line *B A*, the normal and usual direction of the vagina, he feels



(through the anterior vaginal wall and the bladder) not the cervix uteri which he expects to find in this direction, but the anterior wall of the body of the womb, perhaps near its very top, and commonly he reasons "the womb must be badly tipped forward, else I could not so clearly feel the fundus."

Now the cases of "sagging womb," at least the great majority of them, are easily relieved by the use of proper supporters, and many patients who have suffered much from such displacements, after wearing supporters for awhile, can dispense with them and have no return of the trouble. Hence we can understand how physicians who consider such displacements as anteflexions and anteversions can claim that they readily relieve these malpositions with supporters, and it does not make any difference what kind is used, whether it be A, B, or C's particular choice, whether it be simple or complex, whether it be one of the many "anteversion" or "anteflexion" devices or a common lever pessary (and the last kind being the simplest is the best of all); anything which tends to press the uterus upward and lifts its weight off the overstretched

tissues, will afford comfort to the patient, provided that it be decently fitted so as not of itself to cause pain and discomfort.

But it may be asked, How is it that a flexion can be felt at the junction of body and cervix if the case is not one of antelexion? The explanation is simple. If, as is often the case, the uterus descends ("sags") so far that the cervix rests upon the floor of the pelvis, or, more precisely, the posterior wall of the vagina, the direction of the plane of the latter is such that it tends to press the neck of the womb forward. In certain cases as the cervix is pressed forward the fundus falls backward and a backward displacement results, but in many other cases the fundus remains in its proper axis while the cervix alone is displaced from its normal direction. (See Diagram No. 3.)

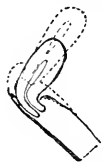


Diagram No. 3

The result is the flexion which the examiner's finger detects, an "antelexion of the cervix," if you choose so to call it, but an "antelexion of the cervix" purely secondary in its nature, and which requires nothing further in the way of treatment, as the rule, than that the uterus be so lifted that its weight shall not rest upon its cervix against the posterior vaginal wall. Indeed, I think the term "antelexion of the cervix" applied to such conditions often deceives the physician as to the true nature of the case he has to deal with. Take the weight off the bended cervix, and you may be pretty sure that the latter will soon regain its normal position and axis, and that it will rarely if ever be necessary to perform "division of the cervix" with the knife in order to straighten the uterine canal, as has been done so often in the past in just such cases, and as is still advised in some of the text-books as a regular procedure. The results obtained in such cases with properly fitted supporters are usually exceedingly satisfactory. Often as complete relief from the many pains and aches which the patient suffers can be afforded as in the most marked case of retroflexion even.

Antelexion and anteversion may of course coexist with "sagging" of the womb. The conditions are often combined in the same patient. When this is the case the physician may hope to afford relief with supporters in direct ratio with the preponderance of the "sagging" over the displacement forward, but in order to form a correct opinion of his cases he must be careful and not fall into the error we have pointed out, and conclude that he has to deal with a marked forward displacement simply because the fundus is plainly felt *per vaginam*, and he must remember that with a sagging of the uterus any degree of forward displacement seems, by digital examination, much greater than it really is.

With this explanation of the conditions so often wrongly considered antelexion and anteversion, we can understand why certain so-called "anteversion and antelexion" pessaries are highly praised by their various admirers and inventors, while others, equally competent, find them anything but satisfactory for their cases. Most of these instruments are supposed to force the fundus up towards its normal position by pressure exerted through the anterior vaginal wall upon it (the fundus). But the tender bladder is in the way, lying between this anterior vaginal wall and the uterus in such cases, and it is nonsense to talk of exerting enough

steady pressure upon the anterior vaginal wall to force the fundus into position when such pressure must act through the bladder which, as the rule with such displacements, is already irritable. When any good results are accomplished by this class of supporters it is probably because they put the anterior vaginal wall upon the stretch, and, lifting it somewhat, they must also lift in a measure the womb to which it is firmly attached at the cervix, but the same result (the lifting of the womb) can be better brought about by a common lever pessary properly adjusted.

Where the uterus is displaced forward without material descent in the pelvis, a condition to which the unqualified terms antelexion and anteversion should properly be restricted, fortunately a condition which is extremely rare, we have an entirely different matter to deal with. Here I have failed to find any kind of pessary satisfactory, and can hardly say what course I may pursue in the next case which may present. Intra-uterine stem pessaries, which are best dispensed with in all other displacements, are scarcely less unsatisfactory here.

Upon looking through the text-books, and seeing how the subject of pessaries is treated in them, one familiar with their proper uses cannot but wonder that practitioners who depend upon information obtained by reading the so-called "authorities" ever have any success whatever with them. Take, for example, two books much in use, Thomas's and Barnes's. In the former is the well-known plate copied from Hewitt, in which Hewitt's anteversion pessary is represented as pressing up between uterus and bladder in an impossible way, while the pessary itself rests upon nothing. Barnes gives an equally curious diagram of the action of one of Thomas's inventions for anteversion. Here, again, the supporter floats in position sustained by some mysterious power. In both diagrams the instruments are represented as causing an amount of upward pressure against the anterior vaginal wall which in practice would seriously injure the parts in a very short time. Thomas figures (page 368, edition of 1880) the normal position of the womb with the close relations of bladder and cervix uteri, and on page 411 (same edition) an imaginary relation of the parts in antelexion, in which latter diagram there is a space of several inches between the cervix uteri and the bladder, and the same convenient space is figured in most diagrams of antelexion and anteversion pessaries in position; yet Savage<sup>1</sup> states: "The pouch of Douglas behind and the bladder in front, notwithstanding the yielding character of its uterine cellular connections, invariably follow the uterine cervix, maintaining unaltered relations with it, whatever be the nature of the displacement. This is actually a rule without exceptions, never disregarded without evil consequences."

In Barnes's work are three plates intended to show the application of a lever pessary for retro-displacement. Here, again, nothing seems to support the supporter. Two plates are given to show how an intra-uterine stem may be used to assist the lever pessary in keeping the womb in position in cases of retroflexion, when it is a fact that if a lever pessary is properly used such assistance is unnecessary.

When the leading works thus treat the subject of supporters, what can be expected of those who blindly attempt to follow their instruction?

<sup>1</sup> Female Pelvic Organs, page 54.

STRAMONIUM POISONING.<sup>1</sup>

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THE thorn apple, *datura stramonium*, grows very plentifully in all the waste places about Providence, and the rarity of fatal cases of poisoning among the children is no less surprising than fortunate.

All parts of the plant are poisonous, but the seeds and fruit are considered most so.<sup>2</sup> Its effects on man and other animals are almost, if not quite the same as those of belladonna, and its active principle, *daturia*, is considered identical with *atropia*.<sup>3</sup>

Its poisonous properties are not destroyed by heat, as numerous deaths from smoking the dried leaves testify.<sup>4</sup>

Symptoms of poisoning have followed the application of the extract to a blistered surface, bruising the leaves in a mortar, and even breathing the vapor of the full-blown flowers.<sup>2</sup>

The following cases of stramonium poisoning occurred in the neighborhood of the Federal Street "Common" where the plant abounds:—

On the evening of September 16th a man reported that his son, three years old, had cholera infantum. He stated that the child had gone to sleep as usual about six p. m., after playing out of doors all the afternoon; that he had awaked, kicking and screaming, about eight p. m., and that the face and body were scarlet.

It was found about 8.30 p. m. that there had been neither vomiting nor purging, and that the scarlet coloration remained only on the buttocks and thighs. The child was lying on the lap, kicking and throwing its arms about in every direction. Occasionally he would be convulsed, the eyes rolling upward beneath the upper lid, and he would be motionless a moment. The face wore a wild expression, the pupils were very widely dilated, and around the mouth the skin was white and pinched. Every few minutes he would suddenly grasp or pick at something which he seemed to see near him, and then immediately clutch at his mother's dress and bury his face as if frightened. Whenever asked a question he would attempt to speak, but would make only an unintelligible sound. The pulse was 160 and feeble, the respiration 64 per minute.

Because of suspected poisoning, large draughts of mustard and water were given, which brought up a considerable number of the half-masticated seeds and pieces of the seed covers of the thorn apple. A full dose of castor oil was given and treatment by opium begun. Ten drops of the deodorized tincture were given, and at the end of each quarter hour about three drops more, until thirty drops had been taken.

By this time the child was worse rather than better, and death seemed imminent from spasm of the glottis which had begun during treatment. Fearing to waste any more time with the *laudanum*, I went home for a hypodermic syringe, and on my return the parents asked that Dr. O'Leary might be called and he was accordingly sent for. The little patient seeming more comfortable treatment was suspended till Dr. O'Leary arrived, about eleven p. m. A twentieth of a grain of morphia was then injected beneath the skin, and at Dr.

O'Leary's suggestion a large soap and water enema was given, which, however, failed to come away.

The effect of the morphia was soon seen in the easier and slower breathing, and at 11.30 p. m. the child was asleep, breathing thirty-two times a minute. Soon after twelve p. m. a small movement of the bowels took place, and at this time the child seemed quite rational. He was left at one a. m. sleeping quietly. Respiration 21; pulse 130.

At the morning visit he was out at play. There were bronchial rales throughout the chest, and the pupils were still dilated. No other abnormal signs were noticed.

About ten p. m., during the course of the last case, a sister of the little boy, four years old, woke up and vomited. The face and body were reddened, and the pupils dilated. An emetic brought up quite a number of the seeds, but they had not been chewed. A few drops of the deodorized tincture of opium quieted her, and she went to sleep.

On the following evening I was called to see a boy, one and a half years old, who had had a convulsion. The scarlet efflorescence covered only the buttocks and thighs; the pupils were dilated, and there was considerable restlessness. An emetic brought up only a small piece of the green rind no larger than the thumb-nail. No seeds were found in the vomitus. He was given some castor oil and a moderate dose of opium.

Poisoning by stramonium may, I think, be properly divided into two stages. The first characterized by delirium, the second by coma, and between the two comes an intermediate stage, in which the patient may be aroused from a comatose condition and is then delirious. When the absorption of the poison is slow, the same symptoms which follow the administration of a medicinal dose, namely, slight dilatation of the pupil, thirst and dryness of the throat, precede the stage of delirium. The absorption may be so rapid, however, that the premonitory signs are entirely wanting and the first stage, even shortened to a few minutes. On the other hand, when treatment is begun early, or the amount of poison absorbed is not excessive, the patient may recover at the end of the stage of delirium without becoming comatose.

Among the first and most constant symptoms is dilatation of the pupils. This has been proved to be a local action,—a paralysis of the peripheral ends of the oculo-motor nerve and a stimulation of the sympathetic. One case is reported in which the pupils were found contracted.<sup>5</sup> A man took a drachm and a half of the tincture of stramonium before retiring. He was found in the morning unconscious, with the skin cold and clammy, hands and feet livid, the former much bruised, the pulse absent at the wrist, and the pupils so contracted as to be scarcely discernable. They began to dilate four and a half hours after. He was not able to give the circumstances of the poisoning until the fourth day.

It seems very probable that in this case the contracted pupils were not a direct result of the presence of stramonium. It is possible that enough of the drug had been eliminated during the night, so that a more powerful influence (perhaps the asphyxia from his long unconsciousness and the dyspnoea which is noted as present, or, more probably, uræmia from congestion of the

<sup>1</sup> Read before the Rhode Island Medical Society, December 15, 1881.

<sup>2</sup> Taylor, *On Poisons*, Philadelphia, 1875.

<sup>3</sup> Wood, *Therap. Mat. Med. and Tox.*, Philadelphia, 1877.

<sup>4</sup> Sigmond, *American Journal Medical Science*, xxi., 1838.

<sup>5</sup> Blake, *Schmidt's Jahresh.*, clxi, 1874, from St. Geo. Hospital Reports, iii., 1868.

kidneys) was exerted in an opposite direction. The fact that the pupils began to dilate four and a half hours after treatment began tends to strengthen this view.

The scarlatinoid eruption generally present in stramonium poisoning was also absent in this case. It may have been absent from the first or have disappeared before the man was discovered. Its absence is noted in the cases of seven boys, inmates of a charitable institution, each of whom had eaten about ten of the nearly ripe seeds.<sup>1</sup> This eruption is usually one of the early symptoms, and tends to disappear, as in my case, some time before the other effects of the poison pass away. It resembles very closely the eruption of scarlatina, but lacks its punctate appearance. It is said that a crop of minute vesicles may follow the eruption,<sup>2</sup> or that the eruption may resemble erysipelas at first, and afterward measles.<sup>3</sup>

The pulse is usually rapid and weak, but is said to be strengthened and the number diminished at first, that is, before a large amount of the poison is absorbed. The primary slowing of the pulse may be explained by a stimulation of the inhibitory centres in the medulla, and the quickening which follows this by a paralysis of the vagus and consequent absence of the power to transmit the impulse. This does not explain, however, the infrequency of the pulse occasionally found among the reported cases.<sup>4</sup>

The respirations are almost always very greatly increased in frequency, due, it is thought, to stimulation of the respiratory centres in the medulla. In one set of cases, however, the respirations were less frequent than normally.<sup>5</sup> Croupy symptoms are quite commonly met with. They may be due to a swollen, turgid condition of the rima glottidis or to laryngeal spasm.

Vomiting and purging are not usually present in stramonium poisoning, though the text-books give these a place among the symptoms. Their occurrence seems to depend in a great measure on the rapidity with which the poison is absorbed. A large dose apparently paralyzes, and a small dose stimulates, the smooth muscular fibres. This is very well shown by the first two cases in this paper. The little boy had chewed the seeds and vomiting did not occur spontaneously and was not easily brought on by emetics. The paralysis of the rectal end of the intestinal tract was more marked. A soap and water enema of more than a pint, and containing also some salt, was retained until absorbed. On the other hand, in the sister, vomiting came on late in the evening, and the seeds found in the vomitus were not chewed. Vomiting<sup>6</sup> and diarrhoea<sup>7</sup> do occasionally occur. The action of stramonium in small doses as an aid to cathartics is well known clinically.

It is said that during the first stage the temperature is considerably raised. In the only case in which I find a record made it reached 104° F.<sup>8</sup> Loss of power in directing the limbs, together with choreic movements is almost universally present in the first stage.

Inability to talk, even when conscious, is generally

present. It is probably due to a loss of coördinating power in the muscles employed in speaking. It will be remembered that, in my case, active endeavors were made to answer questions without success, though the boy seemed to hear and understand what was said to him.

Occasionally convulsions occur in the early stages, probably from irritation of the spinal centres.

The delirium in stramonium poisoning is of a most peculiar kind. It is restless, talkative, and occasionally very violent. There are strange hallucinations and visions, and the patient seems to be unconscious of all that is going on around him. It is said that distant objects appear near and near ones magnified, which may explain some of the curious symptoms. In one case a man walked up and down stairs continually during a whole night. In another there was excessive laughter with other symptoms of mild intoxication by alcohol. Sometimes the patient will appear lost in a reverie, which will be broken by sudden cries and spasmodic motions. There is said to be a tendency to go about naked, and such was noticed in the well-known cases whose occurrence gave the plant its common name of "Jamestown weed."

Pain in the stomach and bowels,<sup>9</sup> and tympanites, have been noticed among the symptoms.

There is no tendency to sleep at any time. Insomnia and even delirium tremens are more likely to occur.

Paralysis is apt to follow convulsions, especially if the dose has been large, and quickly thrown into the system. It is thought to be due to the action of the drug on the peripheral nerves. The same stimulation of the spinal centres is exerted, but the motor nerves are not able to exercise their function.

The stage of delirium is generally followed by coma, broken, only at first, by moments of delirium. The pulse continues rapid and with decreasing strength, the respirations become slow, irregular, and very often stertorous; the temperature is lowered; the face and extremities become livid from non-aeration of the blood; there is often complete suppression of urine, and the patient dies from asphyxia, uræmia, or syncope.

In fatal cases death takes place within from six to twenty-four hours after symptoms of poisoning first manifest themselves, though in one case,<sup>10</sup> that of a feeble woman of sixty, death occurred on the fourth day after the patient was apparently convalescent. Death may occur after all the solid portions of the plant have been expelled by emetics and purgatives, as in the case of a little girl, two years old, who had eaten a hundred seeds. Twenty were vomited, and eighty came away through the bowels. A sufficient amount of the poisonous principle was absorbed during their passage.<sup>11</sup>

In the non-fatal cases recovery is usually complete by the third or fourth day, the dilatation of the pupils being the last symptom to disappear. Occasionally there are sequela, however. In one case in which a decoction of the leaves was drunk, gastric irritation remained a month.<sup>12</sup> In another, after treatment by emetics, cathartics, and opium, a most curious after-effect was stammering, which the child was free from before the poisoning.<sup>13</sup>

The post-mortem appearances after poisoning by

<sup>1</sup> Evans, *American Journal Medical Science*, lii., 1866.

<sup>2</sup> De Witt, *Medical Repository*, ii., 24.

<sup>3</sup> Griffiths, *American Journal Medical Science*, v., 252.

<sup>4</sup> Harris, *the JOURNAL*, November 14, 1891. Taylor on Poisons, Philadelphia, 1875.

<sup>5</sup> Wood, *op. cit.*

<sup>6</sup> Devergie, *Médecine Légale*, Paris, 1852.

<sup>7</sup> Elliot, *N. Y. Journal of Medicine*, November, 1856.

<sup>8</sup> Newton, *Medical Record*, xviii., 1880.

<sup>9</sup> Buckingham, *the JOURNAL*, October 31, 1861.

<sup>10</sup> Spence, *Ibid.*, 1845.

<sup>11</sup> Duffin, *Medical Gazette*, xv., 184.

<sup>12</sup> Devergie, *op. cit.*

<sup>13</sup> Stranglin, *Medical Record*, xviii., 1880.



stramonium are by no means characteristic, and depend to a great extent, I judge, on the symptoms preceding death. In one case the larynx and œsophagus were slightly reddened, the rima glottidis thickened and turgid, and the blood semi-fluid.<sup>1</sup> In this case, as in mine, there were croupy symptoms, but in the latter it was thought that the dyspnea was due to spasm, rather than to any change in the larynx itself. In another case there were found, after death, a high degree of congestion of the brain and its membranes, together with an effusion of bloody serum into the ventricles. The mucous membrane of the stomach was highly congested, and there were two points of extravasation.<sup>2</sup> Another case showed the lungs oedematous, and the right heart full of blood.

Symptoms of an over-dose of stramonium usually manifest themselves in an hour or two after the ingestion, though of course the length of time which the stramonium may lie in the stomach depends, to a great extent, on the condition of that organ, as well as on the form in which the stramonium is administered. They may be delayed for a considerable time, as in my second case, or, on the other hand, after a fluid preparation, for example, the decoction, has been taken, delirium, staggering, and even unconsciousness may come on in a few minutes.

The diagnosis of poisoning by a mydriatic is not usually difficult, though to distinguish which drug of this class has been taken is often impossible. The symptoms of scarlet fever resemble poisoning by stramonium most closely, especially in children.<sup>3</sup> There is a sudden invasion, a scarlet eruption, a reddened throat, and a hot, dry skin, but the peculiar restlessness and odd contortions, together with a wild expression, dilated pupils, and more feeble pulse, make it impossible in most cases to mistake the two.

I have heard of several deaths from "convulsions," where no physician was called, and in three of these the symptoms, as described, might well belong to stramonium poisoning. These cases occurred in the same neighborhood to which those reported in this paper belong.

If an emetic is given, and portions of the plant are found in the vomitus, the diagnosis is of course made.

In doubtful cases, if a sufficient amount of urine can be obtained, a portion may be injected beneath the skin of the ear or dropped into its eye, and the dilated pupil will show the nature of the poison.

The treatment of stramonium poisoning begins, of course, by emptying the stomach. Ordinary emetics often act slowly or not at all, and the use of the stomach-pump becomes necessary. It is best, also, to give a cathartic, to be followed by a stimulating enema, for so much time often elapses between the ingestion of the poison and the appearance of the symptoms that a considerable portion of the drug may have passed the pylorus.

As an antidote before absorption has taken place, animal charcoal is mentioned for stramonium as well as for aconite,<sup>4</sup> and tannin forms with the active principle a difficultly soluble compound as with the other alkaloids.

During the first stage cool baths have been used to reduce the temperature. Antimony as a depressant and numerous other drugs have been given with good

results, but in opium (or morphia) we have the nearest to a physiological antidote. Its action is most marked if given during the stage of delirium, but its antagonistic effects may be noticed even after the patient is comatose. The hypodermic injection of morphia is preferred to any other method of administration, as its effects are more rapid, and more under control. It requires care in using, and the dose to be given depends on the gravity of the symptoms. The pupil is considered by some to be a guide in giving opium, though by others this is denied. From a physiological point of view it is not a safe guide, because stramonium dilates the pupil by a local action, while opium contracts it by influencing the nerve centres.

After the patient has become comatose treatment by opium does not seem to be so rational. It is said to be most beneficial when a large amount of water can be thrown into the system at the same time,<sup>5</sup> and when it is remembered that there is often suppression of urine, and that by means of the urine nearly all the poisonous principle of the stramonium must be eliminated, such a result will be expected.

It has been noticed, in a case of atropia poisoning, that the stertor increased after each injection of morphia, and it was discontinued. In the comatose stage the danger is failure either of the heart or respiratory muscles, and opium in large doses acts in the same direction. It is not a perfect physiological antidote. One case is reported, however, in which an improvement in the pulse took place after each injection of morphia, though in the end the patient died.<sup>6</sup>

Hot and cold douches, faradization, and the administration of alcoholic stimulants have given good results. Small doses of camphor in the form of an enema have been considerably praised,<sup>7</sup> although I find no mention of the use of digitalis in stramonium poisoning; its physiological action suggests its use as a stimulant to the circulation.

Artificial respiration is a very important aid in the later stages when the respirations become infrequent, and the patient is becoming asphyxiated.

In a recent journal<sup>8</sup> chloroform is spoken of as a physiological antidote for stramonium, and a case is given in which an exceedingly good result was obtained by its inhalation.

I cannot forbear, in closing, from suggesting that the Society call the attention of the proper authorities to the dangers to which children are liable from the presence of this poisonous weed within the city. The experiment of exterminating it might be begun on the Federal Street Common, for instance, which is the play-ground, not only for the children belonging to the school recently established there, but for a large Irish neighborhood, as well. Though some may think it an exaggeration, the plants almost out-number the children.

— Sir James Paget, in an article in the *Nineteenth Century*, thus illustrates the condition of English anti-vivisection law: "I may pay a rat-catcher to destroy all the rats in my house with any poison he pleases, but I may not myself, unless with a license from the Home Secretary, poison them with snake-poison."

<sup>1</sup> Duffin, Medical Gazette, xv, 184.

<sup>2</sup> Allan, the Lancet, September 14, 1847.

<sup>3</sup> Liegey, Virchow, and Hirsch's Jahres-b., 1867, i., 474.

<sup>4</sup> Garrod, American Journal Medical Sciences, 1856.

<sup>5</sup> Gross, American Journal of Medical Sciences, October, 1869.

<sup>6</sup> Newton, Medical Record, xviii, 1880.

<sup>7</sup> Garrod, Am. Jour. Med. Sci., 1856.

<sup>8</sup> Rawson, the Lancet, 1881, ii., 363.

## RECENT PROGRESS IN MEDICAL CHEMISTRY.

BY WILLIAM B. HILLS, M. D.  
TOXICOLOGY.

## SULPHURETTED HYDROGEN.

Much of the sulphide of iron sold to chemists for the generation of sulphuretted hydrogen rests almost completely the action of dilute acids. P. Casanajor<sup>1</sup> states that an abundant supply of the gas can be obtained from such samples, by proceeding as follows. Enough mercury is put in a bottle to cover the bottom entirely. Over this, dilute sulphuric acid is poured, and some pieces of zinc are thrown in, which immediately sink in the mercury, forming a zinc amalgam with a great excess of mercury. No action takes place between the zinc and the acid. If now a few pieces of sulphide of iron are thrown into the bottle, they will sink to the mercury, and a copious discharge of sulphuretted hydrogen will take place from the surface of the sulphide of iron. This production will continue with remarkable regularity until either the zinc, the sulphide of iron, or the sulphuric acid is exhausted. The mercury only intervenes indirectly in the reaction, and does not require to be renewed.

## CARBONIC OXIDE.

M. Gruber<sup>2</sup> has made experiments with a mixture of air and 0.02 to 0.5 per cent. carbonic oxide, on rabbits, fowls, and white mice, the time of exposure varying from ten hours to three and one half days. Poisonous or injurious effects were noticed with very small quantities of the gaseous mixture. The limit of poisoning depends on the concentration of the gas, and not on the time of exposure. Carbonic oxide is inactive when present in the air to the extent of only 0.02 to 0.05 per cent. Air contaminated with 0.25 per cent. of the gas is highly poisonous. The author states that coal gas in dwelling-rooms can always be recognized by its smell, before it is possible to identify the carbonic oxide. He also says that in no case could carbonic oxide be found when rooms were heated with hot air or iron stoves.

Edwin Kreis<sup>3</sup> concludes from numerous experiments that, in cases of poisoning by carbonic oxide, only a very small part of the carbonic oxide is eliminated as such in the breath; and that the elimination of this small quantity is explained by the fact that carbonic-oxide-haemoglobin is not a perfectly stable combination, but possesses a certain tension by virtue of which it gives up a part of its carbonic oxide to any space free from the gas. The greater part of the gas is destroyed, and as he has found that animals poisoned with carbonic oxide eliminate more carbonic acid gas than those not poisoned, he concludes that the greater part of the carbonic oxide is changed to carbonic acid. Whether this change is a direct one or whether some other oxidation product is first formed is not determined. These conclusions of Kreis differ from those of Gréhant, who believes that carbonic oxide is for the most part eliminated as such in the breath.

## MORPHIA AND CODEIA.

E. Grimaux<sup>4</sup> has established a close relationship between these two constituents of opium by the conver-

sion of morphia into codeia. If a solution of morphia in alcoholic potassa or soda is gently warmed with an excess of methyl iodide, there is formed the iodo-methylate of codeia similar in all respects to the compound obtained by treating codeia with methyl iodide. If a very small quantity only of methyl iodide is employed, a small amount of free codeia is formed, and the artificial codeia possesses all the characteristics of the alkaloid extracted from opium. A careful study of the properties of morphia leads to the conclusion that it is analogous to the phenols and that codeia, which differs from it in composition by  $\text{CH}_2$ , is its methyl ether.

## STRYCHNIA.

F. J. Sommenschein<sup>5</sup> announced a few years since that when brucia is gently warmed with four or five times its weight of dilute nitric acid, strychnia, among other products, is formed. A. Claus and R. Röhre<sup>6</sup> and W. A. Stenstone<sup>7</sup> have carefully investigated this subject, and maintain strongly that when *perfectly pure* brucia (that is, brucia free from strychnia) is treated with dilute nitric acid, not even a trace of strychnia is formed.

## STABILITY OF CALOMEL.

P. Høglan<sup>8</sup> has made a series of experiments to discover the cause of the differences of opinion which exist concerning the conversion of calomel to corrosive sublimate by the alkaline chlorides and citric acid. The author's experiments show that calomel is slowly converted to corrosive sublimate by water at the temperature of the body; that common salt, sal-ammoniac, citric acid, and hydrochloric acid greatly promote this conversion, and hence are more or less dangerous when present in the system with calomel; that at the temperature of the body calomel is an unstable compound. Høglan found that when calomel and sugar were triturated together, no corrosive sublimate could be detected even after a fortnight; that when calomel was treated in the same way with magnesia, carbonate of magnesia, or bicarbonate of sodium, the mixture yielded evidence of corrosive sublimate at the end of twenty-four hours. The author concludes that the discrepancies in regard to the stability of calomel are in part accounted for by taking into consideration the temperature at which the experiments have been conducted.

## POISONING BY INHALING CHROME YELLOW.

Dr. Robert C. Smith<sup>9</sup> reports two cases of this form of poisoning. The patients were employed in weaving yarn colored with chromate of lead, which was only loosely applied, so that it was readily given up from the yarn in the process of weaving. The description of the symptoms in these cases is very brief, and apparently incomplete. The author, however, calls particular attention to the fact that the skin and conjunctivæ were yellow, so that the patients seemed at first sight to be suffering from an acute attack of jaundice. The urine, however, contained no bile pigment. The yellow tint of the skin was the first symptom to disappear, the blue line on the gums the last. In one case the urine contained chromium, while lead could not be detected. The author concludes that after absorption the chromate of lead is decomposed, and that

<sup>1</sup> Berichte der deutschen chemischen Gesellschaft, 1875, page 212.

<sup>2</sup> Ibid., 1881, page 765.

<sup>3</sup> Journal of the Chemical Society, London, 1881, page 453.

<sup>4</sup> The Dublin Journal of Medical Science, 1881, page 536.

<sup>5</sup> The British Medical Journal, 1882, page 8.

<sup>1</sup> Journal of the American Chemical Society, 18, page 30.

<sup>2</sup> Dingler's polytechnisches Journal, 241, page 219.

<sup>3</sup> Archiv f. d. gesammte phys-iologie, XXVI, page 125.

<sup>4</sup> Comptes Rendus, xxi., pages 1140 and 1225.

the chronic acid stains the liquor sanguinis and skin for a time, finally leaving the body by the liver and kidneys, while the lead is fixed in the tissues.

#### ELIMINATION OF MERCURY BY THE KIDNEYS.

Oberländer<sup>1</sup> concludes from a considerable number of analyses that the normal elimination of mercury through the urine may be determined as long as one hundred and ninety days after the cessation of specific treatment. Its course is irregular, and is marked by remissions and even by temporary pauses of variable duration. (Mercury has been detected in the liver when none had been taken for a year before death. REP.)

#### POISONING BY CHLORATE OF POTASSIUM.

Chlorate of potassium in over-doses has, during the past few years, been the cause of several fatal cases of poisoning, especially in children. M. Ludwig,<sup>2</sup> in a case of this kind, examined the blood, the contents of the stomach, and the urine. The latter was turbid, the reaction acid. It contained an abundant sediment, composed of blood globules in small number, and large granular casts. He could not detect the salt either in the blood, urine, or contents of the stomach. It seems to be reduced in some unknown way in the body either in whole or in great part. According to the author, chlorate of potassium seems to act in a manner similar to arsenic and phosphorus. The blood reduces it to chloride of potassium, and the blood globules are destroyed, while the feebly acid urine decomposes it, in the kidneys, into a base and chloric acid, the latter compound having a marked effect on the kidneys.

#### URINARY CHEMISTRY.

##### BILIARY COLORING MATTERS.

Gerhardt<sup>3</sup> describes the following reactions. Mix the chloroform extract from an icteric urine with impure (that is, oxidized) oil of turpentine and a small amount of a dilute solution of potassic hydrate. The solution assumes a green color. The same reaction occurs upon the addition of potassic hydrate and a small amount of a very dilute solution of iodine in iodide of potassium.

Urine containing urobilin shows a very characteristic reaction with iodine and potassic hydrate. Add to the chloroform extract iodine, and then neutralize the latter by shaking with dilute potassic hydrate. The potassic hydrate solution assumes a yellow or brownish-yellow color with a beautiful green fluorescence. This reaction can also be obtained directly from any urine containing urobilin, in which case chlorine water can be substituted for iodine.

##### BILIARY ACIDS.

Drechsel<sup>4</sup> modifies Pettenkofer's test for the biliary acids as follows: The solution containing the biliary salts is concentrated to a syrupy consistence, and to it is added concentrated syrupy phosphoric acid; a solution of sugar is then added, and the mixture is heated by holding the test tube containing it in some boiling water. If any trace of the biliary acids is present the mixture will assume a red to purple-violet color

after heating for a short time, even when the sugar is in considerable excess, since sugar is much less easily acted upon by phosphoric acid than by sulphuric acid

#### URIC ACID.

E. Ludwig<sup>5</sup> recommends the following method for the quantitative estimation of uric acid. To the urine is added a mixture of ammoniacal silver solution and magnesium fluid. The precipitate containing all the uric acid and phosphoric acid is transferred to a filter paper, washed well with water containing ammonia, decomposed by the aid of heat with a dilute solution of potassic sulphide, and filtered. Urate of potassium is formed which goes into solution. The filtrate and washings are acidified with dilute hydrochloric acid, and evaporated on a water bath to a small volume. The uric acid which separates upon cooling is collected upon a filter, washed with water, dried at 110° C., and freed from sulphur by washing with bisulphide of carbon, and finally with ether.

#### REAGENTS FOR ALBUMEN IN THE URINE.

C. Hindenlang<sup>6</sup> has compared metaphosphoric acid with other reagents for the detection of albumen, and has obtained remarkably good results. He finds that albumen is the only constituent, normal or abnormal, of the urine with which the acid produces any turbidity. The test is performed as follows: A fragment of the acid is shaken with two or three cubic centimetres of cold water till a sufficiently strong solution is obtained, and this is added to the urine previously filtered. The least trace of albumen is indicated, without warming the mixture, by an opalescence or distinct turbidity.

A. Raabe<sup>7</sup> recommends the use of trichloroacetic acid as a reagent for albumen. A small crystal of the acid is dropped into a test tube containing a few cubic centimetres of filtered urine. The mixture is not to be shaken. There is thus formed in the bottom of the tube a concentrated solution of the acid. If albumen is present there will be formed, after some minutes, a zone of coagulated albumen, which does not disappear upon warming, thus differing from urates. This reagent causes no turbidity in normal urine, but causes a deposit of uric acid in urines containing a large amount of urates. Previous dilution of the urine will often prevent the deposition of uric acid. By this reagent Raabe could recognize 0.0295 grammes of albumen in 250 c. c. The reagent is six times more sensitive than metaphosphoric acid, and two times more sensitive than nitric acid.

#### ACID FERMENTATION OF URINE.

According to Scherer an acid fermentation, in which by the action of the mucus the urinary pigments are decomposed, with the formation of lactic and acetic acids, precedes the well-known alkaline fermentation of the urine. F. Röhmam<sup>8</sup> publishes the results of his investigations upon this question. He has determined by titration the acidity of a large number of normal and abnormal urines (fresh urines previous to the occurrence of the alkaline reaction) in order to determine whether there is an increase or diminution of acidity, and has made numerous determinations of the ammo-

<sup>1</sup> The Dublin Journal of Medical Science, 1881, page 528, from Rep. de Pharm., August, 1881.

<sup>2</sup> Journal de Pharmacie et de Chimie, 1881, page 251.

<sup>3</sup> Centralblatt für die medicinischen Wissenschaften, 1881, page 873.

<sup>4</sup> Journal für praktische Chemie, xxiv., page 45.

<sup>5</sup> Zeitschrift für analytische Chemie, xxi., page 148.

<sup>6</sup> Archiv der Pharmacie, July, 1881, page 56, from Berlin. klin. Woch., 1881, No. 15.

<sup>7</sup> Berichte der deutschen Chemischen Gesellschaft, xiv., page 2312, from Pharm. Zeitschr. f. Russland, 1881, page 445.

<sup>8</sup> Chemisches Centralblatt, 1881, page 378.

nia. His investigations show that an acid fermentation, as understood by Scherer, does not exist. Only exceptionally did an acid urine show any increase of acidity, and in these cases the increase was an accidental occurrence due to the presence in the urine of substances prone to ferment, and which by fermentation furnished an acid; such as alcohol or sugar. Ordinarily the acidity, as well as the amount of ammonia which was present when the urine was passed, remained unchanged for a shorter or longer time; then the acidity diminished, the ammonia increasing, till the reaction of the urine became alkaline. Still while the urine reacted acid (the same was true also in case of those urines the reaction of which was alkaline from the first) a urine which when passed was clear became cloudy, and at the same time the reaction for nitrous acid was obtained. The nitrous acid may exist in small proportion in the fresh urine, or may be formed in part from the nitrates in the urine, or possibly, in part, in alkaline urines, from the oxidation of ammonia. The nitrous acid gradually diminishes, and disappears after a while. It may be present, however, when the urine has an alkaline reaction.

#### DIABETES MELLITUS AND ALBUMINURIA.

According to Ferrieh,<sup>1</sup> in true diabetes albuminuria is not frequent, nephritis is rare, and occurs only in certain conditions. Out of 316 cases of diabetes mellitus which Ferrieh partly observed for ten, twelve, and even fifteen or sixteen years, there were only sixteen cases of nephritis. Cases in which small quantities of albumen were occasionally found in the urine were never pure and simple cases, since it could be proved in most of them that other processes were involved which of themselves could produce nephritis. Of sixteen cases there were only three in which no co-operating cause could be suggested. The author concludes that the general belief that the increased action of the kidneys in diabetes mellitus leads to albuminuria and nephritis is erroneous. According to the author's post-mortem examinations, which comprise more than fifty cases, true nephritis is hardly ever met with in diabetes.

#### DIABETIC ACETONURIA.

Many investigations have been made for the purpose of determining, if possible, the nature of that constituent of the urine of patients suffering from the more intense forms of diabetes mellitus which gives the red coloration with ferric chloride. The reaction has been attributed by many chemists to the presence of ethyl-aceto-acetate, which would yield by its decomposition an equal number of molecules of acetone and alcohol. Owing to the volatility of the acetone the proportion of alcohol may even exceed that of the acetone. In all cases which have been examined, however, the reverse has been well marked. A. Deichmüller,<sup>2</sup> for example, failed to obtain alcohol from forty litres of a diabetic urine. He made a series of determinations of the acetone in the urine, and found it in quantity varying between .093 and .147 per cent. As the reaction with ferric chloride points to the presence of a compound allied to ethyl-aceto-acetate, and as no alcohol was separable from the distillate, the author concludes that the compound is not ethyl-aceto-acetate but free aceto-acetic acid. In this opinion he is confirmed

by B. Tollens.<sup>3</sup> The latter bases his opinion upon the experiments of Deichmüller, as well as upon the fact, which he himself observed, that when diabetic urine was shaken with ether only a slight trace of the ferric chloride reaction was obtained from the ether extract; when, however, he added to the urine one tenth of its volume of a one and one half per cent. aqueous solution of ethyl-aceto-acetate the latter was readily extracted by ether.

#### OTHER RECENT PAPERS OF VALUE.

Oberländer, Two Cases (non-fatal) of Poisoning by Iodoform, Dublin Journal of Medical Science, 1881, page 536.  
Henry, Two Fatal Cases of Poisoning by Iodoform, Deutsche med. Woch., 1881, No. 34.  
Reichert, On Poisoning by Carbolic Acid, The London Medical Record, 1881, page 485.  
Gantier, Lead Poisoning (Abstract), British Medical Journal, 1881, page 862.  
Riche, Comparative Toxicity of Different Metals, Comptes Rendus, xciii., page 649.  
Fresenius, The Fresenius-Babo Method of Testing for Arsenic, Zeit-schrift für Analyt. Chemie, 1881, page 522.  
Brouardel and L'Hôte, On Poisoning by Chlorate of Potassium, Journal de Pharmacie et de Chemie, 1881, page 563.  
Satlow, On Poisoning by Chlorate of Potassium, Jahrbuch. f. Kinderheilkunde, 1881, page 311.  
Vryens, Recherches upon Acute Arsenical Poisoning, Archives de Physiologie, 1881, page 780.  
Husenmann, Promaines, Archiv de Pharmacie, 1881, page 187.  
Roberts, Micro-Organisms in Fresh Urine, British Medical Journal, 1881, page 623.  
Gantier, Proteid Alkaloids of Fermentation (Abstract), British Medical Journal, 1881, page 988.  
Mason, Hourly Variations of Urine, New York Medical Record, 1881, page 617.

### Hospital Practice and Clinical Memoranda.

#### A CASE OF UNUSUAL TOLERANCE OF SULPHATE OF MORPHIA.\*

BY GEORGE A. BRUG, M. D., PROVIDENCE, R. I.

MONDAY, December 5th. I was called to see Mrs. G., aged forty-six years, I found my patient in a state of extreme collapse, with violent attempts at vomiting; radial pulse imperceptible; surface covered with cold perspiration; countenance expressive of extreme agony; tossing about in her bed and begging for death, or relief from her terrible suffering, which was referred principally to her stomach, with minor pains in all parts of her body.

I found upon inquiry that she had been addicted to the use of morphia, and had made the attempt to break off the habit, which had resulted in her present condition. She had used the drug almost continually for the past fourteen years, during which time she had entirely abstained from its use three times for periods of two to three months each, but has taken it without intermission during the past nine years. She first began using it for the relief of pain from rheumatism, beginning with one fourth grain and continued after her recovery, gradually increasing the daily amount to from fifteen to twenty grains. She would occasionally double this amount for a few days, when there was anything to trouble her mind, upon such days taking from thirty to forty grains, but would diminish the amount when her trials were passed.

For three weeks previous to December 5th she had had a great deal to worry about, and during this time she took regularly a *drachm* of sulphate of morphia daily, on several days *eighty* grains. The entire daily allowance was taken within two or three hours, or from

<sup>1</sup> The London Medical Record, August 15, 1881, page 312.

<sup>2</sup> Journal of the Chemical Society, London, 1881, page 1162, from Liebig's Annalen, cxix., page 22.

<sup>3</sup> Liebig's Annalen, cxix., page 30.

\* Read before the R. I. Medical Society, at the Quarterly Meeting, Thursday, December 15, 1881.

two to five o'clock in the afternoon, taking about fifteen grains at a dose. Before taking her morphine she was very uncomfortable and restless, after taking it quiet and easy, and would then engage in conversation or in reading. She could never sleep until ten or twelve hours after having taken the last dose, and then would not sleep more than two or three hours out of the twenty-four.

She eats very little, taking usually nothing but a small piece of toast and a little milk in the forenoon, after which she takes no food until the following day, when the above is repeated, yet she appears to be well nourished, her present weight being one hundred and seventy-five pounds.

As I stated before, prior to December 5th she had been taking a drachm or more daily, but had decided to stop using the drug, and the day before had taken but half her usual quantity, that is, thirty grains, and the Monday following had taken none previous to the outset of the symptoms described at the time I saw her. Her husband then compelled her to take some, but the stomach refused to retain it.

Upon my arrival I at once injected hypodermically one grain of sulphate of morphia, after fifteen minutes two grains, followed by an additional two grains, finally one grain more, making a total of six grains hypodermically in less than an hour, at the end of which time she was not comfortable, but so far relieved that her suffering was endurable. She begged me to add one more hypodermic of four grains, which she thought would make her easy, but I refused since I considered her symptoms so far relieved that she was out of danger, and I did not dare use more. After I left her she used three suppositories of five grains each, and shortly after fifteen grains by the stomach.

The following day she had completely recovered from her collapse and was in her usual health. She has since been breaking off more gradually, determined, however, to do away with the use of morphia altogether.

## Reports of Societies.

### QUARTERLY MEETING OF THE RHODE ISLAND MEDICAL SOCIETY.

G. D. HERSEY OF PROVIDENCE, SECRETARY.

THE customary quarterly meeting of the Rhode Island Medical Society was held in Providence, December 15, 1881.

DR. C. V. CHAPIN read a paper on

#### THE OCCURRENCE OF INTERMITTENT FEVER IN PROVIDENCE AND VICINITY DURING THE PAST SUMMER.

The essay of Dr. Oliver Wendell Holmes, published in 1836, was quoted, showing that intermittent fever existed in New England to a moderate extent from its settlement till the early part of the present century, and that at the time of the Revolution it occurred in Providence, Cranston, and South Kingstown, while other parts of the State escaped. Dr. Usher Parsons, in a letter to Dr. Holmes, states that he had known of chills and fever many years before in the northern section of Providence in the neighborhood of a dam which had been thrown across the Moshassuck River. But for the past fifty years Rhode Island, with the most of New England, has had complete immunity from ma-

larial affections. In the summer of 1880 a marked epidemic of intermittent fever appeared at Nayatt, ten miles down the bay. While it was altogether the most severe at that place many other localities were also affected, and a few cases were observed in Providence in the vicinity of Mashapaug pond. During the summer just past a very large number of cases occurred within the city limits, and the effort to collect them suggested this paper. Inquiries were made of one hundred and fifteen practitioners, replies being received from seventy-four. Of these, thirty-one reported cases and forty-three reported having none. Four physicians practicing in one locality had a considerable number each, while of the remainder scarcely any one had more than half a dozen. In all, three hundred cases were reported. One hundred and eighty-seven, or 62 per cent., were within half a mile of Mashapaug pond; twenty-six, or 8 per cent., were near the Oriental mill; eight, or 2½ per cent., were near Red Bridge. This leaves seventy-nine cases scattered over the city where no apparent cause could be found. The population of the Mashapaug district is 2500, and the cases of malaria reported numbered one to each fourteen of the population. The seventy-nine cases in the rest of the city with a population of 100,000 gave one in 1250. There was not a single death reported from malarial disease. This record is unavoidably imperfect, as many people bought medicine of their apothecary or used prescriptions given by physicians to other sufferers.

Though we do not know the exact nature of the cause of intermittent fever, we do know many of the conditions under which it is active. Some of these conditions the experience of two summers has illustrated. The malarial poison is not developed until the minimum temperature rises above 57° F., so that it rarely appears in this latitude till summer is somewhat advanced. It may then increase until the thermometer marks 82° F., which effectually checks its production. But many cases which contract the disease in the fall do not have any manifestations of it till well into the winter.

Again, the most important conditions for the development of malaria are humidity and the presence of dead vegetation. The outbreak at Nayatt in 1880 was in a region of marshy land with shallow pools of stagnant water abounding in decaying vegetable matter. The same condition is true in a general way of the lower portions of the Pawtuxet and Woonasquatucket valleys. The flooding of the meadows at Nayatt, near which most of the cases of fever occurred, has resulted in a marked diminution in the number of cases in that immediate neighborhood. Thus demonstrating in the most practical way the relation between malaria and wet lands. If the swampy ground around Mashapaug and Spectacle ponds and near the Oriental mill could be drained, or else kept deeply covered with water, there would probably be less intermittent fever next summer in those localities.

DR. BATCHELDER, of Arlington-in-Cranston, reported one hundred and seventy-five cases of malarial disease observed the past season in the territory adjoining the "Mashapaug district."

DR. HUNT, of East Providence, had recently seen cases of intermittent fever where the ground was high and dry, but where the sanitary surroundings of the locality were very imperfect. Typhoid fever rather than intermittent would be looked for under similar conditions.

DR. GARVIN, of Lonsdale, had observed malarial disease appearing along a line of excavations made in laying water pipes from Pawtucket to Lonsdale.

DR. REMICK called attention to the present infrequency of typhoid fever in Providence, especially in localities where intermittent abounds.

#### MALARIAL KERATITIS.

DR. H. G. MILLER mentioned malarial keratitis, an obstinate form of ulceration of the cornea, as one of the sequelae of malarial fever. He had recently seen four cases. Of these, one originated at Nayatt and one at Lonsdale in Rhode Island, one at Taunton, Mass., and one at the West. The trouble appears during or after convalescence from the febrile attack, and varies in extent and severity from a simple loss of epithelium to a deep and widespread ulceration. The most striking symptom is anesthesia of the cornea. Notwithstanding the severe pain which may be present, both in the eye and around the orbit, the cornea is quite insensible to the touch as compared with that of the healthy eye. But the tension of the globe is not increased as in glaucoma. In addition to the antiperiodic and general tonic treatment indicated the best local remedies have appeared to be atropine in solution dropped into the eye in the usual way, and finely powdered iodoform dusted in with a camel's hair brush, each two or three times a day. Solutions of eserine and pilocarpine appeared to be irritating. The speaker thought he might formerly have seen cases of obstinate keratitis arising from this cause without having recognized its source; but after having his attention called by Prof. Henry D. Noyes to their occurrence near New York, where malarial diseases are much more common, he had been on the watch for them since the great increase of fever and ague here.

DR. WILLIAM SHAW BOWEN reported

#### A CASE OF LARYNGEAL PARALYSIS SUPPOSED TO BE DUE TO MALARIAL POISONING.

A male, aged 37, otherwise in good health, a non-user of alcohol or tobacco, and with no history of syphilis, came under observation with practically complete aphonia. He had been for several months in the West and while there had a severe attack of malarial fever of the remittent type. This was followed by quotidian ague which continued up to a fortnight previous to coming for consultation. Large quantities of quinine and salicylic acid had been used. The loss of voice commenced suddenly, during a chill, about four weeks previous. Examination revealed healthy fauces, nasal passages, and pharynx. The mirror showed that on attempting phonation the cords did not approach. There was slightly increased color of the cords and ventricular bands, but no other morbid process existed. The diagnosis was bilateral paralysis of the crico-arytenoidei laterales and the arytenoideus. This condition is almost invariably due to functional causes, especially impoverishment of the blood, amenorrhœa, and sometimes hysteria. It usually yields readily to faradization locally applied. In this instance the current proved of no value and two grains of quinine every two hours were ordered. Stimulating inhalations were advised, but only irregularly employed. In ten days guttural sounds could be made, and in another fortnight the voice had returned to its normal condition. The quinine treatment was continued four weeks in all. Dr. Bowen had seen no recorded case of

such influence of malaria on the vocal organs, and presented this seeming instance of implication of the adductor muscles of the larynx as a possible means of bringing to light other cases of a similar nature.

#### STRAMONIUM POISONING.

DR. H. TERRY read a paper on stramonium poisoning, relating three cases recently under treatment.<sup>1</sup>

DR. CHAPIN recited the history of three patients who were poisoned by accidentally drinking an infusion of stramonium leaves. He noticed the same nervous symptoms described by Dr. Terry. One of his cases fell into collapse but was revived with stimulants.

DR. F. H. PECKHAM, JR., had also observed three cases of stramonium poisoning. He noticed particularly the eruption simulating that of scarlet fever.

DR. G. A. BRUG read notes of a case of

#### UNUSUAL TOLERANCE OF MORPHINE.<sup>2</sup>

A woman, aged forty-six, had used morphine without intermission for nine years; 10-20 grains being the average daily allowance, occasionally doubling the amount when worried. Recently she had increased the daily supply to sixty and even eighty grains.

#### ABSCESS OF THE LIVER.

DR. HUNT presented a paper on abscess of the liver, founded on a recent case of typhoid fever with hepatic abscess which terminated fatally on the twenty-eighth day. At the post-mortem examination the liver was found firmly adherent to neighboring organs. One large abscess contained eight ounces of pus, and there were numerous smaller abscesses.

DR. LEONARD reported a case of abscess communicating with the gall-bladder in a man aged eighty. The abscess seemed to be quite superficial, was aspirated three times in three weeks, and eventually discharged fifteen gall stones. The patient recovered with a biliary fistula through which twenty-five small calculi have passed.

#### TREATMENT OF PUERPERAL CONVULSIONS.

DR. E. T. CASWELL read a paper on the treatment of puerperal convulsions occurring at the time of labor. The two prominent indications are control of the spasms and a rapid termination of the labor. Morphine in large doses as advocated by Dr. C. C. P. Clark, of Oswego, in the *American Journal of Obstetrics* for July, 1880, was recommended to check the convulsions; one grain being the maximum single dose. In the writer's experience Molesworth's dilators had proved very serviceable in securing a rapid dilatation of the os.

#### DELEGATES AND FELLOWS.

Delegates to State Medical Societies were appointed as follows:—

To Maine, A. A. Mann of Central Falls, and W. H. Traver of Providence; New Hampshire, S. Hunt of East Providence and W. E. Anthony of Providence; Vermont, Lloyd Morton of Pawtucket and E. P. Clark of Hope Valley; Massachusetts, Ariel Ballou of Woonsocket and W. O. Brown of Providence; Connecticut, A. G. Browning and G. D. Hersey of Providence; New York, L. F. C. Garvin of Lonsdale and R. F. Noyes of Providence; New Jersey, C. H. Fisher of North Seituete and E. B. Eddy of Johnston.

<sup>1</sup> See page 123 of this number of the JOURNAL.

<sup>2</sup> See page 128 of this number of the JOURNAL.

Drs. J. Howard Morgan of Westerly, Joseph E. V. Mathew of Central Falls, William J. McCaw of Providence, and Edwin A. Kemp of Lonsdale were elected Fellows.

#### NORFOLK DISTRICT MEDICAL SOCIETY.

WALTER CHANNING, M. D., SECRETARY.

A MEETING for scientific improvement was held at Rockland Hall, Roxbury, on Tuesday, November 29, 1881. Present twenty-one members. At 2.30 p. m., the vice-president, Dr. Dearing, called the Society to order and in the absence of the secretary, Dr. Walter Channing, Dr. G. D. Townshend was appointed secretary *pro tem*.

THE INTERNATIONAL MEDICAL CONGRESS, 1881, AND THE MEETING OF THE BRITISH MEDICAL ASSOCIATION; LISTERISM; VACCINATION; NEW INSTRUMENTS, ETC.

DR. HENRY A. MARTIN gave a brief account of some of his experiences while in attendance on the 1881 International Medical Congress, London; and at the meeting of the British Medical Association at Ryde, Isle of Wight. The speaker stated that he found his rubber bandage was approved and extensively used by the members of the Congress, especially in England.

The germ theory he thought met with a cool reception in the Medical Congress, and, in the speaker's own mind, in less than twenty-five years that now popular theory would be one of the exploded fallacies. We in this country have not a definite idea of the extreme precision of the Listerian method as practiced under Mr. Lister's immediate supervision. For instance: In a case of fracture of the patella, with an apparently most favorable result, Dr. Martin attempted to touch the part over the fracture, in order to ascertain the degree and character of the union of the fragments, when he was instantly warned off by Mr. Lister himself.

In a case of acute hydrocele, or orchitis, treated by puncturing, a huge mass of gauze, "protective" and general Listerian wrappings the size of one's head, was found at the foot of the bed when the patient was exposed by Mr. Lister, or his assistants, to the invited visitor's inspection. In England there is considerable diminution in confidence in the "spray," and in the extreme or routine "Lister-dressing" too, to a certain extent. Mr. Thomas Keith's statement at the Congress did much to strengthen many previous doubters of Mr. Lister's theories. Mr. Keith and several of his assistants or attendants in his hospital had suffered from albuminuria arising from carbolic acid poisoning. Mr. Keith went to the continent twice thinking himself incurably affected, but he recovered both times. Professor Lister was considerably disconcerted by Mr. Keith's statements.

Because the allotted time for speakers in the Congress was limited by rule to ten minutes, and Dr. Martin found the rule inflexible towards himself, although frequent exceptions towards some others were not wanting, he preferred to accept the opportunity offered, of twenty minutes, by the British Medical Association, at Ryde, Isle of Wight.

At the close of the Congress Dr. Martin was called upon to address that body; his remarks then are in-

cluded in the report of the transactions of the Congress. He was the guest of the Public Medicine Section of the British Medical Association. He could warmly add his testimony to that of many other witnesses in favor of this perfectly delightful watering place.

Dr. Martin had addressed this Public Medicine Section eight years previous and had then predicted the great importance of animal vaccination, which was not then appreciated. They have since pretty fully recognized the thoroughly established fact that humanized virus becomes extinct. It is quite characteristic of the traditional British conservatism, that the profession generally in Great Britain is waiting for a case of true English cow-pox, before it will countenance animal vaccination. No less characteristic is the British law that no new surgical operation can be performed without a "Board's" permission. Dr. Cameron, M. P., from Glasgow, is an advocate of animal vaccination. Dr. Wm. B. Carpenter, the celebrated physiologist, invited Dr. Martin to dine with him, and to meet several prominent gentlemen. The attentive host proved himself a delightful old gentleman.

Dr. Carpenter stated that he had received from his three books on physiology only about £100 in Great Britain, and £900, as a sort of conscience money, from America. Dr. Martin pronounced this fact a very marked instance of the absurdity of a man being deprived of the benefits of his ability as an author.

In his rambles the speaker saw "loads of things" but he brought home very few articles, among which, however, was one he could highly approve, a vaccine shield, of coarse wire work, with a covered rim, and two tapes attached to this rim, to fasten the shield on the arm, so as to protect the vaccine vesicle from being irritated by clothing, etc., which irritation produces most of the bad cases sometimes seen. Messrs. Leach and Greene of Boston had been given suggestions concerning such a shield.

Dr. Martin exhibited also a small specimen of a syphon arrangement of small rubber tubing and a central double metallic coil, for hot or cold applications to the parts requiring them; both applications are greatly intensified by this simple apparatus. There are various sizes and forms of this apparatus, adapted to different parts of the body.

A set of Mr. Spanton's corkscrew-like instruments, for use in his method of operating for the radical cure of inguinal hernia, were exhibited. These instruments span the inguinal canal from pillar to pillar, and from the external ring to the scrotal wound and retain a cylindrical plug of invaginated subcutaneous tissues, up into or against the internal ring, until adhesive inflammation results and fixes this plug and obliterates the canal. Spanton's results have been invariably beneficial — all but .05 per cent. had been curative, and this remaining .05 per cent. had been decidedly benefited. No grave inflammatory symptoms had occurred. The only danger is of wounding a branch of the internal epigastric artery.

A truss has been worn for a week or two after some of Spanton's operations, but it was not necessary to use one. Dr. Martin considers this operation "a most sensible one, and one possessing the advantage that it can be performed by ordinary human beings."

Dr. Martin spoke very favorably of his kind reception and recognition.

DR. DEARING spoke of several foreign medical men whom he met, and of some operations that he wit-

nessed while he was at the Congress. He mentioned also the existence of various opinions concerning the Listerian method of treating wounds.

DR. GEORGE E. MACUEN then read an account of

#### A JEWISH CIRCUMCISION,

of which the following is a summary:—

The ceremony or operation was performed upon an infant, born of Jewish parents, eight days old, and the fact that the said infant was born on a Saturday, or the Jewish Sabbath, was said to add additional lustre to the ceremony and confer great honor upon the infant.

A room was prepared by having a table near the window, water, sponge, towels, and lint, in about the same manner any physician about to do any of the minor operations of surgery would desire, also a bottle of wine and glasses.

The operator, in addition to the things already provided, laid out three pieces of lint, about one and a half to two inches square, with quite a small hole in their centre, three pieces of lint, and three pieces of tape bandages, also a case containing a knife and tongs, or forceps, which latter serve the purpose of constricting forceps and also a shield to protect the glans penis.

Everything being ready, the child was brought in upon a pillow, the god-father, having seated himself upon the table, received the pillow upon his lap with the head of the child towards his body. The Rabbi sat in front of the child, and began a recital or chant in Hebrew, and the others present who were able to do so responded. While the Rabbi was chanting he raised the clothing of the child, opened the diaper, wound the corners of the latter around the limbs of the infant, and then gave them to the god-father to hold. The foreskin of the penis was now seized and drawn well forward, then the tongs or forceps forced well down upon it, care being used to prevent the frænum from being constricted in the slot of the instrument, so, as the Rabbi told me afterwards, to have less hemorrhage. The tissue on the outer side of the tongs or forceps was now cut away with a sweep of the knife and the tongs removed when it was seen that the mucous membrane had not been removed at all. He uncovered the glans by grasping the free edge of the mucous membrane with the thumb and finger of each hand and tearing it backwards. The hemorrhage was considerable and in order to check it the operator took wine in his mouth, and then the penis of the child and held it there for a few seconds, then spit out the wine; this was repeated three times. This completed the operation, and during the dressing the chant was resumed.

During the operation a man stood at the left of the Rabbi with a teacup in his hand containing wine in which he dipped a sugar-teat; his duty seemed to be to strangle the child, if possible, by forcing this dripping sugar-teat into the mouth every time it opened it to cry. The dressing of the penis, etc., was quite complicated, the glans was first forced through the holes in the square pieces of lint before mentioned, then the lint bandages and the tape bandages outside of them, so by this time it made quite a respectable bundle. The napkin is now put on and confined by winding around the child's limbs and tucking in the ends. Then the limbs are wrapped separately in napkins and being placed side by side and extended, a thick napkin is put around them and pinned quite tight, the reason given being that it prevents the child kicking and disarranging the dressings.

DR. WILLIAMS read a paper entitled

#### MOSES AS A SANITARIAN.<sup>1</sup>

DR. MARTIN agreed as to the great sanitary value of circumcision. In youth a long prepuce leads to masturbation. A case was referred to by the speaker of a prematurely old man, with very long prepuce and extremely irritable glans penis when circumcision afforded the very best of results in about two months. We have been too dainty and have permitted this subject to drift into the hands of charlatans. Moses' only method to accomplish so great a sanitary measure for a whole people was by the instrumentality of religion. Circumcision is important in any climate and especially so in a warm climate.

When Dr. Martin was in Washington, last summer, Dr. Billings showed him a communication concerning a foreign sect, which practiced destruction of the male genital organs, leaving only a portion of the urethra as an aqueduct; they also practiced lacerations of the female genital parts.

DR. JOS. STEDMAN offered the following motion, which was seconded and carried affirmatively:—

*Resolved*, That Dr. Williams be requested to furnish the Secretary with a copy of his interesting paper on Moses as a Sanitarian, for publication in the BOSTON MEDICAL AND SURGICAL JOURNAL.

#### STATED MEETING OF THE GYNÆCOLOGICAL SOCIETY OF BOSTON.

H. O. MARCY, M. D., SECRETARY PRO TEM.

FIRST Thursday, NOVEMBER, 1881. WM. G. WHEELER, M. D., president, in the chair.

EPHRAIM CUTTER, M. D., of New York, read the paper assigned for the day. —

#### IODOFORM AND ITS USES IN GYNÆCOLOGY.

He first referred to its physical and microscopic characters, — the form of its crystals, which are hexagonal, Greek-cross shaped, and many-barbed, explains the fact of the difficulty with which it is removed from the clothing. It contains ninety-five per cent. of iodine, is a teriodide of formyl, and an analogue of chloroform.

The reader then proceeded to give an account of his twenty-five years' experience with the agent. In 1865 first applied it to an old, irritable, syphilitic ulcer of the leg, size of half dollar, edges vertical, the pain of which destroyed sleep. A teaspoonful of iodoform in powder was placed in the ulcer, and the whole covered with adhesive lead plaster. In four days two thirds of the ulcer was healed, and presented a smooth, sound surface, even with the surrounding skin. This experience led the writer to prefer iodoform in powder, as applied in gynecology, to its union with cocoa butter in suppository form. But the great obstacle, both with physician and patient, is the odor. This is overcome by the use of absorbent cotton. The iodoform is applied through a speculum, and retained by a pledget of the cotton. Professor Munn's instrument was mentioned as a convenient applicator. Another method employs the vaginal insulator of Dr. Stevens, of Charlestown. This the patient can use herself. (The instrument was shown to the Society.) A third mode, and one recommended, was the capsular method, the

<sup>1</sup> Vide the JOURNAL, January 5, 1882, page 90.



iodoform being inclosed in Planten's gelatine capsules. Here, also, the absorbent cotton packing should follow. The moment any odor is perceived the pledget must be removed, and a fresh one substituted. These capsules can be filled and applied by the patient. This is a great advantage in practice, as it saves time, is more agreeable to the patient, and renders frequent applications possible. Samples of Parke, Davis & Co.'s capsules filled were shown, containing seven and one half grains, fifteen grains, thirty grains, and sixty grains each. It is an advantage to have the apothecary furnish the filled capsules, as thus the remedy is kept odorless.

The lesions in which iodoform has been chiefly used by the author are vaginismus, hyperplasia, metritis, subinvolution, ectropium, versions, flexions, and prolapsus. In uterine hyperæsthesias and anesthetics the use is not indicated. The ground was taken that the hyperæsthesias (over-sensitiveness, the irritation of Hodge, etc.) constituted a diseased condition, to be treated with iodoform whether complicated or not with other uterine lesions.

CASE I. An illustrative case was cited, of cancerous infiltrated ulceration of the cervix that had improved under iodoform, but finally died; details as follows:—

Mrs. A., fifty years of age, resident of Louisiana, pronounced by eminent authority in New Orleans to have cancer. In summer of 1877 was treated with iodoform in half-drachm powders, applied with cotton through a speculum, twice a week for three months, to the enlarged, bleeding, lacerated cervix. The pains were destroyed as by magic, the bloody discharges abated, there was marked improvement in physical and rational signs. Patient in three months returned home, calling herself cured, but not with the approval of the writer. The treatment was neglected, relapse then occurred, and death ensued in nine months after return home. The decided curative powers of the drug in this and allied cases gives it a high rank in therapeutics. Of course, had the patient recovered, the diagnosis must have been reconsidered.

CASE II. Mrs. B., cachectic, presenting general malaise, ectropium, with infiltration, nodular thickening, and ulceration of the cervix, marble-like and dense tumors in the post-vaginal cul-de-sac, sharp, tingling, remittent pains, profuse, ichorous, foul-smelling discharges. Father died of cancer of the stomach. Maternal great-grandmother died of cancer of the breast. Iodoformization per vaginam and the Salisbury plans for cancer were followed by a cure which has remained some four years. It would be unwise to call this case cancerous, still its appearance was very suspicious, and had the patient died it would have been so considered. The iodoform acted, as in first case, in abating discharge and pain.

CASE III. Miss C., hyperæsthesia of the vagina and uterus, fetid discharge of intra-uterine origin; at first supposed to have a pelvic fibroid. After the use of iodoform in capsules, kept up for more than four months, the discharge diminished, the enlargement and sensitiveness were reduced, and now a more thorough examination revealed a left latero-flexion of the uterus, the whole organ being mobile. The patient improved in all respects but one, amenorrhœa. This was attributable to the iodoform used in large quantity and for a considerable time.

CASE IV. Hyperplasia, hyperæsthesia of vagina and uterus, abdomen enlarged laterally, chronic metri-

tis. Patient fifty years of age, multiparous, still menstruating. Pain in walking at every step; numbness in both legs and feet, but still could distinguish points one half inch apart. Uterus too sensitive for examination. Use of iodoform, rest in bed, and strict diet relieved the symptoms in a few weeks.

In a late work the writer has emphasized the necessity of preparing patients for pessaries<sup>1</sup> in cases of hyperæsthesia, complicated or not. Reliance was laid on depletion to produce *agathesia* (*ἀγαθός* and *αἰσθησία*), good feeling. Since then he had determined and stated that iodoformization realized this result in a much better manner. The disregard of the removal of hyperæsthesias had brought undeserved reproach on mechanical treatment.

CASE VI. Miss S., virgin, thirty-four years of age, in consumption (pretubercular stage); complained of general languor and prostration, not justified by the amount of lung disease. This was traced to vaginismus and retroversion. Iodoformization in fourteen days reduced sensitiveness to such extent that a Cutter retroversion loop pessary was readily applied, and comfortably worn, with relief. Without iodoformization the case could not have been thus treated.

The author stated that one patient has worn the Cutter Stem Pessary for five years consecutively for prolapsus of the ovary, with relief. In another subject this pessary has been worn for four consecutive years. These cases confute the assertion of some of our most prominent authorities who deny the possibility of the safe use of any stem pessary. The barriers to its use have been lessened by the iodoformization, of which the following case is typical:—

CASE VIII. *Severe vaginismus, anteversion; iodoformization, stem pessary, eight months' use, followed by relief. Restoration of embonpoint, vivacity, and enjoyment of social life.*

Virgin, twenty-four, pale, feeble; fond of dancing, but unequal to the labor involved. Menstruation very painful. Father died of consumption. After iodoform application the uterus was replaced, and fitted with a Cutter anteversion pessary. Did well for a time till anteversion over the loop of the pessary occurred. The stem pessary was next applied, and has been worn over eight months. Society engagements have been entered upon; patient has taken a considerable journey. Personal appearance much improved.

One case was related where iodoform seemed to produce abdominal discomfort, which ceased on its disuse.

It was stated that some preparations of iodoform have been found to occasion stinging pains, a condition just the reverse of its normal action. The cause of this has been sought for in vain; it had occurred to the observer that in such instances the crystals were dense and sharp to the feel, in place of the smooth, unctuous, talc-like feel of the iodoform of standard make (that is, that of Billings, Clapp and Co., Rosengarten and Son, and others).

Is iodoform absorbed? A case was cited where a capsule of iodoform was inserted into the rectum of a patient who was wholly ignorant of its physical properties; this patient made bitter complaint of the taste perceived in the mouth. No attempt was made to explain the action of iodoform as a sedative and local anæsthetic.

<sup>1</sup> Contribution to the Treatment of Versions and Flexions of the Unimpregnated Uterus. Boston: J. Campbell. (1877.)

A quotation followed from the letter of a patient, dated October 14, 1881, as follows: "I have had iodoform applied all of the time. I do not think it is possible for any one to have less trouble from the use of it than I have had. I wear the capsule and cotton a week without removal, and do not experience any unpleasant odor only as it is inserted and removed. I do not think I could walk as much as I do if it were not for the iodoform."

The author insisted that iodoform deserved a good deal of consideration from gynecologists, for certainly in his practice it did what no other drug or procedure has so well done, and concluded by quoting a note from Professor Mundé, in which he says he has been "very well pleased with iodoform in cervical ulceration (ectropium) and chancreoids, and in these applications I quite agree with your experience. I still farther have had excellent results with it as a local anæsthetic in utero-pelvic trouble."

DR. WARREN criticized the writer's inference that some of the cases reported might be of malignant character, and observed that movability of vaginal tumors, mentioned once or twice, was presumptive evidence that such were not malignant, as one of the first evidences of malignity was fixation and infiltration into the surrounding parts.

DR. WHEELER had used iodoform with satisfaction as an alternative stimulant to ulcerating surfaces, and believed it to have great value.

DR. CHURCH, present by invitation, reported a case of ulceration of the extremities, where marked improvement had followed the use of iodoform. The patient complained of its producing a distinct taste in the mouth. There was also a suppression of the menses. However, for other causes, the patient only survived a few months, and the amenorrhœa was very likely occasioned by exhaustion. This observation, however, suggested the inquiry whether the drug might exert an influence in producing amenorrhœa.

DR. MARCY had used iodoform with satisfaction upon ulcerating surfaces. He believed it was an antiseptic and referred to the remarkable report of Professor Eschmarch, in which he gives the results of nearly four hundred major operations, in which dependence was placed upon this remedy. Of the entire number there were only six deaths, and eighty-five per cent. of the cases cured were healed by first intention with one dressing. These included one hundred and forty-six excisions of large tumors, forty excisions of mammae and axillary glands, fifty-one major amputations, eight herniæ, forty-nine compound fractures, etc. The cases were all dressed with pads soaked in iodoform and absolute alcohol (ten per cent.), fastened on by an iodoform bandage, over this a large pillow of jute and gauze, a moist dressing, and over all the elastic bandage.

Iodoform was used and valued more in Europe than in America. He expressed surprise at the large quantities used by Dr. Cutter, and asked what necessity or gain there might be in such practice, and, further, if such use had ever been followed by dangerous or unpleasant symptoms. Frequent applications, as reported, by the teaspoonful, at least made it an expensive remedy.

DR. CUTTER, replied that he had never seen injury follow from the prolonged employment of large doses of this agent.

DR. GARRATT testified to his success in the use of iodoform. Some preparations are unreliable. Ex-

pressed his belief that the devitalization of the tissues was one of the most common causes of tumors or any other pathological change. Iodoform is undoubtedly absorbed and acts as a builder of tissues; and hence its value.

The doctor reported a case of uterine fibroid tumor so large as markedly to disfigure the patient, and of rapid growth; this he had had under observation and treatment since last December. Had given perhaps fifty applications of forty elements, continuous current, for from ten to fifteen minutes every second day. The tumor has now entirely disappeared.

DR. J. H. WARREN, present by invitation, had found iodoform of much value in fissures, fistulas, buboes, etc. He reported the odor as much less disagreeable when the drug was mixed with one tenth its weight of tannin or when dissolved in alcohol. In his experience, electricity had been of very little value in the treatment of fibroids. Had also tried Dr. Newson's (Philadelphia) plan of the dry earth treatment without benefit. He recognized the fact, however, that fibroids frequently degenerated spontaneously, and may lessen in size or disappear, — hence the supposed benefit of a remedy used at the time.

DR. STEVENS remarked he had found a very convenient method of use to be to combine iodoform with a small proportion of pulverized gum tragacanth, then moisten and roll into convenient size, making a bougie.

DR. NELSON had seen satisfactory results follow the use of iodoform in chronic suppurative diseases of the ear, and believed it of much value as a local stimulant as well as having the power to arrest decomposition.

DR. TWITCHELL, of Keene, N. H., had observed good results follow resort to the remedy under discussion, and believed, within certain limits, its use was to be recommended.

DR. GARRATT exhibited to the Society his device for the refrigeration of President Garfield's sick room. It consists of a blower forcing air through an ice-chamber, which thus not only cools the air but condenses moisture and gives a continuous cool and dry current. The simplicity and efficiency of the apparatus was favorably commented upon by all.

## Recent Literature.

*The Diagnosis and Treatment of the Diseases of the Eye.* By H. W. WILLIAMS, Professor of Ophthalmology in Harvard University. Boston: Houghton, Mifflin and Company. 1881.

Most of this book is excellent. It is not designed for the professional ophthalmologist, nor for him who is trying to become a specialist in that field, and must be looked at from the point of view of the general practitioner and the student.

For the practitioner it will be of great use in keeping up his knowledge of the subject, and in showing him what cases he had better send to the specialist. It will enable the student better to understand this branch of medicine, and will give him something better to refer to than the more or less imperfect notes he may have taken during his course of lectures.

The book presents to us in a very clear manner the knowledge of a skillful specialist. Few medical books, if any, that we are acquainted with are written throughout in a more agreeable manner.

The former method of making a medical text-book was by compiling a kind of dictionary, in which certain symptoms having been classified together, the appropriate remedies were placed opposite. This simple way of calling a collection of symptoms a disease made medical education a very easy thing.

Increase in our knowledge has shown us the uncertainty of symptoms. They are not expressions to be learned by heart and recited, as it were, at the bedside. The great object in medical instruction to-day is to teach the student to weigh and judge the symptom. If any one were to search in the book before us for the positive treatment of any given case he would probably be disappointed. On the other hand, the better educated and more experienced the general practitioner is, the more willingly, and with greater profit and pleasure, will he, do we believe, consult this volume. It would be difficult to pick out the best chapters.

Whatever belongs to natural phenomena and treatment is clearly described. Much less so what pertains to the physics of the eye and the mathematics of accommodation. This subject belongs properly to physics, but it would be a great benefit to most professional men if it could be put before them in so clear a way that they could understand it without having to take up again the whole study of dioptries. In the book before us there is too little explanation to enable the general student to get through this part understandingly and without loss of time. It is easy to explain a thing to him who understands it, but for him who wants to learn it is of the greatest importance that all statements should be put in so clear a form that there could be no hesitation as to their exact meaning.

For some instances where this is not the case, take Chapter XVII., on Refraction and Accommodation. On page 334, we read: "Every convex lens has a principal focus." It should read, has two principal foci. They are both mentioned six lines lower down.

On page 334, "The visual and optic axes cross each other at the nodal point." But what is the nodal point? On page 336 it is stated that the nodal point "is the union of the two nodal points." Also that the nodal point is nearly the optical centre of the eye. We know what the optical centre of a lens is, but what is the optical centre of the eye? On page 336 it is said that the power of lenses is expressed "by fractions, of which the numerators are one and the denominators the focal distance in inches, or in the metric system, in dioptries." This phrase is obscure. The meaning of the word dioptric, as used here, is not given till page 360. It is a lens the focal length of which is one metre. The phrase does not mean that the denominators can be expressed in dioptries. For those who do not know what a dioptric is, and that is by far the greater number, the phrase should read, "by fractions, of which the numerators are one and the denominators the focal distance in inches, or, if we use the metric system, by dioptries." On page 336, "the principal point is just posterior to the cornea;" but what is the principal point? On page 334, "The distance of this point of intersection from the optical centre of the lens is the focal distance or length, when the index of refraction is 1.5', and corresponds very nearly with the radius of curvature of the lens." This is obscure. It does not mean that the distance is the focal length when the index of refraction is 1.5. But that when the index of refraction

is 1.5, the focal distance corresponds very nearly with the radius of curvature of the lens.

Many physicians, who are not ocnlists, want to get a general idea of the laws of accommodation, and will naturally look for information on that subject to this text-book, and will not find what they want.

The book is very well printed. Some of the diagrams, however, have a blurred look, and we miss an anatomical chart of the eye.

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*A Hand-Book of Uterine Therapeutics and of Diseases of Women.* BY EDWARD JOHN TILT, M. D. New York: Wm. Wood & Co. 1881.

This is the November issue of Wood's Library of Standard Medical Authors, and, like most of the others of the series, presents some valuable material in a cheap and attractive form.

Dr. Tilt has a decided leaning toward the old school of uterine pathology, of which Bennett is the best-known exponent, which would consider inflammation the great pathological factor. That being the case it is not to be wondered at, that at least half the book is taken up with the consideration of various classes of remedies, such as sedatives, antiphlogistics, caustics, and emmenagogues, to the crowding out of the full discussion of the methods of minor gynecological surgery, which modern pathology and more perfect methods of examination have made so valuable. Hence, in this respect, the work before us will not commend itself, to the American medical man at least, especially as the part of the field so imperfectly covered here has been so well and thoroughly gone over in a work of nearly the same import by Dr. P. F. Mundé.

There is, therefore, a marked difference in the value of the several chapters. Those that relate to general treatment, such as Chapter III., on Uterine Dietetics and Home Treatment, and Chapter XIV. on Prevention of Diseases of Women, are excellent, while such as deal with more special subjects, as Chapter II., on Uterine Surgery, and Chapter XI., on Treatment of Uterine Displacement, are scanty and behindhand.

Too much attention is paid to the treatment of symptoms as such without attempting to ascertain their cause, a result which follows naturally from the neglect of the more exact methods of examination in use here. Special points for more extended criticism might easily be selected, but enough has been said to show the general tenor of the work. It will hardly take rank with the best gynecological literature of the day.

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—The Executive Committee of the late International Medical Congress recently appointed a deputation to wait upon the Secretary of State for the British Home Department to present to him the following resolution: "That this Congress records its conviction that experiments on living animals have proved of the utmost service to medicine in the past, and are indispensable to its future progress. That, accordingly, while strongly deprecating the infliction of unnecessary pain, it is of opinion, alike in the interests of man and animals, that it is not desirable to restrict competent persons in the performance of such experiments."

# Medical and Surgical Journal.

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## MEDICAL EXAMINERS AND CHEMISTS.

THE article in our issue of January 26th, by Dr. E. P. Miller, upon the above subject, has suggested to us a few points of importance with reference to consultation with chemists in medico-legal cases. In by far the majority of cases the services of the chemist are required where an unjust suspicion has fallen upon an innocent person, or a suspicion exists in the mind of the neighboring public that a person has been poisoned without blame being attached to any particular individual, and public opinion is so strong as to demand an investigation. We have been cognizant of a large number of cases in which sudden death has occurred during the progress of some chronic disease, such as phthisis or paralysis of different forms, and in which the pathologist has been unable to state with certainty from the post-mortem appearances that the disease had been the cause of the sudden death, and at the same time a suspicion has existed that the invalid had been hurried off of the world by the administration of a poison. In such instances the negative results obtained by the chemist are very satisfactory to all of the officers, both medical and legal, connected with the case, by setting at rest rumors which had an insufficient foundation, and which, if allowed to remain in circulation without an investigation, must react to the injury of an innocent person. This class of cases, we believe, constitutes the majority of those which are submitted to the chemist, and very properly so, because there is no better way of assisting justice than by proving that no crime has been committed.

On the other hand there is another class of cases, fortunately few in number, in which the negative results obtained by the chemist are unsatisfactory, because no poison can be detected when poison was administered. The most frequently occurring cases belonging to this class are those in which there has been administered to an infant or child a dose of some preparation or principle of opium just sufficient to prove fatal after the lapse of a number of hours, when all of the opium has been entirely removed from the stomach by absorption, and most of it has either been eliminated or destroyed, the remainder, which is distributed throughout the body, being in such a minute quantity in any organ as to render detection by chemical analysis absolutely impossible. In accidental cases of this kind the negative result may almost always be predicted with certainty and the services of a chemist are not required, but in cases of

skillful criminal poisoning of this nature the negative result of the chemist is very unsatisfactory, because it may help the escape of a criminal.

Cases which, at the time of the first investigation by the medical examiner, appear to be evidently cases of suicide by poisoning, should always be investigated by a chemist because it can never be foretold how soon new evidence will be obtained which will point rather to murder than to suicide, and, in case a murder trial does result, the proofs of poisoning are rarely complete without the chemist's evidence.

If the chemist employed in a case of suspected poisoning be a toxicologist in every sense, he may often by his preliminary examination assist the medical examiner in other respects than by the mere detection of the poison by chemical analysis. For instance, by his microscopical examination of the contents of the stomach and intestines he is sometimes able to throw light upon the character of the food last eaten by the deceased and upon the time of death, questions which are sometimes of vital importance in legal cases, where these data cannot be obtained by other means of information.

## THE BOSTON DISPENSARY; ITS WORK AND ITS WANTS.

THE annual Report of the Boston Dispensary demands this year a more than passing notice. The statistics contained in it were published in the JOURNAL several weeks ago, and it is unnecessary to repeat them, but we wish to draw attention in a general way to the work of the Dispensary in the past, and its needs for the future.

It was established in 1796, and its first investment of funds in December of that year was seven hundred dollars in United States six per cent. stock, which cost \$603.75. In 1801 the Rev. Samuel Parker (rector of Trinity) and others were incorporated under the name of the Boston Dispensary. The original incorporators included twelve of the most respected citizens of Boston, and from the day of its institution to the present the list of its managers comprises the names of influential gentlemen who have taken pride and satisfaction in ministering to the wants of that class for whose benefit the institution was founded.

Of the exact method of dispensing its charities in its earliest years little is known, save that it was found "essentially useful!" but in 1802 the town was divided into three dispensary districts, and there were annually chosen three attending and two consulting physicians. In 1813 the list of physicians who had given their services was as follows: As consulting physicians, James Lloyd, Isaac Rand, John Warren, Aaron Dexter; as attending physicians, John Fleet, Isaac Rand, Jr., John Dixwell, James Jackson, J. G. Coffin, Horace Bean, Thomas J. Parker, John Gorham, Cyrus Perkins, S. R. Trevett, Asa Bullard, Wm. Gamage, Jacob Gates, Jacob Bigelow, John Revere, and since that time most of the medical men who have risen to eminence in Boston have at some time been members of the Dispensary staff. Much the same

general plan, with a gradual increase in the number of districts, was followed up to the year 1856, when it occupied one half of the present house on Bennet Street, and in addition to its house visitation established its central office, where, in the words of its Report of that year, all poor patients shall, at certain hours daily, be gratuitously prescribed for and treated by gentlemen of the medical profession, whose names will insure the confidence of patients as well as of those who are interested in the welfare of the sick poor of the city. It has now for many years occupied the whole of the double house originally purchased, and its rooms have been all occupied by a gradual increase in the number of its physicians, made necessary by the growth of the city and the establishment of special departments.

Few institutions do the same amount of work so quietly or with such an absence of display. Indeed, one of its aims from the first seems to have been to maintain that divorce between the knowledge of the left hand and the action of the right which is especially enjoined, as one of the particular advantages which its founders promised themselves from their association in the work was "that those who have seen better days may be comforted without being humiliated, and all the poor receive the benefits of a charity the more refined as it is the more secret."

So unobtrusive have been its works that no mention is made of them in the chapter on the charities of Boston in the recently completed *Memorial History of Boston*.

No one who has seen anything of its workings can doubt their value to the poor themselves, and its benefits are by no means confined to the recipients of its charity. As an institution for medical work it has been a valuable means of educating the younger members of the profession, and has, without doubt, raised the standard of medical attainments, and thus proved a blessing to rich and poor alike.

"It is not to be supposed that the motives of the attending physicians have been wholly foreign from considerations of personal advantage. They have doubtless been actuated by the hope of professional improvement, and the prospect of building up an honest fame as well as by the desire of fulfilling the benevolent intentions of this charity.

"These incitements, however, are so worthy and commendable, and their duties, now become laborious, have been performed with such assiduity, with so much of the spirit of charity, that these gentlemen have well deserved the thanks of the friends of humanity, and have earned for themselves an honorable distinction."

In 1813 the Dispensary had attended 8500 patients, and the apothecary kept a "fair record" of the name of each patient, and of the contributor by whom said patient had been recommended, and the Dispensary provided that "each physician shall be furnished (if not already so) with an injecting syringe and cupping machine, to be transmitted to his successor on leaving the office; and said physician may furnish medicines, in cases of necessity, at the expense of the institu-

tion, not exceeding ten dollars annually; and a stomach pump, for general use, shall be deposited with the apothecary."

In a single year (1881) there were treated 26,113 — a marked falling off from previous years, but more than three times as many as during the first seventeen years of its existence. And though its central office is still known by the sign of the Good Samaritan its methods and its needs have changed with the change in numbers and character of the population.

The "large, substantial, and commodious brick houses" of 1852 are in 1882, with its increased work, no longer large, and most decidedly ill-ventilated. Two hours' waiting in its crowded rooms means headache and exhaustion to the physician, and equally affects those it is sought to benefit. Its special departments are crowded, and as a whole it is illy adapted to the work it has to do; so the managers have now decided to appeal to the public and to those friends who have always been interested in the care of the sick and deserving poor for aid in their endeavor to provide more ample room. The managers trust that the benefits conferred by this institution upon a numerous body of sufferers in past years will awaken a new desire in the public mind to improve its facilities for greater usefulness, and that their appeal for an increase of funds will be generously responded to by those persons in our community who wish to aid the deserving poor.<sup>1</sup>

It would be impossible to estimate by any ordinary standard the amount of good actually accomplished by this institution. The most radical reformer of our charity systems admits the necessity of assisting the poor when disabled by sickness, and even the vicious become objects of pity when helpless from accident or disease. Our foreign missionaries find it advisable to call in the doctor's assistance in winning their way in heathen lands; it is just as proper to employ his services among the wretched at our own doors. Many as are the objects appealing for aid we know of none more deserving; the very modesty of its work is shown in the silent method it has so far employed in asking assistance. We have no desire to have it depart from its self-imposed rule of comparative silence in regard to its deeds and its wants, but the very quaintness tempts us to quote from an old appeal made by one of its managers in 1813:—

"It would be difficult in my judgment to conceive a plan of beneficence better entitled than the one before us to the public patronage; to the bounty of the rich, the services of the active and benevolent, and to the good-will and sympathy of those who have nothing else to offer. This is not that promiscuous giving, which with pure motives sometimes produces immoral effects; it is a specific appropriation for a definite, humane, and laudable object. He who communicates of his substance to the poor, of his benevolence to the affections of others, hereby enlarges that sublime enjoyment which malignant or selfish minds can neither participate nor conceive."

<sup>1</sup> Report, 1881.

## MEDICAL NOTES.

— At the Councilors' meeting, February 1, 1882, Sir James Paget, of London, England, was elected to honorary membership in the Massachusetts Medical Society.

— By the will of the late E. W. Stoughton, former United States Minister to Russia, the sum of two thousand dollars is left to the Medical School of Dartmouth College to complete a collection in the pathological museum founded by him.

— The Boston Medical Library Association has recently received by a codicil to the will of his daughter, lately deceased, a very admirable and valuable portrait of Dr. John Williams, of Cambridgeport, by Miss Stuart. Dr. Williams joined the Massachusetts Medical Society in 1812, became a retired member in 1827, and died in 1846 at the age of ninety-nine.

— The following interesting extract is from a recent report of the British Medical Association Benevolent Fund. "The fund was established for the relief of medical men in temporary difficulty or distress, and for their widows and orphans; and also for granting annuities to those who are quite incapable of providing for themselves after sixty years of age. It was originally founded, forty-seven years ago, by the Provincial Medical and Surgical (now the British Medical) Association. In the administration of the fund there are no salaries nor office expenses. The entire administrative expenditure, including collector's commission, the printing of the report, postage and stationery, amounted to a little over £100 in 1880. Much of the distress which the donation department is called upon to relieve is capable of alleviation only; the applicants are in absolute poverty, and unable, from ill-health or incapacity, to do anything towards their own maintenance, and the aid given helps to keep them from starvation or from the workhouse. In other cases a widow or daughter is maintaining herself and, perhaps, a family, by teaching, or by letting lodgings or keeping a shop, or by acting as nurse, or by needle-work or work with a sewing-machine. The earnings fall short from some cause or other, and timely assistance saves a deserving, hard-working woman from falling into hopeless misery. Again, no year passes in which some widow left utterly unprovided for, often with children, does not come to the fund in the early days of her bereavement. From time to time a medical man, broken down by misfortune or illness, is driven to seek the aid of the fund. During forty-one years, up to the end of 1880, 3,144 grants of immediate relief were made to applicants, at a cost of £29,786, thereby relieving much misery among the destitute members of the profession and their widows and children.

— The following item in regard to Samuel Piercy, the actor, who died of small-pox in this city a short time ago, is copied by the *Boston Advertiser* from the New York correspondence of the *Philadelphia Press*: "He was one of a half-dozen intelligent men I ever knew to be influenced by the crazy howls of the anti-vaccination fanatics. Jebb and Bergh and the rest of the mistaken lot had managed to convince him that

the risks lurking in the preventive were worse than the dangers of the disease. Before leaving New York, a few weeks ago, he laughingly rejected the advice of friends who urged him to be vaccinated. He was a pervert to the views of Jebb and Bergh, and he paid the penalty of martyrdom."

— At the last meeting of the New York Academy of Medicine a paper was read on Practical Points in Plumbing. The president, Dr. Fordyce Barker, opened the meeting with an address, and after the paper by Mr. Charles F. Wingate various sanitary evils were discussed by the members present.

— The Canterbury Small-Pox Hospital contained seven patients on Tuesday last.

— The *Toronto Medical Journal* appeals to the profession of that city to found a library and directory of nurses, in accordance with the plan of the Boston institutions of the same name.

— The twenty-first annual meeting of the contributors to the Women's Hospital of Philadelphia was held lately in the hospital building, Twenty-Second Street and North College Avenue.

The report of Dr. Anna E. Broomal, physician in charge of the hospital, gave the following statistics: Number of patients admitted during year, 311; patients attended at their homes, 4375; prescriptions compounded for dispensary patients, 15,869. The in-patients embraced persons of all nationalities. In the obstetrical department 92 patients were admitted during the year; retained from previous year 2, making a total of 94 patients. Discharged well, 85; deaths, 3; remaining, 7.

In the training school for nurses 31 pupils were admitted; of this number 7 left the class at or shortly after the month of probation; 4 nurses received diplomas, and 20 are still training.

## NEW YORK.

— The report of the Night Medical Service, submitted to the Board of Health, shows that during the sixteen months of its existence, from September 1, 1880, until January 1, 1882, 573 calls have been made. These were distributed among 132 physicians out of the 450 whose names appear upon the roll. The Tenth Precinct, embracing a large tenement-house district lying east of the Bowery, has afforded more calls upon the service than any quarter of corresponding area in the city. The majority of the cases treated have been of a very urgent description, comprising 57 night attacks of croup, 28 of pneumonia, 10 of pleurisy, 55 of confinement, two of gunshot wounds, 11 fractures and dislocations, 15 suicides, and three cases of accidental poisoning. Of all the calls made only 19 were able to pay the fee specified by law, and in the remaining 554 the appropriation was called upon. Notwithstanding this small percentage of pay cases only \$1,662 has been expended in the actual payment of medical men, with a small amount for printing blanks and other incidental expenses.

Dr. Ewing, the Superintendent of the Bureau, has been at great pains to investigate each case where there was a possibility that the patient might be able to pay, and he is satisfied that very few have escaped

him. The small percentage of pay cases he attributes to the fact that the majority of the calls have come from the poorer classes, and not to any evasion or dissimulation practiced by those whose names have been reported as having availed themselves of the provisions of the law.

—The English Society of St. John of Jerusalem, which has been very active for the past five years in educating people in the care of the sick and wounded, is to be copied in a modified form. The new Society bears the name of the Society for First Aid to the Injured.

#### PHILADELPHIA.

—By a decision of the court, the conveyance of the tract of land to the University has been confirmed.

—A University Club has been instituted in this city, and has rented a handsome house on Walnut Street near Broad. Caud dates must have a University degree. It promises to be quite the rage among medical men especially. Bishop Simpson is President for this year. The register is now said to contain about four hundred names. Overtures have been made to the University Club of New York to exchange hospitality to members of the clubs visiting either city.

—Dr. Frank Woodbury has resigned his position as Reporting Secretary to the Philadelphia County Medical Society.

### Miscellany.

#### THE PERIOD OF GESTATION AND THE PLACENTA OF THE ELEPHANT.

THE birth of a young elephant, at Bridgeport, is the second well authenticated instance of such an occurrence in captivity on record, a previous birth having taken place in Philadelphia in March, 1880. Professor Owen, of London, in Vol. III., page 742, of his *Anatomy of Vertebrates*, mentions still another instance as having occurred August 3, 1865, the elephants having paired December 18, 1863, but does not state where the birth took place nor does he cite any authority in reference to it. Prof. H. C. Chapman, of Philadelphia, who, from his connection with the Zoological Garden there and his interest in comparative anatomy, had an opportunity to follow events in the case of the elephant Hebe from the first suspicions of pregnancy to parturition, made an interesting communication to the Academy of Natural Sciences, of Philadelphia, to be found in Vol. VIII., of its journal, upon the placenta and generative apparatus of the elephant, presenting at the same time the injected placenta.

In the case of Hebe the first coitus took place May 29th and the last June 20, 1878; eight months later, there being good reasons to consider her pregnant, the question of the period of gestation arose, in regard to which we quote from Dr. Chapman's paper: "Here again I was comparatively in the dark. In the *Thesaurus of Seba*, published in 1734, there is figured the fetus of an elephant without any membranes taken out of its mother at about the middle of the period of gestation. Zimmermann also gives a figure of a fetus. In the description of this fetus only vague allusions are

made to the length of gestation. As is well known, among the ancients, Pliny thought the period of gestation was six months, Strabo about eighteen; according to Aristotle, however, nearly two years.

"What I had learned from travelers in the East and from the case referred to by Professor Owen, the time being in that instance five hundred and ninety-three days, together with the fact of Aristotle giving nearly two years, led me to indicate that about the first of March, 1880, would be the time at which the birth of the elephant might be looked for. The young elephant was born March 9th, exactly twenty months and twenty days after the last copulation, or twenty-one months and fifteen days reckoning from the first one. The fixing of the period of gestation in the elephant at six hundred and thirty to six hundred and fifty-six days is another interesting illustration of modern investigation confirming the statements made by that most profound thinker and careful observer, Aristotle.

"The labor was a very short one, the mother standing on all fours, with one hind foot slightly raised. The head presented. The umbilical cord broke, and was removed with the placenta and membranes shortly afterward by Mr. Arstingstall. Immediately after birth the mother rolled the young one in the straw. The young elephant, a female, stood thirty inches in height, measured from base of trunk to root of tail thirty-five inches, and weighed two hundred and thirteen and one half pounds. It was noticed immediately that it sucked with the mouth, and not with the trunk, as Buffon reasoned it must do. . . .

"The placenta of the elephant is not only interesting on account of its rarity, but also from its combining the characters of the placenta of three different sets of animals. The impossibility of using the placenta, in the case of the elephant at least, as a means of classification is therefore sufficiently obvious."

The latest elephantine baby is stated to have weighed one hundred and forty-six pounds at birth, and the period of gestation, as given, was shorter by several weeks than in the case reported by Dr. Chapman.

#### LETTER FROM PHILADELPHIA.

MR. EDITOR,—The prevailing characteristics of this winter in this locality have been mildness of temperature and excess of aerial moisture, marked by sudden changes of the weather. The clear, cold, bracing atmosphere that we naturally expect at the winter solstice has been conspicuously absent, and in its place we have had more or less London fog, and damp, moist, disagreeable days that breed pneumonia and epidemic disease. The open winter has kept the streets in the most favorable and inviting condition—for the street-cleaner, but this functionary is, alas, a *non est* man, and cannot be tempted to go against the almanac, and clean the streets when they should be frozen solid according to all precedent. It is also in accordance with precedent for the contractors to regularly draw their pay for cleaning the streets in the winter without performing any labor, the snow and ice affording a good standing excuse for their neglect. Petitions in regard to the dirty condition of the streets have been addressed to councils, but without avail; owing to an unfortunate dead lock upon a political question, no appropriation could be obtained for this purpose. Mean-

while the City Board of Health undertook to do the work themselves or to insist upon its performance, and for this action the matter has been taken out of their jurisdiction entirely, and finally given to the commissioner of highways, who promises to begin about the first of February to really clean the streets. One indication that shows that systematic work is likely to be done is the order lately issued requiring the policemen now to make weekly reports of the condition of the highways. In the mean time the streets have been in a condition that is considered as most favorable for the development of all kinds of zymotic disease. Small-pox, scarlet fever, measles, whooping-cough, r  theln, have been moderately prevalent; typhoid fever claims an unusual number of deaths for this time of the year, but without appearing in an epidemic form. Small-pox appears to be declining, although deaths are still occurring. The influence of the filthy streets, taken in connection with the damp atmosphere, has also increased the number of cases of disorders of the air passages; influenza and coryza have been almost general, and pneumonia and bronchitis very common.

The college lectures are well attended, however, and the health of the students, as a rule, very good, the mild weather, apparently agreeing with many strangers better than extreme cold that we experienced a year ago.

The annual meeting of the College of Physicians was held January 4, 1882, at which the following officers were elected: Dr. W. S. W. Ruschenbeger, president; Dr. Alfred Still  , vice-president; Dr. Richard A. Cleemann, secretary; Dr. Chas. Stewart Wurts, treasurer; Dr. Thomas Hewson Bache, curator of museum; Dr. Frank Woodbury, librarian; Dr. J. Ewing Mears, recorder; Dr. Lewis Rodman, Edward Hartshorne, William Goodell, and Samuel Lewis, censors.

The Philadelphia County Medical Society, at its January meeting, elected Dr. Horace Y. Evans, president; Drs. Chas. K. Mills and John B. Roberts, vice-presidents; Dr. Henry Leffmann, recording secretary; Dr. J. D. Nash, as-istant secretary; Dr. H. Aug. Wilson, corresponding secretary; Dr. Frank Woodbury, reporting secretary; Dr. M. O'Hara, librarian; Dr. Wm. M. Welch, treasurer. A number of new members were also balloted for, making the names on the roll now amount to about three hundred and fifty. The board of censors refused to place the female candidates upon the list for election, on the plea that such an innovation involved a radical change in the rules, and would therefore require a constitutional amendment. The resolution adopted at a previous meeting declaring women eligible was not regarded as of sufficient authority without further action by the Society.

At this meeting the number of stated conversational meetings was increased to three each month, on account of the great interest lately developed by the appointment of a committee on clinical pathology, which has already had several interesting meetings characterized by the exhibition of an abundance of clinical material and of morbid specimens. In connection with this subject, it might be stated that at the regular meeting, January 11th, Dr. W. W. Keen read an admirable paper upon the   tiology and Pathology of the So-Called Dupuytren's Contraction of the Fingers, and exhibited several cases and photographs of others cured by subcutaneous section of the contracted fascia palmaris. He attributed the disorder to a general

systemic condition (allied to gout), and generally showing a hereditary tendency, and doubted the traumatic and local origin. On the same evening Dr. W. S. Little reported a case of sphacelus of the cornea (kerato-malacia) in a child with inherited syphilis, subsequently fatal.

The University of Pennsylvania has lately acquired by act of councils a large piece of land adjoining its property in West Philadelphia, which is needed to erect laboratories and dormitories. The land thus conveyed by the city was part of the almshouse grounds, and in view of its intended use, it was sold at a nominal sum. In the correspondence pending the negotiation, Provost Pepper made the following communication to a member of council:—

"Should any question be raised as to the liberality of the trustees and their friends, and the validity of the grounds on which they base their plans for the future, you are at liberty to mention that, during the past eleven months, the following contributions have been made to the permanent endowment educational fund of the University: Joseph Wharton \$100,000; Thomas A. Scott, \$50,000; John Welsh, \$10,000; A. Whitney & Sons, \$10,000; William Sellers & Co., \$10,000; C. C. Harrison, \$10,000; Fairman Rogers, \$10,000; Clarence H. Clark, \$10,000; William Pepper, M. D., \$10,000; J. B. Lippincott, \$10,000; S. Weir Mitchell, M. D., \$5,000; Eli K. Price, \$5,000; Richard Vaux, \$5,000; J. Vaughan Merrick, \$5,000, and others of somewhat smaller amount, aggregating over \$265,000."

Opposition has been made to this transfer by some who question the legality of the proceeding, and it will probably require confirmation by the courts.

A case of death from acute poisoning by alcohol is reported from the interior of the State. Owing to a railroad accident, a freight car containing some barrels of whiskey was wrecked near Brookville. A few men drank freely of the unrectified spirit and one has since died (he probably discovered his mistake too late to rectify it). It is evident that whiskey, like trichinous pork, requires to undergo certain manipulations before it can be considered wholesome (if ever).

A case of hydrophobia occurred in Camden, last week, which proved rapidly fatal. The patient, a young man, was bitten by a "Spitz" in August last. He had the wound cauterized and had entirely lost any fear of bad result after the wound had healed. On January 21st he complained of general muscular soreness which he attributed to cold, the following day he had convulsions, and on night of third day he died with the usual symptoms. This case is very much like one that occurred in this city last fall, which excited very great interest at the time on account of the painful circumstances attending it. The victim was a young gentleman who, stooping to caress a vagrant dog that came into his office, was bitten on the hand. The dog was not a Spitz; but in this case the patient was apprehensive of hydrophobia from which he perished about four months afterward.

#### JENNER'S INSTRUCTIONS FOR VACCINE INOCULATION.

MR. EDITOR.—In the London *Lancet*, February 26, 1881, there appears at length a supposed hitherto-unpublished manuscript of Edward Jenner's on Instruc-



tions for Vaccine Inoculation. The original is in the possession of Frederick Symonds, Esq., of Oxford. I have recently discovered, however, that the paper in question had been made public in America as early as the year 1802. Any one interested in the facts will find the document, exactly as printed in the *Lancet*, on page 91 of "Practical Observations on Vaccination; or Inoculation for the Cow-pock. By John Redmon Cox, M. D., Member of the American Philosophical Society, and one of the Physicians to the Pennsylvania Hospital. Embellished with a Colored Engraving representing a Comparative View of the various Stages of the Vaccine and Small-Pox. Philadelphia: Printed and Sold by James Humphreys, at the Corner of Walnut and Dock Streets. 1802." Dr. Cox, after some reference to spurious vaccine, etc., concludes thus: "On all these heads, I must refer to Dr. Jenner, p. 72 *et seq.*, and shall here content myself, with giving a valuable and concise view of the genuine and spurious pustule, in Dr. Jenner's 'Instructions for Vaccine Inoculation,' which I lately received from England, and which have already been published in the news-papers."

Very respectfully,

W. A. HARDWAY, M. D.

ST. LOUIS, January 26, 1882.

### INSANITY AS A DEFENSE.

*New York Oyer and Terminer.* November, 1881.

THE defendant, upon an indictment for murder in the first degree, admitted having shot the deceased, and claimed that she was insane at the time through wrongs alleged to have been received at the hands of the deceased.

Davis, P. J., in charging the jury, said: Insanity is usually spoken of, both in common language and in the books, as a defense to crime. But it is no defense, because where the insanity recognized by the law exists there can be no crime to defend. An insane person is incapable of crime. He is devoid, both in morals and in law, of the elements essential to the constitution of crime, and hence is an object of pity and protection and not of punishment. Therefore, whenever it is established that a party accused of crime was, at the time of its alleged commission, insane within the established rules of the criminal law, he is entitled to acquittal on the ground of innocence because of incapacity to commit the offense, however monstrous his physical act may appear. Both humanity and the law revolt against the conviction and punishment of such a person. In this State the test of responsibility for criminal acts, where insanity is asserted, is the capacity of the accused to distinguish between right and wrong at the time and with respect to the act which is the subject of inquiry. This rule is stated by the authorities in different forms, but always in the same substance. In one case it was said, "the inquiry is always brought down to the single question of a capacity to distinguish between right and wrong at the time the act was done." This was in the Freeman case, the celebrated case of the colored man who was tried for murder in Cayuga County, and defended by the late William H. Seward. In the most authoritative of the English cases it is said, "it must be clearly proved that at the time of committing the offense the party accused was laboring under such a defect of

reason from disease of the mind as not to know the nature and quality of the act he was doing, or, if he did know it, that he did not know that he was doing what was wrong." And in a very late case in our court of appeals a charge in that exact language was held to present the law correctly to the jury. The doctrine that a criminal act may be excused upon the notion of an irresistible impulse to commit it, when the offender has the ability to discover his legal and moral duty in respect to it, has no place in the law; and there is no form of insanity known to the law as a shield for an act otherwise criminal, in which the faculties are so disordered or deranged that a man, although he perceives the moral quality of his acts as wrong, is unable to control them, and is urged by some mysterious pressure to the commission of the act, the consequences of which he anticipates and knows.

Emotional insanity, impulsive insanity, insanity of the will, or of the moral sense, all vanish into thin air whenever it appears that the accused party knew the difference between right and wrong at the time and in respect of the act he committed. No imaginary inspiration to do a personal wrong to another under a delusion or belief that some great public or private benefit will flow from it, where the nature of the act done, and its probable consequences to the injured party, and that it is in itself wrong, are known to the actor, can amount to that insanity which in law disarms the act of criminality.

Having shown you the law of insanity applicable to the case, it is important that I should give you the law in respect to its proof. The law presumes sanity in all cases. That presumption in a criminal case is *prima facie* evidence of the sanity of the accused party, and where no evidence tending to show the contrary is produced, the case of the People, so far as relates to the question of sanity, is made out. The burden of overthrowing the presumption of sanity is upon the person who alleges insanity, and if evidence be given by him tending to rebut the presumption and to show insanity, then the general question is presented to the jury whether the alleged crime was committed by a person responsible for his acts, under the rules of law which have been already laid down. Upon this question thus presented, the presumption of sanity and the evidence tending to prove or disprove insanity are all to be considered by the jury, and at that stage of the case the question of sanity, like all other material questions of fact, becomes one on which the prosecution holds the affirmative, and if reasonable doubt of sanity then exists upon the evidence before the jury, the prisoner is entitled to the benefit of that doubt as upon any other material question of fact. — *The Reporter.*

### A BILL TO PROVIDE FOR SANITARY INSPECTION AND REGULATION OF PUBLIC SCHOOLS IN OHIO.

WE have received a copy of a bill known as the Block Bill, lately introduced into the Ohio Legislature, authorizing Boards of Health in cities of the first class and second grade to make sanitary inspections of the public schools and prescribe sanitary regulations. Petitions for its enactment were very generally and well signed. The value of local boards of health as regulators of school hygiene must depend upon the manner of appointing these boards.

Were the National Board of Health and the Commissioner of Education at Washington to urge this question of school hygiene simultaneously upon local boards of health and education, something might be effected towards harmonizing interests and opinions and uniting influences in its support.

The following are the provisions of the Ohio bill:—

SECT. 1. Be it enacted by the General Assembly of the State of Ohio, that it shall hereafter be the special duty of the Boards of Health in cities of the first class and second grade to make sanitary inspections of the public schools, including school buildings in such cities, and to prescribe such sanitary regulations to be observed in such schools as said Boards may deem necessary in order to preserve the health and promote the physical welfare of the scholars.

SECT. 2. In carrying into effect the object contemplated in the foregoing section of this act, any such Board is hereby authorized to appoint a professional physician having the proper qualifications, and who is not a member of the Board, to make all such sanitary inspections, and may permit him, with the approval of the Board, to employ, if need be, one or more assistant physicians, having like qualifications, to aid him in his work of inspection. And for all such services so rendered by any such principal or assistant physician, for the time necessarily employed, the Board shall allow and fix a just and reasonable compensation, which shall be levied and paid in the same manner as other expenses of the Board.

SECT. 3. It shall be the duty of the principal physician to make thorough inspections of the sanitary condition of all the public schools, including school buildings, in such cities, and also to investigate the causes which impair, or tend to impair, the health of the scholars, and prescribe the appropriate remedies and sanitary regulations which should, in his judgment, be observed in order to secure and promote the physical welfare of the scholars attending such schools, and report the same to the Board quarterly or oftener, as the Board may require, with all such statistical facts and observations as he may deem important, and which the Board shall embody in full or in substance in their annual report to the City Council.

SECT. 4. It shall be the duty of the teachers and superintendents of public schools in such cities to observe and enforce all such sanitary regulations as far as practicable in their respective schools, after such regulations have been approved by the Board of Health, and printed copies thereof furnished them by order of the Board, and also to facilitate the sanitary inspections of such schools or school buildings in their charge by giving, when requested, to the inspecting physician, or his assistant, such information as they may possess, or can obtain, relative to the sanitary condition of such schools or school buildings, and in such written form, or report, as may be required by such physician, and in case such teachers or superintendents, or any of them, shall neglect or refuse to observe and enforce such sanitary regulations, or any of them, so far as practicable in their respective schools or school buildings, he or she, so offending, shall be subject to prosecution and fine for each offense, of not less than five nor more than fifty dollars, at the discretion of the court, and all such fines, when collected, shall be paid over to the school fund of such cities.

#### INJECTIONS OF PEPTONIZED MERCURY FOR SYPHILIS.

THE fact that mercury is absorbed in the state of *albuminate* had already suggested the addition of white of egg to the solution in the hope of thus facilitating its absorption, with better, but still unsatisfactory, results. Then Bamberger proposed the substitution of peptone for the albumen. Acting upon this suggestion M. Martineau has had prepared a solution which he has employed, and he has published the result of a large number of cases of syphilis treated by the new method at the Hôpital Lourcine. The preparation employed consists of a mixture of powdered peptone, chloride of ammonium, and bichloride of mercury, which are dissolved in water and glycerine. In order to have a standard solution which shall contain five centigrammes (.02 grain) in a gramme the following por-

tions are taken: Powdered peptone (Catillon), nine grammes; chloride of ammonium, nine grammes; bichloride of mercury, six grammes. These are dissolved in glycerine, seventy-two grammes; water twenty-four grammes. This solution, which the author calls "normal," further diluted with five parts distilled water, is of such strength that an ordinary French hypodermic syringe-ful represents ten milligrammes, or a fifth of a grain of corrosive sublimate. The solution is injected subcutaneously into the back between the scapulae or in the lumbar region, on account of the cellular tissue there being loose and abundant. He insists that the needle should be sharp, and that it should enter deeply into the tissues.

The mercurial thus administered appeared to M. Martineau to act more promptly and with more effect than when introduced by the stomach, and to be especially applicable to very grave cases with threatening symptoms, where it is necessary to produce decided and prompt action. The procedure recommends itself, moreover, by the ease with which it is employed, and by the absence of pain and other bad consequences.

The dose employed by M. Martineau has varied from two milligrammes (one twenty-fifth of a grain) to ten (one fifth of a grain) of bichloride of mercury. Altogether one hundred and seventy-two patients have been under observation and a total number of 3838 hypodermic injections made. No abscesses or sloughs have ever followed the operation; sometimes a defective injection has given rise to a lump, but this has always rapidly disappeared. There is never either stomatitis or salivation, even with a fifth of a grain of the mercuric salt daily. It may here be noted parenthetically that the dose of bichloride of mercury prescribed to be taken by the mouth is much larger in France than in England, two fifths of a grain daily not being considered excessive. The rapidity and certainty with which the symptoms disappear under this treatment are almost marvelous. Taking at random one of the cases reported (the fiftieth) forty injections in six weeks sufficed to cure a syphilis which had been rebellious to the usual mercurial course for eight months. This statement that the patient was cured is the more remarkable as it comes from a man who wrote not a year since that the minimum of mercurial treatment necessary to cure was four years and upward. — *London Lancet*.

#### HOSPITAL AND ACCIDENT AMBULANCE SERVICE FOR LONDON.

WE are happy to see that a very substantial step has been taken in connection with the organization of a proposed hospital and accident ambulance service for the metropolis of London, towards the establishment of which Dr. Benjamin Howard, of New York, has been for some months entirely devoting his efforts. The London Hospital Committee having some months ago, upon the presentation of the subject to them by Dr. Howard, decided to take the initiative in this matter, the Hospital Committee, in pursuance of this plan, met yesterday to receive, from its Vice-Chairman, its first accident ambulance carriage, just built from the designs and under the directions of Dr. Howard. The ambulance having been tested in every way by the medical and surgical staff, the Hospital Committee, and

others, a resolution was proposed by the Chairman of the Hospital, and carried by the Committee and staff, stating that they highly approved of the special form of carriage devised by Dr. Howard, and conveying to him their cordial thanks for his skillful and generous services. This ambulance is in many points unlike, and apparently superior to, any in use in America; and, in its passage through the streets, as well as at the hospital, elicited enthusiastic commendation. The London Hospital Committee, in conjunction with the

National Health Association, has decided to call a meeting at an early date for a general conference of the various hospital authorities of London on the entire scheme of hospital and accident ambulance service proposed by Dr. Howard for this metropolis.

This, scheme which the *London Times* and the *Lancet* say is adapted to meet a tremendous public need, is now under the direct patronage of the Duke of Cambridge, who will preside at the coming conference. — *Brit. Med. Journal*, December 21, 1881.

# REPORTED MORTALITY FOR THE WEEK ENDING JANUARY 28, 1882.

| Cities.                             | Population by Census of 1880. | Reported Deaths in each. | Deaths under Five Years. | Percentage of Deaths from         |                |                       |                |                      |
|-------------------------------------|-------------------------------|--------------------------|--------------------------|-----------------------------------|----------------|-----------------------|----------------|----------------------|
|                                     |                               |                          |                          | The Principal "Zymotic" Diseases. | Lung Diseases. | Diphtheria and Croup. | Typhoid Fever. | Diarrhoeal Diseases. |
| New York.....                       | 1,206,590                     | 802                      | 387                      | 32.66                             | 17.33          | 8.10                  | .62            | .87                  |
| Philadelphia.....                   | 846,984                       | 371                      | 114                      | 17.25                             | 8.89           | 6.19                  | 3.23           | —                    |
| Brooklyn.....                       | 566,689                       | 267                      | 115                      | 29.58                             | 15.35          | 10.86                 | .37            | 1.49                 |
| Chicago.....                        | 503,304                       | 300                      | 115                      | 27.66                             | 20.00          | 4.33                  | 3.66           | 1.00                 |
| Boston.....                         | 362,535                       | 195                      | 63                       | 10.76                             | 13.84          | 6.66                  | .51            | 2.05                 |
| St. Louis.....                      | 350,522                       | 129                      | 40                       | 15.50                             | —              | 5.42                  | 1.55           | 3.10                 |
| Baltimore.....                      | 332,190                       | 159                      | 67                       | 18.87                             | 6.91           | 15.72                 | —              | —                    |
| Cincinnati.....                     | 255,748                       | —                        | —                        | —                                 | —              | —                     | —              | —                    |
| New Orleans.....                    | 216,140                       | —                        | —                        | —                                 | —              | —                     | —              | —                    |
| District of Columbia.....           | 177,638                       | 89                       | 32                       | 13.48                             | 20.22          | 6.74                  | 1.12           | 2.24                 |
| Pittsburgh.....                     | 156,381                       | 90                       | 36                       | 46.66                             | 8.88           | 3.33                  | 3.33           | 1.11                 |
| Buffalo.....                        | 155,137                       | 79                       | 28                       | 32.91                             | 11.39          | 9.59                  | 5.06           | 1.26                 |
| Milwaukee.....                      | 115,578                       | 43                       | 22                       | 20.93                             | 20.93          | 4.65                  | 2.32           | —                    |
| Providence.....                     | 104,857                       | 39                       | 8                        | 17.94                             | 10.25          | 10.25                 | 2.56           | —                    |
| New Haven.....                      | 62,882                        | 23                       | —                        | 17.38                             | 8.69           | 13.04                 | —              | —                    |
| Charleston.....                     | 49,999                        | 38                       | 4                        | 7.89                              | 5.26           | —                     | 2.63           | —                    |
| Nashville.....                      | 43,461                        | 25                       | 10                       | 8.00                              | 12.00          | —                     | 4.00           | —                    |
| Lowell.....                         | 59,485                        | 30                       | 6                        | 16.66                             | 13.33          | —                     | 6.66           | 3.33                 |
| Worcester.....                      | 58,295                        | 23                       | 10                       | 21.73                             | 17.39          | —                     | —              | 4.34                 |
| Cambridge.....                      | 52,740                        | 22                       | 8                        | 9.09                              | 40.90          | 4.54                  | 4.54           | —                    |
| Fall River.....                     | 49,006                        | 41                       | 16                       | 14.63                             | 14.63          | 2.43                  | 2.43           | —                    |
| Lawrence.....                       | 39,178                        | 8                        | 2                        | —                                 | —              | —                     | —              | —                    |
| Lynn.....                           | 38,284                        | 19                       | 6                        | 15.78                             | 15.78          | 10.52                 | —              | —                    |
| Springfield.....                    | 33,340                        | 17                       | 5                        | 5.88                              | 17.64          | —                     | —              | —                    |
| Salem.....                          | 27,598                        | 10                       | —                        | —                                 | —              | —                     | —              | —                    |
| New Bedford.....                    | 26,875                        | 8                        | 2                        | 25.00                             | 12.50          | 12.50                 | —              | —                    |
| Somerville.....                     | 24,985                        | 9                        | 5                        | 11.11                             | 22.22          | —                     | —              | —                    |
| Holyoke.....                        | 21,851                        | 13                       | 6                        | 69.23                             | —              | 23.07                 | 23.07          | 7.69                 |
| Chelsea.....                        | 21,785                        | 10                       | 3                        | —                                 | —              | —                     | —              | —                    |
| Taunton.....                        | 21,213                        | 4                        | —                        | 25.00                             | 50.00          | —                     | —              | —                    |
| Gloucester.....                     | 19,329                        | 5                        | —                        | —                                 | 40.00          | —                     | —              | —                    |
| Haverhill.....                      | 18,475                        | 4                        | —                        | —                                 | 25.00          | —                     | —              | —                    |
| Newton.....                         | 16,995                        | 3                        | —                        | —                                 | 33.33          | —                     | —              | —                    |
| Newburyport.....                    | 13,537                        | 8                        | 0                        | 12.50                             | 12.50          | —                     | 12.50          | —                    |
| Fitchburg.....                      | 12,405                        | 5                        | —                        | —                                 | 20.00          | —                     | —              | —                    |
| Twenty-two Massachusetts towns..... | 182,372                       | 66                       | 13                       | 15.15                             | 13.63          | 3.03                  | 3.03           | 1.51                 |

Deaths reported 2954 (no reports from Cincinnati and New Orleans): 1123 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and levers) 710, consumption 419, lung diseases 415, diphtheria and croup 209, scarlet fever 182, small-pox 100, typhoid fever 55, measles 47, diarrhoeal diseases 30, cerebro-spinal meningitis 30, erysipelas 19, malarial fevers 15, whooping-cough 24, puerperal fever seven. From scarlet fever, New York 115, Brooklyn 28, Buffalo nine, Philadelphia, Chicago, and Milwaukee five each, Baltimore and Pittsburgh three each, St. Louis and District of Columbia two each, Providence, Charleston, Worcester, Lynn, and New Bedford one each. From small-pox, Chicago 40, Pittsburgh 28, Philadelphia 18, New York 11, Brooklyn, Baltimore, and Holyoke one each. From measles, New York 36, Chicago four, Philadelphia, Brooklyn, and Pittsburgh two each, Buffalo one. From cerebro-spinal meningitis, New York six, Buffalo five, Chicago and Worcester three each, Lowell two, Brooklyn, St. Louis, District of Columbia, Pittsburgh, Milwaukee, Charleston, Nashville, Fall River, Springfield, Waltham, and Attleborough one each. From erysipelas, Brooklyn five, New York and Fall River three

each, Philadelphia two, St. Louis, Baltimore, Pittsburgh, Providence, Taunton, and Westfield one each. From malarial fevers, New York and Brooklyn five each, Chicago three, and St. Louis two. From whooping-cough, New York eight, Brooklyn three, Boston, Somerville, and Attleborough one each. From puerperal fever, Philadelphia two, New York, Chicago, St. Louis, New Haven, and Weymouth one each.

Seventy-nine cases of small-pox were reported in Pittsburgh, 23 in Baltimore, 17 in St. Louis, 15 in Brooklyn, six in Boston, District of Columbia five, and Milwaukee one; diphtheria 26 cases, scarlet fever 12, and typhoid fever seven, in Boston; scarlet fever 15, and diphtheria seven, in Milwaukee.

In 40 cities and towns of Massachusetts, with a population of 1,078,432 (population of the State 1,783,086), the total death-rate for the week was 23.48, against 19.79 and 20.97 for the previous two weeks.

For the week ending January 7th, in 175 German cities and towns, having each a population of 15,000 or over, with an estimated total population of 8,290,954, the death-rate was 25.8. Deaths reported 4109: under five 1875; pulmonary consumption 542, acute diseases of the respiratory organs 426, diphtheria

ria and croup 249, scarlet fever 113, diarrheal diseases 109, typhoid fever 76, whooping-cough 69, measles and rùtheln 65, mepheral fever 21, small-pox (Ulm, Frankfort-on-Oder, Aachen) three, typhus fever (Tilsit, Thorn) two. The death-rates ranged from 16.4 in Bremen to 46.6 in Essen; Königsberg 29.9; Breslau 30.7; Manich 28.9; Dresden 26.4; Berlin 22.9; Leipzig 22.3; Hamburg 29; Hanover 24.1; Cologne 24.8; Frankfort-on-Main 19.8; Strasburg 25.6.

For the week ending January 14th, in the 21 chief towns of Switzerland, population 479,934, there were 53 deaths from acute diseases of respiratory organs, pulmonary consumption 45, diarrheal diseases 13, diphtheria and croup 12, typhoid fever seven, scarlet fever three, purpural fever one. The death-rates were, Geneva 23.3; Zurich 29; Basle 26.9; Berne 31.

The meteorological record for the week ending January 28th, in Boston, was as follows:—

| Date.            | Barom-eter. |    | Thermom-eter. |          |          | Relative Humidity. |            |             |       | Direction of Wind. |            |             | Velocity of Wind. |            |             | State of Weather. <sup>1</sup> |            |             | Rainfall.             |                   |
|------------------|-------------|----|---------------|----------|----------|--------------------|------------|-------------|-------|--------------------|------------|-------------|-------------------|------------|-------------|--------------------------------|------------|-------------|-----------------------|-------------------|
|                  | Mean.       |    | Mean.         | Maximum. | Minimum. | 7.23 A. M.         | 3.23 P. M. | 11.23 P. M. | Mean. | 7.23 A. M.         | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.        | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.                     | 3.23 P. M. | 11.23 P. M. | Duration, Hrs. & Min. | Amount in inches. |
| January, 1882.   |             |    |               |          |          |                    |            |             |       |                    |            |             |                   |            |             |                                |            |             |                       |                   |
| Sun., 22         | 29.658      |    | 26            | 42       | 11       | 84                 | 47         | 80          | 70    | W                  | W          | NW          | 16                | 32         | 28          | C                              | C          | C           | —                     | —                 |
| Mon., 23         | 30.201      | 2  | 13            | —        | —        | 60                 | 49         | 65          | 58    | W                  | W          | W           | 20                | 28         | 22          | C                              | C          | C           | —                     | —                 |
| Tues., 24        | 30.743      | -1 | 8             | —        | —        | 50                 | 42         | 61          | 51    | W                  | NW         | W           | 16                | 10         | 7           | C                              | C          | C           | —                     | —                 |
| Wed., 25         | 30.545      | 21 | 33            | -2       | —        | 63                 | 57         | 94          | 71    | SW                 | SW         | SE          | 8                 | 6          | 5           | O                              | O          | S           | —                     | —                 |
| Thurs., 26       | 29.856      | 43 | 50            | 26       | 100      | 77                 | 100        | 92          | SW    | SW                 | S          |             | 11                | 10         | 6           | R                              | O          | R           | —                     | —                 |
| Fri., 27         | 29.894      | 42 | 51            | 31       | 80       | 36                 | 58         | 59          | SW    | NW                 | NW         |             | 29                | 24         | 13          | C                              | C          | C           | —                     | —                 |
| Sat., 28         | 30.059      | 30 | 35            | 24       | 64       | 88                 | 100        | 84          | NE    | SE                 | SW         |             | 3                 | 9          | 4           | O                              | S          | T           | —                     | —                 |
| Means, the week. | 30.136      | 23 |               |          |          |                    |            |             |       |                    |            |             |                   |            |             |                                |            |             | 32.20                 | .82               |

<sup>1</sup> O, cloudy; C, clear; F, fair; G, fog; H, hazy; S, snow; R, rain; T, threatening; X, clearing.

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM JANUARY 28, 1882, TO FEBRUARY 3, 1882.

SUMMERS, J. E., lieutenant-colonel and surgeon, medical director, Department of the Platte. Leave of absence further extended one month. S. O. 20, C. S., A. G. O.

WOODWARD, JOSEPH J., major and surgeon. Granted leave of absence for six months on surgeon's certificate of disability, with permission to go beyond sea. S. O. 23, A. G. O., January 30, 1882.

BANISTER, J. M., first lieutenant and assistant surgeon, Fort Reno, Indian Territory. Granted leave of absence for one month. S. O. 18, Department of the Missouri, January 24, 1882.

MASSACHUSETTS COLLEGE OF PHARMACY.—The regular monthly pharmaceutical meeting of the College will be held at 7.30 P. M., on Tuesday, February 14, 1882, in the College Hall, No. 1151 Washington Street. William W. Bartlett, Pepsin, Preparations and Assaying. Stephen P. Sharpley, Sugar, Manufacture and Assaying. All persons interested in pharmacy and collateral pursuits are invited to be present.

DR. B. F. DAVENPORT, Registrar.

BOOKS AND PAMPHLETS RECEIVED.—Illustrations of Dissections, in a series of Original Colored Plates, the Size of Life, representing the Dissection of the Human Body. By George Viner Ellis, Professor of Anatomy in University College, London, and G. H. Ford, Esq. The Drawings are from Nature by Mr. Ford, from Dissections by Professor Ellis. Vol. I. Second Edition. New York: William Wood & Co. 1882. Wood's Library of Standard Medical Authors.

The International Encyclopedia of Surgery. A Systematic Treatise on the Theory and Practice of Surgery by Authors of various Nations. Edited by John Ashurst, Jr., M. D., Professor of Clinical Surgery in the University of Pennsylvania. Illustrated with Chromo-Lithographs and Wood-Cuts. In six Volumes. Vol. I. New York: William Wood & Co. 1881.

Transactions of the Medical Association of Georgia. Thirty-Second Annual Session, 1881. Edited for the Association by A. Sibley Campbell, M. D., Secretary.

The Sympathetic Diseases of the Eye. By Ludwig Mauthner, M. D., Royal Professor in the University of Vienna. Translated from the German by Warren Webster, M. D., Surgeon U. S. A., and James A. Spaulding, M. D., Ophthalmic Surgeon to the Maine General Hospital. New York: William Wood & Co. 1881.

Lectures on the Pathological Anatomy of the Nervous System. Diseases of the Spinal Cord. By J. M. Charcot. Translated from the Reports by Dr. E. Brissaud in the Progrès Médicale by Cornelius G. Conneys, M. D. With Illustrations. Cincinnati: Peter C. Thompson. 1881. (A. Williams & Co.)

Diseases of Women, including their Pathology, Causation, Symptoms, Diagnosis, and Treatment. A Manual for Students and Practitioners. By Arthur W. Edis, F. R. C. P., M. R. C. S. With one hundred and forty-eight illustrations. Philadelphia: H. C. Lea's Son & Co.

Ueber Extrauterinschwangerschaft. (Vorträge gehalten im Ferienreise für Aerzte.) Von A. Martin. (Separat-Abdr. aus der Berl. klin. Wochenschrift, 1881, No. 51.)

Hæmatometra nach-Typhus, beobachtet von A. Martin. (Separat-Abdruck aus dem Centralblatt für Gynäkologie, 1881, No. 26.)

Transactions of the Thirty-First Annual Meeting of the Illinois State Medical Society, held at Chicago, May 17, 18, 19, 1881.

Home and Climatic Treatment of Pulmonary Consumption on the Basis of Modern Doctrines. By J. Hilgard Tyndale, M. D. New York: Bernheim & Co. 1882.

Transactions of the Twenty-Eighth Annual Meeting of the Medical Society of the State of North Carolina, held at Asheville, N. C., May 31, 1881.

Report on Diphtheria. By Franklin Staples, M. D., Wisconsin.

Fistula, Hemorrhoids, Painful Ulcer, Stricture, Prolapsus, and other Diseases of the Rectum, their Diagnosis and Treatment. By William Allingham, Surgeon to St. Mark's Hospital for Fistula and other Diseases of the Rectum. Fourth Edition. Philadelphia: Presley Blakiston. 1882.

On Diseases and Injuries of the Eye. A Course of Systematic and Clinical Lectures to Students and Medical Practitioners. By G. R. Wolfe, M. D., F. R. S. E., Senior Surgeon to the Glasgow Ophthalmic Institution. With ten Colored Plates and one hundred and fifty-seven Wood Engravings. Philadelphia: Presley Blakiston. 1882.

Contribution à la Géographie Médicale. La Nouvelle Caserne des recrues de Skeppsholm an point de vue hygiénique. Par le Dr. A. Frédéric Eklund, Médecin de 1<sup>re</sup> Classe de la Marine Royale Suédoise. Stockholm: Tryckt hos A. L. Normans Boktryckeri-Aktiebolag. 1881.

Travaux d'Obstétrique et de Gynécologie précédés d'Elements de pratique Obstétricale. Par C. Pajot. Paris: H. Lanweryns. 1882.

Second Annual Report of the State Board of Health of South Carolina for the Fiscal Year ending October 31, 1881.

A Practical Point in the Mechanical Therapeutics of Hip Disease. By A. B. Judson, M. D. (Reprint.)





CHARLES J. GUITEAU.

FROM THE LIFE OF CHARLES J. GUITEAU, BY J. M. BELL.

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## Original Articles.

## THE CASE OF GUTEAU, ASSASSIN OF THE PRESIDENT OF THE UNITED STATES.

BY CHARLES F. FOLSON, M. D.

CHARLES JULIUS GUTEAU was born September 8, 1841. His paternal grandfather was a physician highly respected and of intense religious feeling. His father, a man of character and intellect, of uncommon business capacity, was a religious fanatic devoted to free-love socialistic teaching during the last thirty years of his life; he died at the age of seventy of some disease of several months' duration and attended with emaciation and delirium. By some of his family, and some of those who saw him in his relations to his delusions, this father was considered at least partially insane, but the more general opinion apparently was that he was only eccentric. Eighteen years ago he visited the Central Hospital for the Insane at Jacksonville, Illinois, to take a patient there, and he remained several days. His delusions with regard to his own intimate relations with the Deity, his attempts to cure the insane by the laying on of hands, supposing himself to be divinely commissioned to effect cures in that way, and his general demeanor, led Dr. McFarland, the medical superintendent of the asylum, to at that time consider him insane. One paternal uncle of the assassin died insane in an asylum, a second was a drunkard and finally imbecile; of one paternal aunt, who died of "consumption," and who had an insane daughter, her husband having also been insane, it was testified and denied that she was morbidly in dread of her family's going to the poorhouse; another paternal aunt, with regard to whose mental condition the testimony was contradictory, but of whom there was some evidence of insanity, had an insane son, committed to an insane asylum. Guteau's paternal grandmother died of consumption. His mother, at the time of his birth, had been confined to her bed for some time with a disease attended with marked cerebral symptoms, for which her head had been shaved, and her two children born in later life died at the ages respectively of two years and twenty months. His only sister, after her evidence in court, had an attack of *petit mal*, to which her physician said she was subject; and he also said that she had earlier in life had puerperal mania. Guteau's only brother testified:—

"My religious theory is that there are two forces in the universe,—one under Satan or the devil, and one under God or Jesus Christ; my father held to the view that there were living in the world those who were seized of the devil or Satan, and of Christ or God; he believed that these two forces were at war, one with the other, and that at present and since the fall of man Satan had, to a very great extent, dominion on the earth to possess himself of all those he could, and that he did possess himself of all those who were not absolute believers in the Lord Jesus Christ as Saviour, and who had not been saved from the power of sin by a complete union with the Lord and Saviour Jesus Christ; that all evil, all disease, all deformity, all infirmity was the result of sin or the admission of those who had a free will that they were under the dominion of Satan or the evil spirit, or of evil nature. That was my father's theological view, it was my brother's, it was mine."

Guteau's only half-sister, aged about twenty-six, has exophthalmic goitre, and of his only half-brother, about twenty-three years old, no testimony was given.

Guteau was a willful and bright child, unable for a long time to pronounce certain words ("quail" he called "pail," and "come," "ped"), and, after the death

of his mother when he was seven years old, he was left without parental care, his father having been absorbed in his business as cashier of a bank, and in the religious vagaries of the Oneida Community, a society based upon the absence of the marriage tie, upon communism in ownership of property, and a certain fanatical belief in inspiration from God as the basis of their methods of living,—perhaps rather as a cover for their impure relations of the sexes. His father treated him with great harshness and with neglect.

Guteau had no serious injury or accident other than a severe blow over the upper and posterior portion of the left side of the frontal bone, corresponding to which there remains a scar. Guteau was indisposed to manual labor, but fond of books, and especially of reading the *New York Tribune*, from which he gained a great admiration of self-made men, whose successful lives he meant to imitate. The evidence is too meagre to show whether or not, up to the age of eighteen, he differed materially in intellect from other ambitious boys. He once struck his father in anger. Soon after that time, however, he gave up his studies and plans of a liberal education, and became so absorbed in religious fanaticism as to neglect his work, and to attract the attention of his friends, who began to have fears for his sanity. His letters then changed from being simple and natural to the religious and exhorting style. It is stated that he became addicted to evil practices too common among boys, and that from other bad habits he contracted the mild form of venereal disease, so that when he gave up his collegiate studies at the age of nineteen to enter the free-love community at Oneida, it was maintained that he did so not entirely from religious motives or in obedience to his father's often-repeated wish that he should do so, but partly at least from licentiousness or the inordinate force of the sexual function so common in the congenital form of mental degeneration. While with the community he was a nervous, quick-tempered man; if anything was said to disturb him he would get angry, and would gesticulate wildly, and talk in a mysterious manner; he would sit for hours in a corner saying nothing to anybody; at other times he would be cheerful. He availed himself of the opportunity to study in the library, but showed an extraordinary self-will, vanity, restlessness of restraint, indisposition to industrious habits, and finally such boundless personal aspiration that he left Oneida. He was disgusted with his comparatively low position and mental employment, and with the coldness of the women of the community toward him. He had been there five years, during which time he had given up regular study, and imbibed communistic ideas. He even claimed inspiration (as he now claims to have had when he joined the society) when a few weeks later he attempted, in a farcical imitation of a distinguished journalist, to establish a great daily paper, called the *Theocratic Press*, which was to take the place of all the churches and provide to the whole United States religious instruction daily. At that time he was living in an attic on crackers and lemonade, without knowledge of the world, friends, or capacity, and with only nine hundred dollars in money. In a letter to his father, dated April 10, 1865, he spoke of this project as follows:—

"I came to New York in obedience to what I believed to be the call of God. With the Bible for my text book and the Holy Ghost for my schoolmaster, I can pursue my studies without interference from human dictation."

"And here it is proper to state that the Energies of my life are now, and have been for months, *pledged to God*, to do all that within me lies to extend the Sovereignty of Jesus Christ by placing at his disposal a powerful daily paper. I am persuaded that Theocratic Presses are destined, in due time to supersede to a great extent pulpit oratory. There are hundreds of Thousands of ministers in the world, but not a single daily Theocratic Press. It appears to me that there is a splendid chance for some one to do a big thing for God, for humanity, and for himself. At no time since the creation of the world have mankind been prepared for such an innovation. Instead of persons spending an hour or two, (as they now do,) *once in 7 days in religious thought*, we should present them a Theocratic daily each morning at their breakfast table, and thus introduce *God into the practical affairs of life*. The grand object of the paper would be to infuse into the public mind *true ideas of God*, of Christ, and of the Spiritual World, and to establish a *true Standard of righteousness* by inculcating the doctrine that the fear of the Lord is the beginning of wisdom.

"Do you say that the Establishment of a great daily paper is a stupendous work and only to be accomplished by extraordinary talents and Energy. Of course it is; and when I consider the vast work to be done, and my own insignificant attainments, my heart sinks within me; 'but *when I am weak*,' says Paul, '*then I am strong*;' I say boldly that I claim inspiration.

"I claim that I am in the employ of *Jesus Christ & co*, the very ablest and strongest firm in the Universe, and that what I can do is limited only by their power and purpose. I have very little confidence in the flesh; but a vast deal in the power and purpose of God; and I know that He will give me the requisite energy and ability to do my work *well*. The favor of God is vastly more important (in my view), in the pursuit of an object than any thing else.

"Whoever Edits such a paper as I intend to establish will doubtless occupy the position of Target General to the Press, Pulpit, & Bench of the civilized world; and if God intends me for that place I *fear not*; for I know that He will be 'a wall of fire round about me;' and keep me from all harm.

"To compete with the Devil you must use the *Same* agencies in propagating *truth* that he does in propagating *error*, and thereby supplant *evil by good*. I am therefore bold to confess that I should support the paper as other dailies are; ie, by subscription advertisements & the free contribution of friends of the cause.

"Perhaps the same munificence that has sustained the American Bible Society, erected magnificent Churches and kept tens of thousands of ministers in luxury, would if it could be *controlled* sustain a national chain of Daily Theocratic Presses."

His failure was a matter of course, indeed, his attempt hardly even assumed the form of definite work, and about six months after he left the Community he was eager to return, full of promises of a life of obedience to the leader, and disappointed with his utter inability to earn a livelihood by his own efforts. He had become convinced that the communists' idea of life was the correct one, that it was destined to supplant all religions, and that he was to be at the head of it. After another year there he left again, clandestinely. His threat to sue the Community for fifteen hundred dollars a year for his services while with them was followed by strong denunciatory language of their free-love life, but the suit was abandoned from want of success, fear of the results of his attack, or diversion of attention to something else. It is stated upon good authority, but not in evidence, that the intention was to claim insanity from masturbation in Guiteau if the suit was pressed.

From 1866 to 1871 Guiteau's life was rather an unsettled one. After a brief stay and second failure in New York, he spent most of his time in Chicago studying law, and trying to practice, attending religious meetings assiduously. He never had more than a small knowledge of the law, and his business consisted chiefly in collecting bad bills, which he often neglected to pay to the owners. He married an estimable lady, whom he met at the Christian Association in 1863, lived with her four years, committed adultery with a prostitute, and appeared as his own witness to secure

a divorce in 1874. Inasmuch as he acknowledges having had both syphilis and gonorrhoea, it is inferred that his life was more licentious than he admits.

After an unsuccessful trip to San Francisco, Guiteau appeared again in New York, where he failed as signally in practicing law as in Chicago. He hung about some of the offices during the political campaign of 1872, and although he had no capacity even for work of a low order, and actually did nothing of use, he expected a foreign mission in case Mr. Greeley should be elected. This idea he at once abandoned upon learning the result of the election. In 1874 one of his irregular law practices was commented upon sarcastically in the *New York Herald*, as a result of which he sued that paper for one hundred thousand dollars. He soon abandoned the suit, but has at least appeared to think, up to the present time, that he might secure a compromise to bring him in ten thousand dollars. In the same year he was thrown into jail for habitually defrauding people of their dues. After his release he showed himself sharp, persistent, and shrewd, as well as unscrupulous, in doing for a while rather a disreputable business in securing release of prisoners from jail through technicalities and errors in committal. That resource soon failed him. He was also once sent to jail in Chicago for retaining money not belonging to him.

In 1875 he conceived the idea of reviving a bankrupt Chicago paper, *The Inter-ocean* (an attempt which, later, in sensible form, proved successful), and of becoming a great editor, having previously tried to thrust his worthless services upon the editors of two leading New York papers to get experience. He tried to hire a large building for the purpose, selected an engine and two large presses, and attempted to arrange with a telegraph company in such a way as to reproduce the *New York Herald* word for word in Chicago every morning. Without experience, knowledge, money, or capacity, he offered one stranger to make him president of the United States if he would contribute two hundred thousand dollars to the project, and another to secure for him the governorship of Illinois if he would give fifty thousand dollars, — all this in apparent earnest. The project was dropped in a few weeks.

After failure in that direction he drifted around to the house of his sister, in July, 1875. Soon after arriving there he went to work in the hayfield with her sons. The weather being very hot he returned to the house after a short time complaining of the heat, seeming much exhausted, and lay down on a sofa. After he had rested awhile his sister asked him to cut some wood, and he went out for that purpose. In a few minutes she had occasion to pass where he was at work, and without provocation he raised the axe to strike her. She avoided him and ran into the house. She then set the hired man to watch him, with strict orders to keep near enough to prevent him from doing injury to any one until her husband's return from Chicago. In the mean time the family physician was consulted and examined Guiteau. The physician reported to his sister that he was undoubtedly insane, and his father had already pronounced him so. He then suddenly disappeared, taking with him his Bible, which he constantly read.

In 1876 Guiteau was again vainly trying to do some law work in an office in Chicago, where the Moody and Sankey meetings were held, and he was a constant attendant. He was appointed one of the ushers. He



became filled with zeal and soon began to look forward to doing the work of a great evangelist. He gave his entire time to religious study and devotions. In the following January he commenced his career as a lecturer.

He had written some very weak and trashy lectures about the Apostle Paul and the second coming of Christ, largely plagiarized from a book by the leader of the Oneida Community. He maintained that he was a great evangelist and went about from town to town, without money to pay his railroad fares or board bills, exhorting people to come to Christ and adopt his views of the Second Advent, now selling tracts, now preaching to empty houses, ridiculed, despised, turned out of hotels, driven off from trains, hardly knowing one day what he was to eat or where he should sleep the next, never seeking the haunts of criminals, always assuming great piety and seeming to fancy that in his wanderings he was really like Christ and the Apostle Paul, but yet without real moral principle.

He avoided the theatre, card playing, tobacco, and alcohol in all forms, seeming to genuinely despise all such habits, and to consider them wicked. He was low, mean, ill-tempered when aroused, but often mild in his demeanor, ready to borrow money, never intending to pay, and thoroughly unscrupulous about giving other people their dues or even their own money if he happened to have it. It was in evidence that he furnished up a sham-gold watch and tried to sell it as gold. He did not steal, and his life does not suggest the real criminal so much as the nuisance or fraud.

In 1879 he published in Boston, where he then was, a book of his lectures called *Truth, A Companion to the Bible*, "That many souls may find the Saviour." For this he never paid, and he failed to sell the few copies which he managed to get into his possession. There is very little in it to strike one's attention. It might, or it might not, have been the work of an insane man, certainly not that of a wholly sound mind. He speaks constantly of Christ as "that wonderful creature," says that "Heaven is a thousand times better than this sin-cursed earth." A specimen of his argument is as follows: "The theatres are sending many to hell. Do you think it harmful to go to the theatre?" "Yes, decidedly. What would you think of the dear Saviour, elbowing his way into a theatre to see a woman's leg? The drama tends down, not up. Many a man has been ruined by frequenting theatres. If I had my way, I would close every theatre in the land." "I do not like to say anything against the pulpit, as it represents many pious and able men; but I must speak the truth without fear or favor." . . . "Man is a moral agent. He can go to the right or left. He can choose good or evil. He can go to church or to a saloon, and end in heaven or hell."

While in Boston he kept attending religious meetings, frequented the rooms of the Young Men's Christian Union and made a few ridiculous failures in trying to lecture, announcing himself with the title of honorable, lawyer, and theologian, in one case putting himself in the handbills as *The Little Giant from the West*. He once said that he had challenged Colonel Ingersoll to debate but did not think that Ingersoll had courage enough to meet him. There were about fifty persons present at the lecture; the lecturer brought in a manuscript; he commenced by reading some half dozen lines and then skipping some half dozen pages; he went on without any connection

whatever; at the end of half an hour he evidently became disgusted and left the platform in a great hurry, as if angered at something. He then gave up theology because "it did not pay," as he said in a letter, written two weeks before the murder, and took up politics.

During the early summer of 1880 Giteau spent a number of weeks in the library of the State House in Boston. He was quiet and orderly, studying law and the statutes of the several States. He had several untidy habits and was finally informed that the room was not a lodging place, when he ceased coming to it. In September of the same year he acted as solicitor to one of the insurance companies in New York and brought in six applications, living most of the time, as before, by not paying his bills. With regard to that point, it appeared that he paid when he had the means of so doing, but seemed entirely oblivious of his duty to earn money. He sometimes said that he was a servant of the Lord and like Christ paid no bills. When he tried to borrow money he did so in a way to show that, so far at least, he had the methods of a very shrewd rogue.

He wrote a sharp and very weak, but not otherwise noticeable, speech of no merit at all in favor of General Grant as President, which he changed under the title of "*Garfield vs. Hancock*" after the nomination of Mr. Garfield, to whose election he appeared to really think that he had largely contributed, although he had done nothing but hang about the political headquarters and occasionally get a word from some prominent man. His speech he began to deliver only once to a small audience, but did not finish it, and yet after the election he wrote Mr. Garfield, to whom he was of course unknown, that

"We have cleaned them out just as I expected. Thank God! Very respectfully,  
CHARLES GITEAU."

He early hoped to receive an important appointment, and November 11, 1880, wrote to the Secretary of State as follows:—

HON. WILLIAM M. EVARTS:—

DEAR SIR,—I wish to ask you a question. If President Garfield appoints Mr. A to a foreign mission does that supersede President Hayes' commission for the same appointment? Do not all foreign Ministers appointed by President Hayes retire on March 4 next? Please answer me at the Fifth Avenue Hotel at your earliest convenience. I am solid for General Garfield, and may get an important appointment from him next spring.  
Yours very truly,  
CHARLES GITEAU.

During October and January he had written to President Garfield, calling attention to his services in the campaign, and soliciting an appointment on the ground that he and a wealthy lady, whom he said he meant to marry, would well represent the United States. On the 8th of March he addressed a letter to the President, calling attention to his desire to be appointed to the Paris Consulate. On the 11th of March he wrote Mr. Blaine the following letter:—

MARCH 11, 1881

SENATOR BLAINE:—

In October and January last I wrote General Garfield touching the Austrian Mission, and I think he has filed my application and is favorably inclined. Since then I have concluded to apply for the Consul General at Paris instead of the Austrian Mission, as I prefer Paris to Vienna. I spoke to the General about it and he said your indorsement would help it, as it was in your department. I think I have a just claim to your help on the strength of this speech [his speech was inclosed], which was sent to our leading editors and orators in August. It was about the first shot on the rebel war claim idea, and it was the idea that elected General Garfield.

Mr. Walker, the present Consul at Paris, was appointed

through Mr. Evarts, and I presume he has no expectation of being retained. I will talk with you about this as soon as I can get a chance. There is nothing against me. I claim to be a gentleman and a Christian.

Yours, very respectfully, CHARLES GUITEAU.

He followed up this communication by persistent personal appeals, and by writing notes and letters, urging in various ways his claims for the position. Wearied of his importunity the Secretary of State on Saturday, the 14th of May, according to the prisoner's statement in writing, said to him, "Never speak to me again on the Paris Consulship as long as you live." On the following morning he wrote to the President, informing him of Mr. Blaine's statement and saying he was satisfied that Mr. Blaine was endeavoring to ruin the State Department in the interests of his own candidacy for the Presidency in 1884, and appealing to the President direct for an immediate order for his appointment. During this time he continued to visit the Executive Mansion, and urged and insisted on an opportunity to see the President. Finally, it became necessary, in order to avoid his presumptuous intrusion, to prohibit his entrance into the White House. On the 23d of May he wrote President Garfield a letter as follows:—

(Private.)

GENERAL GARFIELD, — I have been trying to be your friend. I do not know whether you appreciate it or not, but I am moved to call your attention to the remarkable letter from Mr. Blaine, which I have just noticed. According to Mr. Farwell of Chicago, Blaine is a vindictive politician and an evil genius, and you will have no peace till you get rid of him. This letter shows that Mr. Blaine is a wicked man, and you ought to demand his immediate resignation; otherwise you and the republican party will come to grief. I will see you in the morning if I can, and talk with you. Very respectfully,

May 23. CHARLES GUITEAU.

And yet on the 21st of March he wrote to Secretary Blaine:—

"I am very glad personally that the President selected you for his Premier. . . . You are the man above all others for the place."

There was a period during this time when there existed discussions in the party in power, and there were frequent utterances of bitterness by partisans on both sides.

Without money or friends or influence of any kind, not paying his board bills, a man of utterly no consequence (and never treated as if he were), a wanderer, without a home, penniless, a man who had never really succeeded in anything in his life or gained the lasting respect of anybody, convinced that society was rotten and unjust, he wrote letter after letter to the White House, without being at all discouraged that no attention was paid to them. Indeed, he became a perfect nuisance in his persistent hanging about the State Department, and yet he wrote to the President familiar letters of advice, to which, of course, no attention was paid. A few of them are quoted:—

(Private.)

March 8, 1881. GENERAL GARFIELD, — I called to see you this v. m., but you were engaged. In October and January last I sent you a note from New York touching the Austrian Mission. Mr. Kasson, of Iowa, I understand, wishes to remain at Vienna till fall. He is a good fellow, I should not wish to disturb him in any event. What do you think of me for Consul General for Paris? I think I prefer Paris to Vienna, and, if agreeable to you, should be satisfied with the Consulship at Paris. The enclosed speech was sent to our leading orators and editors in August. Soon thereafter they opened on the Rebel war claim idea, and it was this idea that resulted in your election.

Mr. Walker, of New York, the present Consul at Paris, was appointed through Mr. Evarts, and I presume he has no expectation of being retained. The senators Blaine, Logan, and Con-

king are friendly to me, and I presume my appointment will be promptly confirmed. There is nothing against me. I claim to be a gentleman and a Christian. C. G.

(Private.)

GENERAL GARFIELD, — I understand from Colonel Hooker, of the National Committee, that I am to have a consulship. I hope it is the consulship at Paris, as that is the only one I care to take, now that Mr. Phelps has the Austrian mission. I think I have a right to press my claim for the consulship at Paris. I think General Logan and Secretary Blaine are favorable to this, and I wish you would send in my name for the consulship at Paris. Mr. Walker, the present consul, I do not think has any claim on you for the office, as the men that did the business last fall are the ones to be remembered. Senator Logan has my papers, and he said he would see you about this.

Very respectfully,

CHARLES GUITEAU.

March 26th.

(Private.)

GENERAL GARFIELD, — From your looks yesterday I judge you did not quite understand what I meant by saying "I have not called for two or three weeks." I intended to express my sympathy for you on account of the pressure that has been on you since you came into office. I think Mr. Blaine intends giving me the Paris consulship, with your and General Logan's approbation, and I am waiting for the break in the Senate. I have practiced law in New York and Chicago, and presume I am well qualified for it. I have been here since March 5, and expect to remain some little time, or until I get my commission. Very respectfully,

CHAS. GUITEAU.

April 5.

(Private.)

GENERAL GARFIELD, — I wish to say this about Mr. Robertson's nomination. Would it not be well to withdraw it on the ground that Mr. Conkling has worked himself to a white heat of opposition? It might be done quietly and gracefully, on the ground that since the nomination many merchants and others in New York had petitioned for the retention of General Merritt. It strikes me that it would be true policy to do this, as Mr. Conkling is so determined to defeat Mr. Robertson, and the chances are he may do it. It is doing great harm all around. I am very sorry you have got Conkling down on you. Had it not been for General Grant and Senator Conkling we should have lost New York. The loss of New York would have elected Hancock. Mr. Conkling feels you ought to have consulted him about the appointments in his own State, and that is the reason he is so set against Mr. Robertson; and many people think he is right. It seems to me that the only way to get out of this difficulty is to withdraw Mr. Robertson, on the ground that since his nomination the leading merchants of New York have expressed themselves as well satisfied with General Merritt, who certainly is not a "Conkling man." I am on friendly terms with Senator Conkling and the rest of our Senators, but I write this on my own account and in the spirit of a peacemaker.

I have taken the liberty of making this suggestion to Mr. Blaine, and wish you and he would give it due attention.

Very respectfully,

CHARLES GUITEAU.

April 29.

(Private.)

GENERAL GARFIELD, — I am sorry you and Senator Conkling are apart, but I stand by you on the ground that his friends Morton, James, Pearson and the rest of them have been well provided for, and Mr. Conkling ought to have been satisfied.

Very respectfully,

CHARLES GUITEAU.

May 7.

(Private.)

TO GENERAL GARFIELD, — I have got a new idea about '84. If you work your position for all its worth you be nominated and elected in '84. Your opponents will probably be General Grant and Mr. Blaine. General Grant will never be so strong again as he was just after his trip around the world. Too many people are dead set against a third term and I don't think he can be nominated much less elected again. Two national conventions have slaughtered Mr. Blaine on account of his railroad record and connections.

The republican party are afraid to run him. This leaves the way open for you. Run the Presidency on your own account. Strike out right and left. The American people like pluck, and in '84 we will put you in again. C. G.

WHITE HORSE, May 10.

P. S. — I will see you about the Paris Consulship to-morrow, unless you happen to send in my name to-day.

(Private.)

GENERAL GARFIELD, — Until Saturday I supposed Mr. Blaine was my friend in the matter of the Paris Consulship, but

from his tone Saturday I judge he is trying to run the State Department in the interest of the Blaine element in '84. You are under small obligations to Mr. Blaine. He almost defeated your election by the loss of Maine. Had it not been for Hancock's blunder on the tariff, and the decided efforts of the stalwarts, you certainly would have been defeated after the loss of Maine. You recalled Mr. Noyes for Mr. Morton, and I wish you would recall Mr. Walker for me. I am in with Mr. Morton and General Arthur and I will get them to go on my bond, General Logan and Senator Harrison and the rest of my friends will see that it is promptly confirmed. "Never speak to me again," said Mr. Blaine, Saturday, "on the Paris consulship as long as you live." Heretofore he has been my friend, but now his eye is on a "Blaine man" for the position that will help him in '84. Two national conventions have slaughtered Mr. Blaine, and he ought to see that there is no chance for him in '84. I want to get in my work for you in '84.

I am sorry Mrs. Garfield is sick, and hope she will recover soon. CHAS. GUITEAU.

May 16.

(Private.)

GENERAL GARFIELD. — I hope Mrs. Garfield is better. Monday I sent you a note about the Paris Consulship; Tuesday one about '84. The idea about '84 flashed through me like an inspiration, and I believe it will come true. Your nomination was a providence and your election a still greater providence. Had Hancock kept his mouth shut on the tariff he would have been elected probably, notwithstanding Grant and Conkling and the treachery of Kelly. Business men were afraid to trust a man in the White House who did not know "A" about the tariff, and this killed Hancock. You are fairly elected and now make the best of it. With two terms in the White House and a trip around the globe you can go into history by the side of General Grant. May I tell Mr. Blaine to prepare the order for my appointment to the Paris consulship, vice George Walker, recalled?

C. G.

WHITE HOUSE, May 13, 1881.

From the time of his arrival in Washington and until he had lost the expectation of favors to be received, and made up his mind to kill the President, — a period of nearly three months, — he was an earnest, so-called, Garfield man. He announced to the President his devotion and fealty to him. He desired constantly to impress upon the President that he was for him as against every one else. May 7th he had announced to the President that in the contest going on he stood by him.

Six weeks before the murder Guiteau "conceived the idea of removing the President;" it flashed across his mind one night when he was lying weary on his bed. He says that the idea was revolting to him and that he struggled and prayed to get rid of it, or to be assured whether it was a suggestion from the devil or an inspiration from the Deity. In the meanwhile he wrote the letter of May 23d, just quoted. He maintains that on the first of June he learned that he was acting under "Divine pressure" or "inspiration," words that he had previously used in regard to other and ordinary acts of life.

On the eighth day of June he borrowed from an acquaintance fifteen dollars, representing that he was out of money and desired the amount to pay his board bill. After procuring this loan he at once visited a store for the purpose of purchasing a weapon. He asked for a pistol of the largest calibre, one that would do the most effective work, and was shown and purchased a weapon carrying a bullet of the largest size. He carried it twenty-four days and often dogged the footsteps of the President. On the morning of the 18th of June he ascertained from publications in the newspapers that the President would go to Long Branch, and he determined to kill him at the depot. He went there fully prepared for that purpose and was deterred from its accomplishment. Returning to his room he wrote: —

WASHINGTON, Saturday Evening, June 18, 1881.

I intended to remove the President this morning at the depot as he took the cars for Long Branch, but Mrs. Garfield looked so thin and clung so tenderly to the President's arm that my heart failed me to part them, and I decided to take him alone. It will be no worse for Mrs. Garfield to part with her husband this way than by a natural death. He is liable to go at any time, any way.

C. G.

He had attended the President's church, standing in the aisle for the last half hour of the service to see the position of the President's seat, and then viewed it from the outside to learn how he could shoot him from a window behind his back. He lurked in an alley, watched in the park, and sought opportunities for the murder nearly three weeks, several times giving up his intention of shooting Mr. Garfield for reasons apparently of mere practicability. I doubt whether a murder has ever been committed more deliberately and with more careful preparation for every possible event, a statement which may also be made of a recent murder of an attendant in a Massachusetts asylum by an insane patient who has thus far escaped detection.

Early on the morning of July 2d last he made preparations for the murder. Breakfasting (for which he did not pay) at the Riggs House (a first-class hotel) he took the weapon that he had previously obtained, and going to the foot of Seventeenth Street, away from residences and beyond observation, he planted a stick in the soft mud on the river bank where the tide had gone out and deliberately practiced his aim and tested his weapon. He intended that there should be no failure in the accomplishment of the crime for which he had been preparing. Returning he took with him a small bundle of papers and went to the Baltimore and Potomac railroad depot at half-past eight o'clock A. M., an hour before the arrival of the President. After reaching the depot he went to the news-stand and left certain papers, with a letter addressed to Byron Andrews, a correspondent of the Chicago *Inter-ocean*, and a package addressed to Mr. Preston, of the *New York Herald*, and then went into the closet, carefully examined his weapon, placed it in his pocket, returned and went outside to the pavement, had his boots blacked, and then, to avoid the vengeance of the community, which he feared, engaged a carriage to take him two miles to the Congressional Cemetery, close to the jail, which he had previously examined and in which he hoped to be protected. Standing back of Mr. Garfield, he fired two shots at him with entire steadiness of aim. He then turned to leave the railway station, walking calmly to the street door. Upon being seized, after the noise of the reports, he made some not very violent remonstrance and then said that he wished to send General Sherman a letter, which proved to be a demand for his protection by the army. The evidence showed that he looked desperately in earnest but behaved with composure. He also had prepared an address to the American people claiming that he had acted for the good of the country, to make Arthur President, and to save us from another civil war. His pockets contained a large number of newspaper cuttings containing violent denunciations of the President. Just after the murder he said: —

"My getting or not the Paris Consulship had nothing whatever to do with my shooting the President; I shot him purely as a political necessity under Divine pressure; and it was only by nerving myself to the utmost that I shot him anyway. If he should recover and I should meet him again, I would not shoot him;

and now I leave the result with the Almighty. In case the President had said that I could not have the Paris Consuls, I intended to go to New York or Chicago and open a law office and let politics go. I shot the President without malice or murderous intent. I deny any legal liability in this case. . . . I had none but the best of feelings, personally, toward the President. . . . I put away all sentiment and did my duty to God and to the American people." About the 16th of June he wrote, in an address to the American people, "In the President's madness he has wrecked the once grand old Republican party and for that he dies; this is not murder, it is a political necessity." "I conceived the idea of removing the President four weeks ago. I conceived the idea myself and kept it to myself." He had said that Garfield's nomination, election, and removal were acts of God, and also "My idea is that I shall be nominated and elected as Lincoln and Garfield were,—that is, by the act of God." He explained his act of murder thus:—

"If Garfield was out of the way, thought I one night in bed, everything would go well. Things seemed to be going from bad to worse under his leadership and I foresaw another desolating war as the result of it. For two weeks I prayed over the possibility of the President's removal. The more I prayed about it and the more I looked at the political situation the more I saw the necessity of his removal. Finally, after two weeks of earnest prayer, I decided that the Deity had called me to do it and I commenced preparation for it. This was about the 1st of June. From that day to this I have never had the slightest doubt as to the Divinity of the act or the necessity for it."

After reaching the jail he had the best night's rest for many weeks. I think there can be no doubt that he fully expected to be supported by the political opponents of Mr. Garfield, and when he learned their abhorrence of his crime, he said: "What does it mean? I would have staked my life that they would defend me." He believed, I think, that he was to become a great patriot, visit Europe, be *fêted* everywhere, receive the praise of everybody, sell a revised edition of his worthless little book on the Second Coming of Christ, reach the Presidency of the United States, and die rich, happy, contented, and famous. The evidence was contradictory as to his having once said that he should imitate the assassin of President Lincoln.

When brought into court Guiteau had with him a prepared address which he was not allowed to deliver. The opening part is as follows:—

"If the Court please, I desire to address your honor at the threshold of this case. I am in the presence of this honorable court charged with maliciously and wickedly murdering one James A. Garfield. Nothing can be more absurd, because General Garfield died from malpractice. The syllogism to prove it is this: Three weeks after he was shot, his physicians held a careful examination and officially decided that he would recover. Two months after this official announcement he died. Therefore, according to his own physicians, he was not fatally shot. The doctors who mistreated him ought to bear the odium of his death, and not his assassin. They ought to be indicted for murdering James A. Garfield, and not me. But I have been indicted, and must stand my trial for the alleged homicide. General Garfield was President of the United States, and I am one of the men that made him President. His nomination was an accident; his election the result of the greatest activity on the part of the stalwarts, and his removal a special providence. General Garfield was a good man but a weak politician. Being President, he was in a position to do vast harm to the republic, and he was doing it by the unwise use of patronage, and the Lord and I took the responsibility of removing him. I certainly never should have sought to remove him on my own ac-

count. Why should I shoot him? He never harmed me. From him I expected an important office. I considered him my political and personal friend; but my duty to the Lord and the American people overcame my personal feeling, and I sought to remove him. Not being a marksman he was not fatally shot, but incompetent physicians finished the work, and they and not me are responsible for his death. Nothing but the political situation last spring justified General Garfield's removal. The break in the Republican party last spring was widening week by week, and I foresaw a civil war. My inspiration was to remove the late President at once, and thereby close the breach before it got so wide that nothing but another heart-rending and desolating war could close it. The last war cost the nation a million of men and a billion of money. The Lord wanted me to prevent a repetition of this desolation, and inspired me to execute his will. Why did he inspire me in preference to some one else? Because I had the brains and nerve probably to do the work. The Lord does not employ incompetent persons to serve him. He uses the best material he can find. No doubt there were thousands of Republicans that felt as I did about General Garfield's wrecking the Republican party last spring, and had they the conception, the nerve, the brains, and the opportunity they would have removed him. I, of all the world, was the only man who had the conception. On the trial of my case I propose to summon some of the leading politicians of the Republican and Democratic parties, also the leading New York and Washington editors, to show the political situation and the perils which surrounded the Republicans last spring. I propose to go into this branch of my defense extensively. Another reason the Lord inspired me to remove the President in preference to some one else is because he wished to circulate my theological work, *The Truth*. This book was written to save souls and not for money, and the Lord in circulating the book is after souls. By it he preaches the gospel and prepares the world for their judgment, which to some people, and with reason, is not far distant. I have been delayed in getting out a new edition of this book, which will include a graphic narrative of my life, but I expect that it will be issued shortly. More than one hundred witnesses have been summoned by the prosecution. Two thirds of them I know nothing about, and the Court, I presume, will decide that they are irrelevant. The issue here is, 'Who fired that shot; the Deity or me?'"

He appealed to prominent lawyers for help in conducting his case and to the American people for money, on the ground that his cause was as worthy as that of the widow whose husband he had murdered, and for whom there had been a liberal subscription. He angrily protested against the lawyer assigned him by the court, reviled the other counsel, his brother-in-law, and insulted the prosecution to the last degree.

I examined Guiteau in jail a week before the trial. I did not find any positive physical evidence of brain disease. The asymmetry of the head, shown in the photograph, the slightly exaggerated arching of the palate and protrusion of the upper incisor teeth were worth noticing. In connection with other symptoms, and especially with the strong hereditary predisposition to degenerative disease, they were of some slight value as corroborative evidence of insanity. His mental state seemed to me clearly one of weakness, due, possibly, to some very early, if not congenital, form of insanity, or to the dementia produced by disease, mild if chronic, organic if acute, possibly what some alienists would call the insane temperament or partial (moral) imbecility. There was no incoherence, but the want of connection in thought was very striking. The weakness of judgment, reason, and reflection was as striking as the quickness of perception and, in matters interesting him, readiness of memory. When in the least opposed his excitement was simply maniacal, but on indifferent subjects he conversed calmly and amiably. He insisted that he was not insane, and never had been so. His whole line of defense was to be, in his mind, that the doctors and not he killed the President, and that the political situation justified the assassination,—a point which he meant to establish by

the testimony of the leading politicians and newspaper editors of both parties; and yet beyond the mere suggestion he had no definite plan, and was diverted from one subject to another like a child or a general paralytic. He did not know that I was a physician; he seemed to pay very little attention to me at first, and went on talking with his counsel as if I were not there. He appeared to me to consider himself a great man, the friend and equal of the first, the maker of a President, the savior of his country, an evangelist who meant to save the world by a worthless book, a politician whose miserable little speech, which he delivered only once to a couple of dozen negroes, did much to elect Mr. Garfield, and insured him the right to one of the highest offices of the land, a low, syphilitic lover who was to marry a wealthy and cultivated lady (to him unknown) simply by the asking, a hero who was going to Europe to be *fêted* as was General Grant, and to live a long life, rich and happy. I certainly had never before seen such a grotesque contrast between lofty delusion and low reality except in cases of general paralysis of the insane.

My opinion, given after thinking over the interview for a few days, and which I said that I might modify after further knowledge of the case, was as follows:—

(1.) When Guiteau shot the President it was under the influence of a delusion consistent with previous manifestations of insanity.

(2.) His shooting the President was, to a certain extent, the logical result of bad training, character somewhat unscrupulous, enormous self-conceit, self-will, disappointment in not getting office, cowardice, extreme political partisanship, delusions or deceit regarding religion, desperation of poverty, expectation of personal gain, love of notoriety, and hope of praise from the "stalwarts."

(3.) There is a strong hereditary predisposition to insanity in his case.

(4.) He supposed that he should escape punishment.

(5.) Certainty of punishment would have restrained him from the act.

(6.) He could and did on several occasions exercise self-control regarding his delusions about shooting the President,—perhaps knowing that he should have other chances.

(7.) He knew that his act was wrong in general, but believed that the good to his political party and to the country counterbalanced the wrong, and made the deed heroic. How far he acted under the delusion that God directed his deed I am not sure, with my present evidence.

(8.) Crime and insanity are so mixed up in his case, that I should want more evidence before deciding what my views would be as to his punishment.

(9.) His punishment might deter others of his class from similar deeds, but his hanging under circumstances involving publicity as to details would probably incite insane persons of another type to murder.

(10.) My present impression is that he should not be hanged, provided he can be sent to an asylum for the criminal insane, a prison, or a jail for life.

One of the senators from Illinois testified that about the 12th or 15th of March Guiteau called on him in Washington. He said:—

"He was rather peculiarly clad for the season, there being snow on the street at the time; he had on his feet a pair of sandals or rubbers, or something of that kind; he had no stockings; he wore a light pair of pantaloons and a common, ordinary coat; a day or two afterward he came again to my room

uninvited; he still insisted on my signing his recommendation, reiterating the same statement as before, of his having a promise of the place if I would recommend him; I again declined. I had in the mean time, out of curiosity, read his speech; he was a little more excited at the second interview than at the first; the second was a very short interview, for I tried to dispose of the matter as quickly as possible. I thought there was some derangement of his mental organization, but to what extent I could not say; when I went down to breakfast that morning, I saw him at the table as a boarder; I called the landlady, and asked her if she knew that gentleman; she mentioned his name, and said he had told her that he was a constituent of mine. I said, 'I do not think that he is a proper person to have in your boarding-house,' she asked why; I said, 'I think he is a little off in his head,' or some language of that kind; she asked me what I meant, and I said I thought he was kind of crazy, and that she had better not have him in her boarding-house."

Guiteau's conduct in court, where I observed him for eleven days, was consistent with what I had seen in the jail; angry denunciation of his counsel for not adopting his theory of the defense, such boundless egotism and overweening conceit that he constantly even told untruths to make himself appear a man of brains, rapid changes from maniacal excitement to silly satisfaction, enormous self-will and determination without definite plan, a wavering, weak mind full of suggestions but without resource or ability to follow up his ideas, quick perception, acute memory, intense self-satisfaction, rudely brutality and lewdness, a rather exceptional degree of acuteness, and withal an evident wish and apparent expectation of being acquitted. The trial was manifestly the great pleasure of his life. When he had an opportunity to declaim to the court from his "Oration on Paul the Apostle" he was evidently lost to everything else in beaming satisfaction and joy. At last, he was the centre of observation and he reveled in it to the utmost, irrepressible, voluble, coarse, vulgar, and yet always speaking of himself as "high-toned," allowing that he had been thought "cranky" all his life, one moment grinning with pleasure, the next convulsed with passion, and constantly injuring his own cause by calling his best witnesses liars, his brother a defaulter, and his counsel a jackass. He certainly was, as he said, "dead in earnest." His cross-examination showed an amount of readiness in reply, quick wit, and "dead earnestness," that I certainly had never seen before. If he had been shamming, it does not seem to me possible that he could have avoided tripping up not only once but often.

He assumed various theories of his own insanity at the time of the murder (Divine pressure, inspiration, Abrahamian insanity, transitory mania), and cited cases of persons who had escaped punishment on that defense, — a subject with which his law studies had made him more or less familiar. He insulted the negroes one day and apologized the next, there being one negro on the jury; and he constantly appeared to be trying various pettifoggery devices to help his cause. He persistently denied facts to his disadvantage in his earlier shameful life, wandered off into advice to the Government to suppress Mormonism, or to President Arthur to discharge this officer and that, and was once so excited as to strike one of the officers of the court for simply hurrying him to his van.

When he heard that the jury had convicted him, he took the matter most calmly at first and then screamed out, "Vengeance is mine," saith the Lord, "I will repay! Beware, ye Americans, how you treat me, lest his wrath be kindled and you go down in blood and desolation." Having read of a severe railroad accident, he said that he would rather be hanged than die

such a suffering death as that. When told that some one had offered \$1000 for his body to dissect, he coolly said, "Perhaps some one will give \$2000." While awaiting his sentence Guiteau was thoroughly unmoved, and corrected in a paper the error in statement that he was selling his autographs for \$9 per hundred instead of per dozen. After Judge Cox had pronounced sentence of death he broke out, "May God have mercy on *your* soul! you need it more than I do. I am God's man. The act I did was commanded by him; and He will take care of it and of me. Nothing good has come of it. God Almighty will curse you all, from the judge down to the humblest juror. I am going to glory, but you will go below. The devil is waiting for you; and for that miserable scoundrel (the prosecuting attorney) he is preparing a permanent job below. I may not have to go for some time. I may be President yet. But, if I am hanged the nation will roll in blood." He then became calm. At the jail he insisted that he was to have a new trial and perhaps still become President. He was vaccinated at his own request to escape infection through letters sent to him.

In attempting to describe Guiteau's mental state at the time of the assassination, one is at once met with many difficulties. He had led such a vagabond life that his few friends knew little about him and the community at large was so clamorous for him to be hanged that it was impossible to get anything like full evidence. He was tried, too, four months and a half after the murder. The prisoner, although "dead in earnest" in his delusions, was still a special pleader for his own neck's safety, and was either extremely forgetful in some matters or what seems to me more probable, exceedingly untruthful. It was therefore quite impossible to get at the whole truth, or to satisfactorily sift the contradictory testimony that was offered.

With regard to his "inspiration," it evidently was an afterthought to his conception of the murder, and, as on former occasions of his life, it was the expression of the deep conviction of a weak-brained man that the Deity approved his plans. His "pressure" to kill the President, too, was perhaps not unlike the "constant pressure to write" for which he wrote his father, November 11, 1867, that he had the preposterous notion of joining the editorial staff of the *New York Independent*. His idea of special Divine protection, that the Lord interposed to save his life, when he jumped off a railroad train to avoid arrest for non-payment of fare, when there was a collision of steamers with him on one, when he shot the President in a crowd, when he was fired at on the way from the court-house to the jail and also in the jail, is, whether genuine or not, perhaps not inconsistent with bodily fear, and, like his inspiration and Divine pressure, was intensified by reason of his mental condition. He seemed to me to honestly consider himself "a servant of the Lord." He said in his lecture entitled "*Some Reasons why many Persons are going down to Perdition, including a Reply to Attacks on the Bible*," that he "knew Moody ten years ago when he was the laughing stock of Chicago. His zeal was so great for the Master that he used to go up to strangers and say 'Do you love the Lord?' 'Are you for Jesus?'" Guiteau used similar phrases in a similar way. How far that and his vagabond evangelist work were imitations of Moody, with hopes of his success, I cannot say.

The question exists in my mind whether there have

not been in Guiteau's life several attacks similar to subacute mania, each in turn leaving him more demented: *first*, when he excited the fears of his friends, at the age of eighteen, by giving up his studies, and becoming absorbed in a deep religious excitement; *second*, when he attempted the theocratic press; *third*, in the Greeley campaign; *fourth*, when engaged in his suit with the *New York Herald*; *fifth*, during the *Inter-ocean* project; *sixth*, when he raised an axe against his sister; *seventh*, at the time of his wanderings as an evangelist; *eighth*, when he expected the Austrian mission or the Paris consulship, and ending with the assassination or soon after. It was coincident with these periods of excitement—for they certainly differed from the quiet state in which he often was for months at a time—that he persecuted women with absurd plans of marriage.

The evidence, although not entirely satisfactory, seems to me to point to such attacks of mild mania resulting in considerable dementia, or to periods of maniacal excitement so common in the congenital or degenerative types of insanity or partial imbecility. In the latter case maniacal outbursts are apt to be mistaken for wickedness, because they are often, if not generally, associated with a directness of cause and effect similar to that observed in people who are simply bad.

If Guiteau has chronic subacute mania of a recurrent or paroxysmal type, it seems to me that his mental condition at the time of the trial indicated responsibility. At the time of the murder he had the extraordinary delusion that the political opponents of General Garfield, and finally the country, would approve his act, and make him a hero. How far he was incoherent, if at all, in ideas at that time, and to what extent he was suffering from maniacal excitement, are facts which, unfortunately, have not been observed by competent persons, and will never be known. It may be said that nearly every great crime is committed under the influence of some delusion, as in the case of Orsini, for instance, who tried to kill Louis Napoleon because he thought that his subtle influence was prejudicing the English nation against Italy. That is to a certain extent true, and each man has his own view of the difference between an insane delusion and a false belief consistent with sanity. It is simply a matter of degree.

If Guiteau's type of insanity is congenital or developed by the blow on his head, or at puberty, or through masturbation, there is certainly enough in his family history to make such a result quite possible. This form of insanity, although comparatively rare and often confounded with depravity, is recognized by the leading authorities on mental disease as primary and secondary moral insanity, affective insanity, impulsive insanity, *folie raisonnante*, *moralisches Irresein*, *impulsives Irresein*, *primäre Verrücktheit*, *psychische Entartung*, *originäre Verschrobenheit*, *moralische Verknümmung*. The legal responsibility in all these cases is a very obscure matter. The medical expert has simply to state the condition of moral perversion and mental unsteadiness, and the imperative nature of the conceptions of such minds, together with such a degree of intellectual capacity that it would not strike the ordinary observer as being defective or diseased, and society must deal with them as it chooses.

The best qualified of Guiteau's acquaintances to give an opinion states that his manner has entirely changed

since last Spring, that he has become more irritable, more emotional, much more exalted, and a very much more rapid talker; that he seems in expression and in act an entirely different man. He sees a new expression in the eyes, but is not sure whether the prominence of the right eyeball and slight deviation of the axis of one eye are natural or not. It was testified that before the murder his condition was one of great exaltation. There might be some ataxia or only the unsteadiness of legs arising from confinement. Upon striking the patellar tendon, the foot of each leg jerks quickly, describing an arc of about twelve inches. The tongue is flabby, and local fibrillar twitches are observed, first in one part of it, then in another. In rapid speech the articulation seems without conspicuous fault, which is certainly not the case when words are spoken slowly. The handwriting had not apparently become unsteady. These symptoms, associated with such expansive ideas and mental instability, are suggestive of an early stage of general paralysis of the insane, but do not prove it to my mind. I am by no means sure that it is not like the case reported by Christian a year ago, in the *Annales Médico-Psychologiques*, of an imbecile who had an attack of maniacal excitement at the age of thirty-one and general paralysis at about fifty, or one of those where, as Morel says, the incubation period of general paralysis of the insane is the whole previous lifetime. Guiteau ate enormously, slept well, and was badly nourished.

I have tried to select from the immense mass of evidence facts which state the whole case as impartially as possible. Dr. Godding, the medical superintendent of the Government Hospital at Washington, says:—

"In a case of as grave importance as this I would not express an opinion until I was in full relation with all the facts in the case. A man's impression is very different from his opinion. An expert's opinion should only be declared after a careful consideration of all the facts produced in evidence and a careful study of the prisoner." . . . "There is a very grave difference between medical insanity and legal irresponsibility, and on that difference this case hinges." . . . "I am sorry to see the experts classed on one side or the other. I hope the golden age is not far distant when the medical expert—all experts in fact—will simply appear as friends of the court."

Guiteau has been observed chiefly while on trial for his life and at a decided disadvantage. Even if he were shamming, as I think he was to a certain extent, that fact is as characteristic of the insane as of the sane. His whole conduct illustrates the annoyances which medical officers and attendants in insane asylums are daily compelled to bear. He seems to me to belong to that class of insane criminals who do least harm to society, after their crime, by being secluded for life in a criminal lunatic asylum, without trial, if that is practicable in our country. As the case stands, he has impressed the criminal classes and the country at large as being an unscrupulous, dangerous villain, with a badly arranged mind, feigning insanity to save his neck. The verdict of the jury has met with almost universal approval, and many of the insane in asylums, who feel that their own safety depends upon the maintenance of a high standard of responsibility there, agree with the jury. Others think otherwise: the Pöcasset murderer, for instance, says that the protection of society would be just as much influenced by one's walking out and stepping on an ant as by hanging Guiteau.

# A CASE OF LISTERIAN OVARIOTOMY IN WHICH THE BLADDER WAS FREELY LAID OPEN; UNINTERRUPTED RECOVERY.<sup>1</sup>

BY JOHN HOWANS, M. D.

IN the London *Lancet* for September 17, 1881, Dr. Bantock reports a case of ovariectomy in which the bladder was opened. In the New York *Medical Record* for October 15, 1881, is an abstract of a paper read by Dr. T. G. Thomas before the American Gynecological Society, entitled *Expansion of the Bladder over the Surface of Abdominal Tumors and its Attachment to Them or to the Abdominal Walls as a Complication of Laparotomy*. In the *Medical Times and Gazette* for November 28, 1868, Dr. Richard Neale, of London, reports an exploratory incision in a case of ovarian tumor and a singular position of the bladder, and Dr. G. Eustache, of Lille, reports in the *Journal des Sciences Médicales de Lille*,<sup>2</sup> a wound of the bladder in ovariectomy. In addition to these cases Dr. Thomas mentions six others.<sup>3</sup> The favorable result in the case I am about to report may be of service in encouraging the general surgeon to resort to an early abdominal section in intra-peritoneal traumatic injuries to the bladder likely to be followed by effusion of urine and peritonitis.

The patient upon whom I operated October 5, 1881, was a widow forty-five years old; she had never been pregnant, had never been attacked with peritonitis, and there seemed to be no adhesions. I made an incision about three inches long between the umbilicus and pubes and, after dividing the linea alba, came to a thick, muscular layer such as I never had seen during an ovariectomy. It was a pale red muscular tissue apparently more than a quarter of an inch thick. Without a thought that it might be the muscular wall of the bladder, but in order to get above it whatever it was, I cut up higher towards the umbilicus and struck the same tissue behind the rectus muscle but outside the peritonæum; I then extended my incision to the umbilicus and made a short transverse incision across this muscular mass, passed a director beneath it, and divided it longitudinally. I then found I had opened the peritonæum at the upper angle of the wound and had exposed the cyst. On looking at the incision which I had made on the director, I found that the bladder had been wounded, a piece about the size of my thumb-nail had been cut off from the elongated fundus, and the viscous had been split through both its anterior and posterior walls for an extent of about two inches. I extracted the cyst, which was a non-adherent dermoid, weighing twenty-two pounds. I then examined the opened bladder. It contained no urine, there was a clean cut through both its walls and a detached piece adherent to the peritonæum. I regarded the case as one of anatomical peculiarity in which the bladder was of unusual size and shape, not contracting under the pubes when empty, but remaining elongated, or else that this was a persistence of the urachus to a much greater extent than is usually found. I had to deal then with an intra and extra peritoneal wound of the bladder. It seemed to me that if a hole in the floor of the bladder communicating with the vagina could be easily closed by the ordinary operation for vesico-vaginal fistula, this clean

<sup>1</sup> Read before the Suffolk District Medical Society, Jan. 7, 1882.

<sup>2</sup> British Medical Journal, November 1, 1879.

<sup>3</sup> For a perusal of Dr. Thomas's paper I am indebted to Dr. J. R. Chadwick, the Secretary of the American Gynecological Society.

antiseptic wound in the *roof* of the bladder, if carefully sewed up, should be much more certain to unite and do well. There was every facility for operating at ease, just as if you were seated at a table sewing up a bag. I hesitated whether to try to stitch on the detached piece, but as it was firmly adherent to the peritoneum and had retracted upwards I thought that it would be impossible to stitch it on neatly, and that its union might jeopardize the successful closure of the wound in the bladder; at the same time if I left it I feared it might retard or prevent the union of the abdominal wound because of its mucous surface which might not become united to any adjacent tissue. The perforation of the bladder had been from above downwards and if I should pass my stitches from side to side there would remain an angle at the fundus (where the piece had been cut out) to be brought together, and the lower line of union would be dependent, consequently I passed a continuous suture of carbolized silk, moderately fine, from the right side of the bladder to the left, including only the muscular coat, and tucked in the mucous coat whenever it protruded. The result was a crescent shape to the upper extremity of the bladder with a horn on each side. I tied the two ends of the suture together and then passed a stitch through the lower angle of the peritoneum beneath the bladder, so that if the urine ran out it could not enter the peritoneal cavity. I then closed the abdominal wound as usual and put a small drainage tube in the lower angle. Before placing the patient in bed I passed a catheter and got bloody urine. A Sims' self-retaining catheter was placed in the bladder. For a few days the urine contained a few small clots of dark blood. A little warm carbolized water was injected into the bladder twice a day for three days. The catheter was removed from the bladder on the tenth day and the stitches and drainage tube were taken out of the abdominal wound at the same time. The incision was thoroughly united by the first intention and no urine had been discharged through the drainage tube. The temperature never rose above 99° F., and there never was the least shock. At the end of three weeks she went home. Dr. Bantock, in reporting his case, states that "there was great difficulty in getting through the parietes owing to the excessive vascularity and thickness of the tissues, every cut of the knife appearing to open a fresh vessel, especially at the lower angle of the wound." . . . I therefore went on with the upper half and then succeeded in getting through the peritoneum." Later on he says, "There was still some bleeding going on and in my search for the vessels I observed a peculiar rounded opening with a smooth interior. This I found to be an opening into the bladder capable of admitting my finger, with which I satisfied myself that it was really the bladder. I had already noticed a clear fluid at the lower angle of the wound which I took to be water that had dropped from my hands and collected from the spray, but was then convinced was urine."

"The opening into the bladder was now closed by a continuous suture of silk-worm gut, which did not include the mucous membrane." The patient left the hospital at the end of five weeks for a convalescent home entirely well. Dr. J. R. Chadwick, the accomplished secretary of the American Gynecological Society, has furnished me with a printed copy of the proceedings of the Society containing Dr. Thomas's paper

mentioned above. After alluding to the fact that notwithstanding the amount of careful study and prolonged investigation for the perfection of ovariectomy there were even yet special points which made their appearance, and which thus far had almost entirely escaped attention, Dr. Thomas describes at length the special complication indicated by the title of his paper and goes on to say that a "search into the history of the subject furnishes us with seven cases of this character in all of which a fatal issue has been the consequence of the adhesion, either from direct injury done to the bladder, the surgeon not recognizing the nature of the complication, or from failure to remove the tumor on account of its existence." I should like to do justice to Dr. Thomas's able and instructive paper by quoting it at length, but space will not allow me to do so. Any one, however, can read an abridgment of it in the *Medical Record* for October 15, 1881, and the complete paper in the Transactions of the American Gynecological Society soon to be published.

Finding a peculiar appearance of the tumor in the line of incision, and becoming convinced that he had to deal with a case of extensive vesical adhesion, and being unable to determine the points at which the bladder was attached to the tumor, he made an incision through its anterior wall, passed in his finger and determined the outline of the bladder. The bladder was then separated from the tumor and the latter removed. He concluded the operation after having sewed up the upper half of the incision by passing a "needle through the abdominal wall, then through one vesical wall, then through the other, and lastly through the opposite abdominal wall, and so continued to do until the whole opening in the bladder was traversed by sutures." A Sims' catheter was kept in the bladder, and at the end of three months the patient went home perfectly well.

In the discussion which followed, Dr. Kimball stated that in two cases of fibro-cystic tumor of the uterine, in which he had tied the pedicle without implicating the bladder, urine had escaped from the abdominal wound in both cases and a fatal result had followed. In another case described to him by another surgeon two holes in the bladder had been closed with silver sutures and recovery had taken place.

Dr. Noeggerath had had a fatal case in an uncompleted operation, but his remarks would lead the reader to infer that it was the severity of the disease and the impossibility of completing the operation that caused the fatal result and not the subsequent effect of injury to the bladder. Dr. Engelmann had had two cases of abdominal section in which the bladder had been spread out over the tumor.

Dr. Goodell reported another case in which the wound of the bladder was closed with catgut ligatures. The case was fatal. In Dr. Neale's case (1867) the report is as follows: "On dissecting down, layer by layer to the tumor, a very puzzling state of things presented itself. After opening the peritoneum it appeared as though there was still another layer of altered serous membrane covering the tumor; the finger introduced met with universal adhesions. After ineffectually trying to separate the adhesions the wound was closed. The next day no urine came through the catheter, but flowed out through the lower angle of the wound. On the twenty-seventh day all the urine had passed through the abdominal wound, this was reopened for several inches and the thick everted edges of the



wounded bladder were pared and brought together with fine wire sutures, and then the external incision was closed with stronger sutures." The patient entirely recovered from the operation and died suddenly six months later. At the autopsy the bladder was found to be converted into a tube eight inches in length by one to one and a half inches in diameter. After briefly describing the tumor Dr. Neale says "The interest in the case chiefly lies in: (1.) The unusual position of the bladder. (2.) The perfect recovery of that organ after the extensive wound. (3.) The great benefit of the exploration upon the general health and growth of the tumor for a time. (4.) The great advantage of carbolic acid dressings. (5.) The fact that, on account of the universal adhesions, no urine was effused into the peritoneal cavity. In Dr. Eustache's case the bladder was wounded and was sewn up with three catgut sutures including the mucous membrane. On the second day urine was passed freely and without pain per urethram. Perfect recovery followed. Here are nine cases in which the bladder had been wounded during abdominal section, with five recoveries and four deaths. In four of these cases the bladder wound was sewn up and replaced in the abdomen. The sewing material in two of these cases was silk, in one silver wire, and in one catgut. In one case the stitches passed through the abdominal parietes and the walls of the bladder. It should be noted that in all the fatal cases<sup>1</sup> reported by Dr. Thomas all the patients died within thirty hours of the operation, except the case related by Dr. Neale, which seems in my opinion to have recovered, i. e., it is the severity of the operation and the other complications that bring about a fatal result and not the wounding of the bladder. Indeed, the latter seems to heal readily as a rule if cleanly cut and neatly sewed up. The question of the best treatment for a bladder wounded during ovariectomy cannot be set down as invariable. Each case will probably have peculiarities necessitating appropriate methods. But the main facts to be learned are: first, that the ovariectomist must be on the lookout for the bladder in making his incision, and, second, he may feel encouraged that nature will heal the wound if it is carefully sewn up. Of course, as the bladder is a distensible organ, and is necessarily so, a method of union which will leave it in its normal distensible condition is better than one in which the viscous is tied to undistensible structures, but sometimes, as in Dr. Thomas's case, it is unsafe to trust to primary union of an unsupported bladder, and he very wisely avoided the risk of urinary infiltration by uniting the wound as he did.<sup>2</sup>

### A CASE OF OSTEOTOMY.<sup>3</sup>

BY A. T. CABOT, M. D.

A SPECIMEN from a recent osteotomy of the femur must ever be a rarity; for recovery from this operation is the rule almost without exception, and intercurrent

<sup>1</sup> Vide Transactions of the American Gynecological Society for 1881.

<sup>2</sup> The best article on the treatment of intra-peritoneal wounds of the bladder that I have seen is one by Dr. E. Vincent, Surgeon of the Charity Hospital of Lyons. It is entitled "Plaies pénétrantes intrapéritonéales de la Vessie," and is published in the consecutive numbers of the *Revue de Chirurgie* for June and July, 1881. Dr. Vincent quotes freely from the excellent article by Dr. Bartels, Die Trauman der Harnblase, von Dr. Max Bartels, in Berlin. Arch. für klin. Chirurgie von Laugenbeck. Bd. XII, pages 513, 715, 1878.

<sup>3</sup> Read before the Surgical Section of the Suffolk District Medical Society, January 7, 1882.

maladies seldom supply the chance to study the results of one of these operations till after the displaced parts are so changed by absorption and by the deposition of new tissue that conclusions as to the exact nature of the original injury are impossible. I have, therefore, thought it worth while to publish a wood-cut of such a specimen, which, being cut from a photograph upon the block, reproduces the appearances very exactly.

The history of the case is as follows:—

Mary T., a colored child six years of age, was sent to me by her parents in consequence of extreme rachitic deformity of the legs. The father was healthy; the mother had suffered from hip disease in her youth, and had recovered with ankylosis and apparently considerable shortening. The older brother of my patient was a well-formed boy of nine or ten. A younger brother, three years of age, however, had had an extreme degree of curvature of the tibia, which had been corrected by osteodolasis. This was done at so early an age because a marked compensatory deformity of the ankles was developing.

Mary's condition when I examined her was the following: Both femora were considerably bowed outwards and forwards. The left knee was in a marked condition of genu valgum, and the right knee showed a slight degree of the same deformity. Both tibiae were bent sharply forward at the junction of the middle and lower thirds.

The child entered the Children's Hospital in July, 1881, and the lower limbs were straightened by osteodolasis, as will be reported at some future time in a series of these operations. During her stay in the hospital she had whooping-cough mildly. When the legs were strong again the child, though in excellent health apparently, was sent into the country for a few weeks, to avoid a too long continuous stay in the hospital.

In October she reëntered with us, and on October 13th was operated upon for the correction of the deformity of the left knee. I employed Macewen's method in this operation.

The knife was entered on the inner aspect of the knee, about one inch above the articulation. It was thrust immediately down to the bone, and an incision one inch in length was made upwards in the axis of the femur through the whole thickness of the soft parts. Before withdrawing the scalpel a chisel 1.5 cm. in diameter was introduced along it, turned at right angles across the axis of the bone, and the shaft of the femur was divided through about three fourths of its diameter. As the bone at the point operated upon was somewhat broader than the chisel, this had to be withdrawn once or twice and reintroduced before the whole width of the bone was severed. Care was taken, however, never to drive the chisel across the whole transverse diameter of the bone, in order to avoid injury of the periosteum on the outside.

The femur being now three quarters divided, the leg was seized and straightened, which was accomplished with but little exercise of force.

There was almost no bleeding from the wound, which was done up carefully with carbolic gauze, the whole operation having been conducted under spray, and with all antiseptic precautions.

Lastly, the leg was bandaged from the toes to the upper part of the thigh with a plaster bandage, and carefully held in good position till this had set and was firm.

No constitutional disturbance followed this operation. The temperature never rose to 100° F., and after the second day continued perfectly normal. The dressing did not soak through, and was consequently left in place.

November 7th. Three and a half weeks after the operation the plaster bandage and Lister dressing were removed. The wound had wholly healed, and the bone was apparently firmly united, with no perceptible callus. The child was still kept in bed, however, in the fear that the leg was not yet strong enough to bear her weight.

November 13th. She became feverish, and soon developed marked typhoid symptoms,—headache, epistaxis, diarrhoea, tympanites, with a characteristic temperature curve. In spite of every care her strength steadily failed, and she died November 22d, five and a half weeks after the osteotomy. Figure 1 is taken

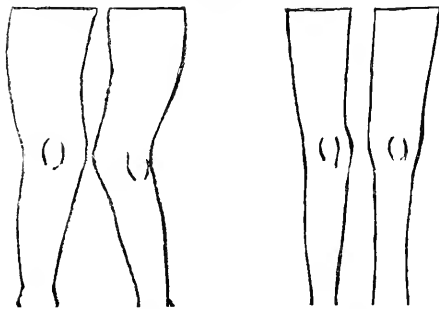


FIG. 1.

FIG. 2.

from a drawing made in May, Figure 2 from one after death.

A complete autopsy was not allowed, but I was permitted to examine the left leg, and obtained the specimen from which the wood-cut is taken.

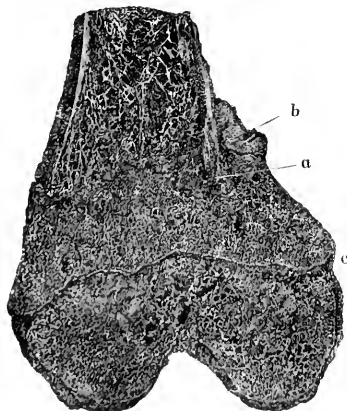


FIG. 3.

In this figure (Figure 3) the inner side of the bone upon which the chisel was entered is to the left. At *c* we have the line of the epiphysis. Three fourths of an inch above this is the line of division. A glance at

this shows that while on the outer side of the bone the line of the shaft is pretty well preserved, on the inner side a considerable displacement has occurred. The compact wall of the shaft has been driven down into the cancellated tissue to the point *a*. The tissue in the middle of the shaft, on the other hand, was less resistant than the more densely cancellated tissue below, so that here the centre of the lower fragment is impacted into the upper. A very firm locking of the fragments is the consequence, and this no doubt greatly facilitated the rapid recovery. That there has been but slight reaction in the parts about is shown by the absence of callus. The only true callus formation is seen at *b*, where a little new bone has been thrown out over the free end of the lower fragment; besides this there is only a very thin layer of new bone under the periosteum on the outer side.

The course of this case and the post-mortem appearances furnish strong evidence in favor of this method of operating, which leaves the outer side of the bone intact. If the bone were chiseled from the outer side, when it was straightened, a wedge-shaped gap would be left between the fragments, which would have to be filled with new bone before the healing would be complete. This would, of course, require more time than a method by which the fragments were closely applied to each other and really locked together. This point has been very clearly argued by Macewen in his excellent monograph on the subject.

Another advantage in this method is the immediate stoppage of the hemorrhage. Most of the bleeding comes from the cut surfaces of the bone. This is stopped when these surfaces are forced together, but allowed to take place when they are held apart. The limited amount of hemorrhage in this case allowed the wound to entirely heal under the first dressing, thus avoiding the necessity of entering a window in the plaster or disturbing the wounded parts by a change of dressings.

## REPORT ON PROGRESS IN THE TREATMENT OF THORACIC DISEASES.

BY F. L. KNIGHT, M. D.

### DIGITALIS IN DISEASES OF THE CHEST.

Dr. H. C. Wood made some very valuable and timely remarks on the use of this drug at a meeting of the Philadelphia County Medical Society.<sup>1</sup> In opening the discussion he referred to the current views in regard to the action of digitalis upon the nervous apparatus of the heart, and claimed for it a peculiar effect upon the heart-muscle.

This influence, which had been fully demonstrated by physiological experiment, and sustained by chemical observation, renders digitalis particularly serviceable in the condition of heart disease in which the increased work required of the heart is greater than the increase of the power, without regard to the particular valve which may be affected. It improves the nutrition of the heart by regulating its contractions and lengthening the diastolic interval, doing away with the rapid, imperfect contractions which interfere with the blood supply of the cardiac muscle. In such cases the nutrition of the heart suffers because it is necessary to have lateral distension of the aorta in order to fill the arteries in the muscular tissue. A little digitalis studies

<sup>1</sup> Philadelphia Medical Times, vol. xi., No. 355.

the heart and therefore improves its condition and retards degeneration.

In chronic valve trouble of the heart digitalis is serviceable, and sometimes must be given in large doses. A half-drachm dose of the tincture apparently saved from impending death two cases of advanced heart trouble coming under the speaker's observation; they afterwards got well enough to attend to their business. It enables the heart to gather up its strength, and keeps it going until the last. By the surgeon digitalis is often used improperly. Thus it is not rarely given in aneurism, where the great danger is from increased lateral pressure. In one case coming under his observation digitalis caused the rupture of an internal aneurism at the hospital. The patient had been brought in without any diagnosis, and no one had suspected aneurism.

In acute diseases with failing heart digitalis might be employed; such a condition may occur in asthenic or in the advanced stages of sthenic pneumonia. In the early stage of sthenic pneumonia it is improper to give it. Such a medicine as *veratrum viride*, which produces vaso-motor paralysis, is indicated, "so as to bleed a man into his own tumors." Blood is drawn to the lungs because there is a local vaso-motor palsy; produce a general vaso-motor palsy, and the local attraction ceases. When the lung is consolidated throughout a large extent the heart is overworked; by and by it begins to fail, the pulse gets rapid and feeble; now digitalis comes into play. It will save life in such a condition, when the patient without it must die. Take the case of a drinking man seen a few days since, suffering with pneumonia, pulse 150 to 160, respirations 60 to the minute, delirium persisting for two or three weeks, expectoration of pure blood, etc. This man was given ten minims of tincture of digitalis every two hours, day and night, until the pulse fell to 60, — when the digitalis was stopped, and resumed as the pulse went up. By the aid of milk and whiskey the patient was saved.

Two points in conclusion: (1) in regard to the cumulative action, (2) in regard to the slow cause of the action of digitalis. The remedy acts slowly in producing its effects, and its effects are very permanent when they do appear. Some agents act more quickly than others; digitalis acts slowly and cumulatively, not only because of its special influence upon the heart, but because it only comes very slowly in contact with the heart structure, since it osmotes slowly into and out of the body. Where it fails to act upon the kidneys it is more apt to act cumulatively upon the heart. The practical point is this: watch the kidneys when giving large doses of digitalis; if water is not passed freely then cumulative action will be apt to occur. In a case of chronic pleurisy Dr. Wood tried to run off the water by the kidneys; the pulse ran down steadily from 70 to 40 in four days after the medicine had been withdrawn; it was a long time before the effect of the digitalis was manifested, and it was long before it ceased to act. In the pneumonia case, after the pulse began to drop, it was eighteen or twenty hours before it again reached the normal. The longer the digitalis is in acting the more likely it is to have a lasting effect. After abdominal tapping, the digitalis often shows itself in reducing the heart's action. Either the digitalis has been lying in the intestines unabsorbed or in the cellular tissue; probably all the fluids are saturated by the drug.

Digitalis is a very useful remedy in cases of syncope and collapse. Formerly alcohol alone was used. One of the advances of modern therapeutics was to teach the danger of giving large doses of alcohol in cases of surgical shock. *Belladonna* and digitalis are proper remedies given by the hypodermic injection. The pulse begins to fill up in twenty minutes or half an hour. No irritation is produced at the point of puncture. Throw in twenty minims of the tincture at once, and expect to find the result in half an hour.

He did not wish his remarks to be understood as declaring that digitalis was entirely without danger, but he had used it in hundreds of cases, and had seen men apparently dying revive under its effects. It is important to stop it as soon as evidence appears in the pulse that it is beginning to be absorbed. Used in this way, he did not believe that there would be any serious cases of poisoning with it.

Dr. Wood, in closing the discussion, said that he would refer to but two or three practical points that had been touched upon. First, in regard to the choice of preparations: the general preference seems to be for infusion. He believed that the only reason that the infusion was preferred as being more efficient is because it is usually given in relatively larger doses than the tincture. He would mention, in passing, that the infusion as well as the tincture obtained from an unknown druggist is not rarely an unreliable preparation. He had seen very few cases where the stomach disturbance was considerable, and believed gastric disturbance was less apt to occur when the tincture was given than with the infusion. With regard to digitalis, he had not made much use of it; it is not the alkaloid, but merely a purified extract, and comprises at least two principles, the one soluble in water, the other insoluble. It is uncertain in its composition and in its results. As the dose of digitalis is so small, it is not necessary to resort to this substance, with which you might get results or you might not.

He wished to be distinctly understood as discountenancing the use of large doses of digitalis until the small ones have failed; he would never use powerful remedies when milder ones will do. With regard to Dr. Seaman's case, the heart had apparently been starved, and the use of digitalis had flushed it with fresh blood, and gave it a new stock of nutrition. In such a case he would advise continuing the remedy, giving small doses from time to time, in order to continue the effect. The action of digitalis upon the frog's heart is that it is rarely arrested in diastole, more frequently in systole. As regards the question of its effect upon the pneumogastric nerve, in some cases the effect is to destroy life in this manner. In such cases we can restore the action of the heart by cutting the pneumogastric nerve. As a rule, however, the effect is greater upon the heart than upon the nerve, and the animal dies of cardiac spasm. It has the same effect upon the pulse of mammals; its full effect produces a weak pulse, sometimes dirotic; this he had seen beautifully illustrated in man. It means that there are two antagonistic effects upon the heart, upon the heart muscle and upon the brake action; this is undoubtedly the explanation of the dirotic pulse and of the double wave written upon the manometer. Later the arterial pressure is found to be falling; looking at the heart, the dilatation becomes less, the diastole becomes imperfect; only a small amount of blood now enters its cavities, on account of the cramp of the mus-

cular tissue, just as in the tetanic spasm or the muscles of strychnia poisoning; then comes cramp of the muscles of respiration and death. The pulse becomes frequent in digitalis poisoning, because the heart is so constricted that the blood is dammed back, and cannot get into the aorta.

#### INCISION OF THE PERICARDIUM.

Rosenstein<sup>1</sup> reports the following case, which was briefly alluded to in the *JOURNAL* of November 10, 1881. The patient was a boy ten years old. He had enjoyed good health till fourteen days before admission, since which he had suffered from gastric symptoms, cough, feverishness, and had taken to his bed. On admission his cheeks were white; lips and tongue pale red; skin moist; temperature 99.6° F.; pulse 108, small, very soft, regular; respiration 40, costal-abdominal; the left side of the chest in the mammary region bulged outwards; the apex beat could be neither seen nor felt, and the heart sounds were inaudible everywhere; percussion defined an area of dullness, roughly triangular, with the base downwards, commencing in the second left intercostal space, and extending on the left to the axillary line, on the right as far as the nipple; change from the recumbent to the sitting posture did not alter the shape or the size of the dull area; the lungs were normal; the liver was pushed outwards; the spleen was not enlarged; the bowels were regular; the urine was not albuminous. An exploratory puncture with Pravaz's syringe drew off a small quantity of pure pus, and on the evening of the same day urgent dyspnoea suggested the propriety of paracentesis, which was performed in the fourth interspace, close to the sternum, and more than twenty ounces of pure pus drawn off. The operation was followed by great relief, but of short duration. Fever of an intermittent type appeared, the evening temperature being 102.9° F., the pulse grew more frequent, and the urine became greatly diminished. This was due to serous effusion in the left pleural cavity, and as in a few days the dullness reached the supra-spino-fossa, the fluid (more than a quart) was removed by aspiration. A second puncture of the pericardium succeeded in removing only four ounces of pus. Percussion showed that the dull area varied with the posture; on sitting up it was two centimetres higher than on lying down. The heart sounds were feebly audible, and accompanied by slight friction. The general state of the patient was unsatisfactory. He slept badly, although the fever was slight (temperature 99.3° to 100.4° F.); his appetite was bad; the pulse was 120, small, irregular, unequal, and paradoxical; the respirations were 44, with orthopnoea; the lips and cheeks were cyanosed; the veins of the neck were swollen; there was some oedema of the scrotum and feet; the urine was scanty, but free from albumen. After consultation an incision was made in the fourth interspace, near the sternum, a little more than an inch in length, under strict antiseptic precautions, dissecting down layer by layer until the pericardium was exposed; this was punctured with the point of the knife, and the opening enlarged with a probe-pointed bistoury. A great quantity of pus escaped. Two drainage tubes were put in the wound, and Lister's dressing applied. The effect on the subjective condition of the patient was considerable, but the pulse remained very low, and the urine

scanty. On the day after operation the temperature was 100.4° F.; the dressings were changed on second, fourth, and seventh days. The pulse had now become regular, of fair volume, and the oedema had disappeared; the heart sounds were now distinctly heard, accompanied by friction. On the twentieth day after the operation the pericardial wound was healed. The left pleural cavity again became the seat of effusion, which was not purulent; afterwards a quart was removed without much improvement, and the fever having recurred, an incision was made, and fifty ounces evacuated, after which the patient remained free from fever, and was discharged two and a half months after the pericardial incision.

Professor Rosenstein draws the following conclusions from this case: (1.) Purulent pericarditis, like empyema, may occur without rise of temperature or oedema of the surface, so that only puncture can decide the diagnosis. (2.) The fear of some obscure changes in the myocardium should not deter us from evacuating such exudations. (3.) In accumulation of large quantities of fluid in the pericardium, change of posture may have no influence on the shape of the dullness.

#### TREATMENT OF INTRA-THORACIC SUPPURATING HYDATID BY INCISION AND EXTRACTION OF THE CYST.

Dr. L. D. Bird, of Victoria, communicated two cases to the Medical Society of Victoria<sup>2</sup> of intra-thoracic hydatid cysts which had advanced to the stage of death and decomposition, and were got rid of by incision between the ribs. Dr. Bird pointed out that this was a more complete and radical cure than tapping, or injections, or electricity, as we could never be quite sure, with the latter processes, that the vitality of the cyst had been completely destroyed, and its refilling, therefore, rendered impossible. But extraction was a far more serious and difficult operation, and only justifiable under certain conditions. The first of these was that the hydatid should be in the pleural sac, for then the cyst always enlarged with great rapidity, and even when emptied of its contents, or dealt with in any way short of removal, remained a permanent source of irritation to the serous surface, giving rise to pleuritic pains, with fever and even inflammatory effusion. The question, of course, had to be faced of the possibility of diagnosis between a pleural hydatid and one in the lower lobe of the lung, or on the convex surface of the liver, especially in the right side. Usually in pleural hydatid the rounded area of dullness is altered somewhat by change of position, which would not happen were the cyst imbedded in lung substances.

Other conditions were the existence of large, old suppurating cysts of the lung, which had found their way into a bronchus, and led to the expectoration of fragments of cyst and fetid pus, with much difficulty and distress to the patient. Such cases usually occurred in the lower lobe. Adhesions were almost constantly found, and operation was comparatively safe and easy. He had seen more than a dozen such cases which had resulted in complete success. The following cases, one of pleural and the other of pulmonary hydatid, treated in this way, had not hitherto been published:—

A married lady, aged twenty-six, suffered from a

<sup>1</sup> Berl. Klin. Woch., 1881, No. 5. London Medical Record, No. 79, N. S.

<sup>2</sup> The London Medical Record, No. 74, N. S.

condition variously diagnosed as pleuritic effusion, liver enlargement, and abscess. The right side measured an inch and a half more than the left; there was no history of acute pleuritis; pains, however, of a stitichy, pleuritic character were felt all over the side. A rounded area of dullness, characteristic of hydatid, was found in the lower part of the right chest. Breath sounds and percussion note were normal at the apex, even when the hips were raised above the level of the thorax. A trocar was introduced in the seventh interspace, and three pints of semi-purulent fluid escaped, containing abundant hooklets on microscopic examination. This did not give much relief, and some ill-defined dullness was left about the base of the right lung, with pleuritic stitches, a quick pulse, and high temperature, showing a local source of irritation in the pleura. Dr. Bird was now convinced that it was a case of pleural hydatid, and determined, in conjunction with Dr. Martin, to remove it. The tenth day after the first tapping a free incision was made between the seventh and eighth ribs, and a large semi-decomposed hydatid cyst, broken into several fragments, was removed without difficulty. A few ounces of pus and broken-down fragments of hydatid followed the main cyst, and then rather a free discharge of venous blood, which soon ceased. A piece of drainage tube was left in the pleura. Great relief followed this operation; fever and pain disappeared, and there were no physical signs of any further foreign body in the cavity of the chest. But a fortnight after the patient began to complain again of dyspnea and oppression, and on exploring the cavity of the pleura with an elastic catheter another cyst was burst into, which discharged about ten ounces of perfectly clear hydatid fluid swarming with echinococci. This cyst also was removed, and the pleural cavity irrigated with weak solutions of iodine. Great relief followed, but, unhappily, symptoms indicative of hydatid in the pericardium ensued, namely, sudden and alarming attacks of dyspnea, ending in syncope, with cardiac murmurs terribly jumbled and confused. These increased in intensity, till, in one of them, she died suddenly, the pleura and lung being apparently restored to their normal condition. There was, unfortunately, no post-mortem examination.

The other case was one of hydatid of the lung substance. A girl, aged nine years, suffered from excessive emaciation, with intense hectic and quick pulse, constant violent cough, and expectoration of pus and fragments of cysts, of horrible fetor. She could only breathe lying over partially prone on the affected side. A large trocar was introduced between the fifth and sixth ribs, and many ounces of fetid pus and fragments of cyst escaped, and great relief followed. After two days the opening was enlarged and the parent cyst was removed; a piece of drainage tube was left in the *nidus* of the parasite, and this was often washed out with weak Condy's fluid. In less than a month the child returned to her home in perfect health, the wound having healed up from the bottom.

Dr. Bird, in answer to objections, said that even when diagnosis of site can be made with certainty, it must be remembered that simple tapping leaves the cyst intact, and as this shifted from side to side with every movement, the cavity must refill or pleuritic irritation be set up. Suppuration was sure to take place, and then, with empyema plus a cyst, the old necessity for operation remained. As to iodine, it could not be injected into cysts of this kind in any

strength. He had seen thirteen cases of old suppurating hydatids within the chest treated by incision, and only one died. In that case the cyst was the largest he had ever seen. At the first tapping one hundred and fifty-six ounces of fluid were withdrawn, and when the cyst was subsequently removed it weighed a pound, yet the case was practically cured; but there was erysipelas in the hospital, and the very afternoon the patient was preparing to leave, a blush appeared around a small fistulous tract that remained, and septicæmia and death followed. At the post-mortem examination, notwithstanding the enormous pressure which must have been exerted by so huge a cyst, the lung had again expanded.

## Hospital Practice and Clinical Memoranda.

### A CASE OF TYPHILITIS WITH GENERAL PERITONITIS; AUTOPSY.

BY ASSISTANT-SURGEON C. T. FICKHAM, UNITED STATES MARINE HOSPITAL SERVICE, NEW YORK.

J. R., Russian, twenty-seven years of age, applied at the United States Marine Hospital Office, New York, January 13, 1882. He stated that he had some pain in his bowels, and that his bowels were loose. He said he had had five or six dejections during the last twenty-four hours. He was given a diarrhoea mixture and told to call again on the day following. He did so and said his pain was worse. He was sent to the Hospital, January 14 where I saw him at seven P. M.

He then complained of a severe pain in the right iliac fossa. He had no diarrhoea, he said. This pain was all that troubled him. On examination I found that the right iliac fossa was fuller than the left, that there was much tenderness and some dullness in the right iliac fossa. His face wore an anxious expression, and the leg was drawn up on the affected side.

His respirations were 38 per minute, pulse 140, and temperature 37.9° C.

January 15th, ten A. M. Patient in a stupor all night. Tenderness over whole abdomen. No pain complained of. Pulse 160, weak and thready, temperature 38° C., respiration 40. Seven P. M., some vomiting after taking a large quantity of ice-water. Pulse 150 and of same character as at the morning visit, respiration 44, temperature 38.8° C.

January 16th, ten A. M., patient much oppressed; says he cannot breathe. No pain. Tenderness great; cannot bear the weight of a light poultice. Feet and hands cold, and bathed in a profuse cold perspiration. Pulse 160, respiration 56, temperature 39° C. Seven P. M., patient weaker than at the morning visit. Has not vomited as much as he did during the night. Pulse 160-180 and feeble, respiration 60, temperature 38.6° C. Otherwise the same as at the morning visit.

January 17th, ten A. M., patient weaker. Pulse 170-200 and scarcely to be detected, respiration 60. While I was in the ward he had one tonic convulsion, gasped a few times and died.

Autopsy twenty-four hours after death. Rigor mortis well marked. Dependent parts of body very purple. Body is that of a strong man.

Peritoneum much congested and dull looking. Small intestines everywhere adherent and in many places covered with false membranes. Omentum adherent to small intestines. At the lower part of the

abdominal cavity was a cavity bounded by the bladder below, laterally by the iliac bones and their muscular coverings, superiorly by the small intestines pushed up and covered by false membranes. This cavity contained about one and one half litres of purulent fluid of very fetid odor. By carefully raising the small intestines and omentum I found the cœcum not much congested, and the appendix vermiformis apparently normal for one half its extent. In its third fourth counting from the cœcum there was a black slough, and when I very carefully raised it what appeared to be a date stone remained behind, above the brim of the true pelvis on the iliacus muscle. This body by careful examination proved to be hardened fecal matter. The omentum was attached to the appendix vermiformis and the part so attached was also black and sloughing. The appendix was curved on itself but was everywhere patent, as water easily flowed through from the cœcum to the abdominal cavity before the appendix was disturbed.

### Reports of Societies.

#### PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

H. C. HAVEN, SECRETARY.

##### SURGICAL SECTION.

JANUARY 7, 1882. DR. R. M. HODGES presiding. DR. JOHN HOMANS read a paper entitled

A CASE OF LISTERIAN OVARIOTOMY IN WHICH THE BLADDER WAS FREELY LAID OPEN; UNINTERRUPTED RECOVERY.

Vide JOURNAL, page 153.

DR. J. W. ELIOT said that he could add two cases to the list of the reader, where he had seen a distinguished continental surgeon open the peritoneal cavity in the high operation for stone. Both cases terminated fatally, and it was interesting to note that in both cases the mucous membrane of the bladder was included in the stitches. We may learn from the history of the operation for vesico-vaginal fistula how unsatisfactorily a wound of the bladder heals if the mucous membrane is included as was the case before DR. J. Marion Sims demonstrated its impropriety.

The recent success in uniting wounds of the intestines is also here instructive as showing the advisability of bringing together the peritoneal surfaces.

DR. POST said that Dr. Vincent, in the articles quoted by the reader, laid great stress on bringing together the peritoneal surfaces in sewing up wounds of the bladder. Dr. Vincent says, in speaking of the use of one particular stitch which brought the peritoneal surfaces well together, that with this stitch he had never failed to obtain union in his experiments on dogs.

DR. A. N. BLODGETT asked whether in the cases where urine had been extravasated, enough time had elapsed to allow of decomposition taking place.

In reply DR. HOMANS said that in the only case where recovery in a male had been reported, at the time of the operation peritonitis had already set in, and that free urine was found in the peritoneal cavity; this was sponged out and a catheter placed in the bladder to keep it empty. The wound in the bladder was not interfered with.

DR. A. N. BLODGETT referred to the absence of

bad effects from the presence of urine in the abdominal cavity, and mentioned a case which had recently come to autopsy, where there was a perforation of the anterior vesical wall, which from all appearances must have opened directly into the peritoneal cavity. The wall of the bladder then evidently became adherent to the parietal peritoneum by localized peritonitis about the perforation, and the extravasated urine could no longer pass into the abdominal cavity but had burrowed into the groin, and from thence had dissected the entire musculature from the pelvis to the knee, causing death by septicæmia and exhaustion.

There was not a trace of either old or recent peritonitis excepting at the point mentioned, where the localized protective inflammation had united the adjacent surfaces of peritoneum, thus acting as a safeguard against the continued leaking of urine into the abdominal cavity. Whatever urine had been extravasated into the peritoneum had been completely removed by absorption without leaving a trace of its existence.

DR. GAY asked the reader's experience in regard to the use of silk sutures left in the abdominal cavity.

DR. HOMANS answered that he had never had any trouble from them. In one case he had been present at the autopsy of one of his patients twelve months after the operation for ovariectomy, — the woman dying of heart disease. In this case the pedicle was found to be very thick, and was tied transversely and around with a silk ligature at the time of operation. At the autopsy no trace of the ligature was visible; the right ovary was absent, and the only evidence of the operation was a shiny white line about one half an inch long, — the scar left by the ligature, — near the end of the right broad ligament. In a second case, where the autopsy was six months after the operation, no trace of the silk was found. Dr. Homans suggested that raw silk, being an animal product, so to speak, that is, — the gut of a worm, — might be absorbed as well as ordinary catgut.

DR. C. W. WOOLDRIDGE asked whether the peritoneum was folded down between the bladder and the abdominal wall.

DR. HOMANS answered that it was drawn up, there being no peritoneum between the bladder and the rectus muscle till about one and one half inches above the umbilicus.

DR. KINNEAR asked what was the explanation of the union being better when the mucous membrane was not included.

DR. HOMANS thought it was due to the avoidance of fistulous connections which might form in the track of the stitch.

DR. GAY spoke of a case where the angle of the mouth was split back to gain room in removing a new growth from the jaw; in sewing up, part of the stitches included the mucous membrane, part did not. In the former portion perfect union took place, in the latter there was no union.

DR. J. W. ELIOT thought that the mucous membrane, being very sensitive, the irritation of the stitch caused the bladder to contract and expand spasmodically, thus preventing union.

DR. HOMANS stated, that although naturally very anxious about the patient, he was agreeably surprised to find no unfavorable symptoms at his visit the day following. Fever was absent throughout; convalescence was rapid and the woman was able to return home in less than three weeks.

DR. HODGES, in closing the discussion, recalled the remarkable series of cases of impalement formerly reported by Dr. J. B. S. Jackson. In one of these, at least, the bladder was torn open and into the peritoneal cavity; yet recovery took place. In speaking of the method of sewing up vesico-vaginal fistulae, the chairman reminded the section that this was first practiced by Dr. George Hayward, of Boston, at the Massachusetts General Hospital. Hayward was also the first successful operator in the country on a vesico-vaginal fistula. Dr. Hodges said that there was a general impression, stronger formerly than at present, that the passage of urine over a wound was detrimental to the healing process. Yet in lithotomy and vesico-vaginal fistulae the wounded parts are constantly bathed in urine without untoward results, and in many of these cases, too, the urine has undergone decomposition, yet no harm ensues.

DR. A. T. CABOT presented a communication entitled

#### OSTEOTOMY AND OSTEOCLASIS; CASE AND SPECIMEN.

Vide JOURNAL, page 155.

The reader described a case operated on by Macewen's method, with very satisfactory results, perfect union occurring in three weeks; the patient died soon after of typhoid fever, and the specimen was exhibited, showing perfect union of the bones in a corrected position.

DR. POST spoke of a case which he had operated on by Macewen's method with results very similar to those described by Dr. Cabot. He was obliged to change the dressing on account of soakage, and this probably interfered with the healing of the flesh wound, which failed to unite by first intention. There was a rise of one degree on the second day: the temperature fell to the normal the next day, and remained so. The bone was found solidly united in three weeks, at which time the plaster was removed. Dr. Post spoke of several cases operated on in New York by this method without antiseptic precautions which did well.

DR. A. N. BLODGETT asked how the distance to which the chisel had penetrated could be accurately determined.

DR. CABOT explained the chisel used, which is marked off into inches and half inches: this enables the operator to determine the exact distance the chisel has penetrated the bone.

DR. BLODGETT asked if in the first case spoken of by Dr. Cabot, the possibility of a causal relation between the wound of the bone medulla and the general tuberculosis had been considered. Dr. Cabot replied that it had not been deemed probable; the time between the operation and death being three weeks.

DR. E. H. BRADFORD called the attention of the section to the value of the specimen exhibited by Dr. Cabot. He thought it unique in being so recent as to show perfectly the method of cure, and yet sufficiently old to evidence a cure of the deformity. Dr. Bradford said at the time of the operation, when assisting Dr. Cabot, he thought the chisel had not been driven through far enough, too much of the bone being broken. In the light of the specimen he was convinced that Dr. Cabot had acted wisely.

DR. BRADFORD said that in a case of knock-knee, where the patient was too old for a correction of the deformity by the use of appliances alone, the choice lay between: first, correction by tenotomy of the exter-

nal ham-string tendons, and the subsequent continued use of a strong mechanical power, which would force the limb into position; second, forcible straightening; third, osteotomy. In a certain number of cases treated according to the first of these methods a relaxed condition of the knee-joint follows, impairing the usefulness of the joint. Experiments on cadavers have shown that in a comparatively large proportion of cases of forcible straightening rupture of the lateral ligaments takes place, with a consequent injury to the joint; this has also been proved by clinical experience in adults; in children the results are good, but the method lacks precision, and it is always impossible to determine whether the separation of the bone will take place at the femoral or tibial epiphysis.

Statistics seem to show at present that the danger from osteotomy, when properly performed, is very slight, and the results are excellent. Of the different methods of procedure that of Macewen is certainly the best. In the six operations for osteotomy which Dr. Bradford had had an opportunity for performing, the reaction was hardly greater than after tenotomy, and the results had been exceedingly satisfactory. In one patient the whole femur had been accidentally divided in an osteotomy instead of three quarters of the thickness with subsequent fractures, as recommended by Macewen, and in consequence union was delayed. In a subsequent case, where the operation was more precisely done, there was good union in four weeks.

DR. H. I. BOWDITCH showed a device for the prevention of slipping by the insertion of a small cylinder of solid India-rubber inserted into the heel of the shoe, the flat surface projecting slightly below the level of the heel.

#### Recent Literature.

*The Nurse and Mother. A Manual for the Guidance of Monthly Nurses and Mothers.* By WALTER COLES, M. D., St. Louis. St. Louis: Published by J. H. Chambers & Co.

The hundred and fifty pages of this book contain just enough of the scientific language and ideas of obstetrics to promote a pleasing, but dangerous, self-confidence among mothers and untrained nurses, and to tempt them, in too many cases, to usurp the duties of the medical attendant. The nurse who, following the advice, only "strives against making any comments calculated to excite the distrust of the sick, or bring the physician under whom she is serving into unfavorable comparison with others," and who "makes her comments privately to the physician" upon the treatment, could hardly anticipate many engagements under the same practitioner. The manual has little value for the nurse educated in lying-in wards. The chapter on emergencies is the most useful portion of the work.

*A Practical Manual of the Diseases of Children, with a Formulary.* By EDWARD ELLIS, M. D. Fourth Edition. Revised and Enlarged. Philadelphia: Presley Blakiston, 1012 Walnut Street. 1881.

The last edition of this manual appeared in 1878, and was then revised and enlarged in many parts. The present edition has little of practical importance that is new, and retains the characteristic of the original work in being essentially a compendium largely made up of quotations from the writings of other authors.

# Medical and Surgical Journal.

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## WAS THE LIFE-LONG MALADY OF DEAN SWIFT MÉNIÈRE'S DISEASE?

In the last number of *Brain* Dr. Bucknill, one of the editors, discusses the maladies of Dean Swift in an article which throws much light upon the strange character of that singular but gifted man, and at the same time is an interesting illustration of one of the recent triumphs of pathological research directed by physiological experiment.

Dr. Bucknill states, as an explanation of his reopening a subject which might fairly be regarded as threadbare, and concerning which many would consider that everything had been said which ought to have been and not a little which ought not to have been said, that he received a letter last autumn from a gentleman engaged in literary work requesting his opinion on the "mysterious disease" of the great author and wit, and asking particularly whether the sane part of Swift's life was likely to have been in any way affected by the latent presence of insanity; whether a correct diagnosis was possible; whether parallel cases were on record; and, finally, whether a surfeit of green fruit, at the age of twenty-three years, was capable of resulting in the absolute fatuity from which the patient suffered at seventy-five.

Stimulated by these inquiries he investigated the subject anew, with the result that he thinks upon weighing the evidence it will probably be acknowledged that Jonathan Swift's mysterious disease was an instance of labyrinthine vertigo or Ménière's disease.

Various passages are quoted from biographies of Swift by Forster and by Sir William Wilde, the accomplished father of an æsthetic son, to support the theory of his disorders advanced by Dr. Bucknill, the original cause of which it is claimed lay in a cold got before he was twenty years old. Swift himself writes under date of April 30, 1737, when in his seventieth year: "In England before I was twenty I got a cold, which gave me a deafness that I could never clear myself of. . . . My left ear has never been well since."

Forster, in his biography, makes the following quotation from one of Swift's note-books:—

"1708. *Nor.*—From 6th to 16, often giddy. G<sup>d</sup> help me. So to 25 less. 16, Brandy for giddiness 2s. 18th 3d. *Dec.* 5.—Horribly sick. 12th.—Much better, thank God and M. D.'s prayers. 16th.—Bad fit at Mrs. Bartons. 24. Better; but dread a fit. Better still to the end. 1709, *Jan.* 21st.—An ill fit

but not to excess. 29. Out of order. 31. Not well at times. *Feb.* 7.—Small fit abroad. Pretty well to the end. *March.*—Headache frequent. *April* 2nd.—Small giddy fit and swimming in the head. M. D. and God help me. *August.*—Sick with giddiness much. 1710. *Jan.*—Giddy. *March.*—Sadly for a day. 4th. Giddy from 4th. 14th.—Very ill. *July.*—Terrible fit. G<sup>d</sup> knows what may be the event. Better towards the end."

He often described himself as

"Vertiginosus, inops, surdus, male gratus amicis,"

but naturally never appears to have associated his vertigo with the state of the auditory organ.

Various passages in support of Swift's having been the victim of Ménière's disease occur in the course of his *Journal to Stella*, written between the years 1710 and 1713, while he was residing in London. Under date of October 31, 1710, he writes: "This morning sitting in my bed I had a fit of giddiness; the room turned round for about a minute, and then it went off, leaving me sickish, but not very. I saw Dr. Cockburn to-day, and he promises to send me the pills that did me good last year; and likewise has promised me an oil for my ears, that he has been making for that ailment for somebody else." On this Dr. Bucknill remarks, "A fit of giddiness, with sickness and ear-disease, is not this labyrinthine vertigo?" and continues:—

On different days in January, 1611, Swift writes:—"I had an ugly fit in my chamber last night." . . . "My head is not in order, and yet is not absolutely ill; but giddyish, and makes me listless." . . . "One fit shakes me a long time." *Feb.* 1.—"I walked into the City to dine, but I walked playfully carefully, for fear of sliding against my will." *April* 18.—"I did not go to the House of Commons about the yarn: my head was not well enough. I know not what is the matter. It has never been thus before; two days together giddy from morning till night, and I totter a little, but can make a shift to walk."

In *May*: "I do not totter as I did, but walk firm as a rock, only once or twice for a minute."

*Sept.* 1st he notes an important peculiarity, distinguishing cerebral from stomachic vertigo:—"My head is pretty well; only a sudden turn at any time makes me feel giddy for a moment, and sometimes it feels very stuffed."

The journals of October show that he distinguished ordinary from vertiginous headache:—"My head has ached a little in the evening, but it is not of the true giddy sort, so I do not much value it." . . . "I had a little turn in my head this morning, which, though it did not last above a minute, yet being of the true sort, has made me as weak as a dog all this day."

During the years of residence in London which embrace the period of the "Journal to Stella," his other enemy, deafness, is only referred to incidentally, as when he compares it to that of the Lord Treasurer; but after his return to Ireland, his deafness becomes sufficiently severe to make him complain.

In 1720 he writes:—"What if I should add that once in five or six weeks I am deaf for three or four days."

In 1724 he writes:—"I have been this month past so pestered with a return of the noise and deafness in my ears that I had not the spirit to perform the common offices of life." Subsequently, in the same year: "My deafness has left me above three weeks, and therefore I expect a visit from it soon." It was evidently periodic and paroxysmal, like the giddiness.

He complains in another letter of an old vexatious disorder of a deafness and noise in the ears. In 1727, in a letter to Sheridan, he says that his deafness is worse than it ever before had been, and that it is accompanied by giddiness and tottering. "I believe," says he, "that this giddiness is the disorder which will at last get the better of me." And again, "I walk like a drunken man, and am drier than ever you knew me."

In 1728, in "about eight months," says Wilde, "he had half a dozen attacks of the giddiness and sickness, each of which



lasted about three weeks." But in 1731 he wrote to Mr. Gay, "The giddiness I was subject to, instead of coming seldom and violent, now constantly attends me more or less, though in a more peaceable manner, yet such as will not qualify me to live among the young and healthy." In 1736, writing to Pope, "years and infirmities have quite broke me. I mean that continual disorder in my head." In 1737, to Alderman Barker, "I am forced to tell you my health is much decayed; my deafness and giddiness more frequent; spirits I have none left; my memory is almost gone."

Long before, however, these symptoms had commenced. Impairment of memory he complained of as early as 1713, after the attack of shingles; and later on in the same year he speaks of his horrible melancholy changing into dullness, and from thenceforth increasing irritability of temper and mental depression are traceable throughout his history and correspondence. Not that he was at any time really of unsound mind or incapable; for when in 1737, in the Bettesworth affair, a gratifying address was presented to him, it is recorded that "when this paper was delivered Swift was in bed, giddy and deaf, having been some time before seized with one of his fits; but he dictated an answer in which there is all the dignity of habitual pre-eminence and all the resignation of humble piety."

The above quotations are but a selection from a far greater number of references which might be made to Swift's letters and journals, affording conclusive evidence, as I venture to think, that he suffered from twenty years of age from the disease, whose characteristic symptoms are, "that the patient is suddenly seized with vertigo and a feeling of nausea or positive sickness, with great constitutional depression and faintness. Usually the giddiness comes on simultaneously with ringing or buzzing in one or, it may be, both ears." — Ferriér.

It has this year been pointed out by Féré, in the *Revue de Médecine*, that there are two forms of the disease to be recognized, "une forme grave avec état vertigineux à peu près permanent interrompu par les paroxysmes, et une forme moins fâcheuse, constituée par des accès séparés par des périodes de santé parfaite." "Dans la forme bénigne (of which Swift's was an example) les accès ne se produisent quelquefois qu'à de longues distances très éloignées. E. Ménière cite une malade qui eut une rémission de onze mois. Pendant ces périodes d'accalmie, la surdité persiste avec une intensité variable, et elle s'accompagne souvent des sensations subjectives intermittentes de l'ouïe. La maladie elle-même dure tant que la surdité n'est pas absolue."

Up to the date to which we have traced the progress of the disease, it appears to have been purely a physical malady, with no mental symptoms, unless some degree of loss of memory can be so called. Swift, indeed, complains bitterly of the impairment, as if memory were gone, and in his declining years of age and sickness it may have been a dull function compared with the brilliant faculty he once possessed. But clearly the memory was still serviceable which enabled him to compose, with wonderful vivacity, even such poetry as that outburst against political and social corruption — "The Legion Club." . . . That disease and grief had made him irritable and passionate, and often desponding, is clear enough from his correspondence and the accounts of him which have come down to us; but that there was any failure of mind this "Legion Club" fully disproves; and if fiercely expressed hatred is any evidence that an author is on the verge of insanity, Jeffrey must have been curiously insensible to the testimony he was bearing against his own soundness of mind in his criticism of the greater master of his own art.

Between 1736, when Swift wrote "The Legion Club," and 1741, when the outbreak of insanity really took place, there can be no doubt that he passed through a period of great wretchedness and depression, — he was "miserably ill." He had lost to a great extent two of his senses, for he was deaf and his eyesight failed; his dearest friends had died before him, and his public sympathies were constantly outraged.

In 1738 he wrote Alderman Barker, "I have for almost three years past been only the shadow of my former self, with years of sickness and rage against all public proceedings, especially in this miserably oppressed country. I have entirely lost my memory, except when it is aroused by perpetual subjects of vexation."

Two years later he wrote the following pathetic letter to his old friend Mrs. Whiteway: —

"I have been very miserable all night, and to-day extremely deaf and full of pain. I am so stupid and confounded that I cannot express the mortification I am under, both of body and mind. All I can say is that I am not in torture, but I daily and hourly expect it. Pray let me know how your health is, and your family. I hardly understand one word I write. I am sure

my days will be very few; few and miserable they must be. I am, for these few days, yours entirely, J. SWIFT."

"If I do not blunder it is Saturday."

A very pitiful state this period of becoming insane, and yet not having become so. But even at this late date one cannot recognize the invasion of mental disease. Misery and despondency there was, more than enough, but not madness, unless Job was mad. But Swift was rapidly tending toward madness.

It was not until 1711 that Swift developed positive symptoms of actual cerebral disorder, which increased until his death, on October 19, 1745, in the seventy-eighth year of his age. An autopsy was performed, and a plaster cast taken of the face and of the inside of the skull. The only record of the autopsy is that "much water was found in the brain." In regard to the plaster cast Sir William Wilde says: "The expression is remarkably placid, but there is an evident drag on the left side of the mouth, exhibiting a paralysis of the facial muscles to the right side."

Connecting these authentic records with the report of one of Swift's attendants, which disclose symptoms of aphasia, Dr. Bucknill remarks: —

With all the tortures of the life-long disease from which he suffered, and its obvious effect upon his temper in his later years, it is wonderful that Swift did retain his reason until, in the seventy-fourth year of his age, he was in all probability struck down by a new disease in the form of a localized left-side apoplexy or cerebral softening, which determined the symptoms of his insanity.

It is enough now that we can diagnose his life-long disease as labyrinthine vertigo, and his insanity as dementia with aphasia, the dementia arising from general decay of the brain from age and disease, the paralysis and aphasia from disease of one particular part of the brain.

It is certain that this fearful disease, aggravated with the increase of years, had an influence in the causation of Swift's insanity, but that its influence was direct, that is to say, by the extension of the local disease to the brain, is by no means so sure as its indirect effect as one source of the profound depression which marked the latter years of his sane life.

According to this account of Dr. Bucknill, the disease, as manifested by the great Irish dean, if true labyrinthine vertigo of Ménière, was of the mild form described by Féré, as a rule paroxysmal in character, though at times re-occurring more frequently, and increased in frequency with advancing years.

Ménière's attention was first attracted to the form of disease which now bears his name, in 1861, by Fleuren's experiments upon the semicircular canals of pigeons, and it would certainly be not a little curious and interesting should we be led, by the light of modern physiological experiment and pathological research, to revise our conceptions and estimate of a great historical and literary personage of a previous century, who exercised a marked influence upon the history of his day, and whose singular career was an enigma to his own contemporaries, and has continued such to succeeding generations. The suggestions contained in the article of which we have given an abstract at least inculcate the wisdom of being slow to judge, and illustrate the value of physiological experiments.

# THE ANNUAL MEETING AT ALBANY OF THE NEW YORK STATE MEDICAL SOCIETY.

THE chief medical events of the past week which deserve notice are the convention of the State Medical Society and the meeting of the State Board of Health, including the annual report to the governor and legislature at Albany.

One of the most important meetings of the Medical Society of the State of New York that has ever been held terminated on the 9th inst., after having been in session three days, important not so much on account of the number of papers read, which was great, but on account of measures which were adopted affecting the professional status of "irregulars," and the interests of the general practitioner. Although not so large as the previous meeting, there being only four hundred and twenty-eight names on the register, yet unusual activity and interest was displayed; evidently those in attendance meant business, especially the delegates from New York city. While they gained their avowed object of releasing themselves from the authority of the code of ethics of the American Medical Association, it yet remains to be proven whether the gain is not more than balanced by the loss. The provisional code offered and adopted at this meeting permits consultation with all physicians practicing under the laws of the State of New York, but seeks to atone for its liberality in the matter of consultations (which bring in fees) by condemning as reprehensible the giving of certificates for copyrighted or "proprietary" drugs, medicines, wines, mineral waters, health resorts," etc. (which, by the way, yield no fees), an inconsistency which was pointed out in the discussion by Dr. Squibb, of Brooklyn, who could not understand why the professed liberality should stop short with the matter of consultations.

The matter of compulsory registration of all practicing physicians was again taken up in connection with a communication from the New York County Medical Society, which pointed out the fact that the law of 1880 is inoperative against a certain class of irregular physicians. After considerable discussion the entire subject was referred to the committee on legislation. In the same communication the subject of the establishment of a State examining board, which should alone have the power to issue licenses to practice, was strongly urged, and was also advocated in the president's inaugural address, and in a paper read by Dr. Sturgis, the president of the New York County Medical Society. It is hoped that the legislature at its present session may pass such an efficient law without having it rendered inoperative at the last moment by the addition of some amendment intended to defeat its object.

Among the scientific papers of especial interest read at this meeting those by Austin Flint, Chas. S. Bull, L. D. Bulkley, and C. R. Agnew, with the president's address, are deserving of mention.

— A new street in Paris, situated in the *arrondissement* in which Littré died, is to be called after him la Rue Littré. It will be opened into the end of the Rue de Rennes.

## MEDICAL NOTES.

— One fact in connection with the meeting of the New York State Medical Society that indicates the enterprising character of modern medical journalism, was that a full report of its proceedings appeared in the *Medical News* of Philadelphia, issued on the day after the meeting adjourned, by telegraph from a special reporter. The *Albany Medical Annals* issued as usual a daily edition containing the proceedings of the session.

— The total number of small-pox cases known to exist in Boston on Tuesday last was four. Seven cases in all were reported during the month of January. Seventeen thousand two hundred and twenty-three gratuitous vaccinations have been done under the auspices of the Board of Health since January 1st.

— Three physicians of Boston have recently been the victims of serious accidents: Dr. Arthur H. Nichols has fractured his malar bone, Dr. Edson has received a compound fracture of the leg, caused by ice falling from the roof, and Dr. O. F. Wadsworth has a fracture of the patella, due to a fall on the ice, and in addition Dr. Charles Homans was struck on the head by a bottle in the hands of an unknown assailant on Saturday night last.

— "L'entrée est défendue aux dames" is certainly not a suitable inscription to be placed over the portals of a University; and it is satisfactory to be assured by the President of the Boston University, in his last report, that a phrase so often seen over certain apartments in French railway stations will be denied a place upon the front of the University building.

— On the night of Friday, January 27, considerable damage was done to the wires of the Fire Department, in New York, by their coming in contact with those of the United States Electric Light Company. Repairs were made, but on the following night some of the fire boxes were again injured. Not until Sunday was the cause discovered. It proved to be a point of contact between the two systems of wires, scarcely one-sixteenth of an inch wide. The constant rubbing of the wires had gradually worn away the insulating material of the electric light wire. The Fire Commissioners have passed a resolution asking information of the Corporation Counsel as to "whether the companies furnishing electric light can be restrained from running their wires under, over, or across the wires of the department, and whether they are liable for damages, and what remedy must be applied." The telegraph wires connecting the fire boxes should be protected at any cost from all possible danger of accident. If the electric light companies cannot run their wires across those of the Fire Department, their only alternative seems to be the adoption of the underground system. — *Sanitary Engineer*.

— For the purpose of determining how far the prevalence of small-pox in the several States is due to the introduction of the disease into the United States from other countries, or from one State into another, and what measures would most effectually prevent its introduction from other countries, and spread from one State into another, the National Board of Health has submitted several inquiries to State Boards.

## WASHINGTON.

—A motion made in the House of Representatives, January 17th, to take the bill to incorporate the Garfield Memorial Hospital out of its regular order on the calendar and have it passed, met with decided opposition, which resulted in the motion being negatived, and the debate which ensued developed a good deal of doubt in the minds of members as to its utility and necessity, and a fear of establishing another claimant for yearly appropriations from Congress. Some of the grounds taken were rather ludicrous, and others seemed to show the promptings of other interests which naturally might clash with this. The act of incorporation did not have connected with it in any way any clause looking to present or future appropriations from Congress, although it is very probable that such appropriations will in time be asked for. Curiously enough strenuous objection was made to that clause in the act which threw open the doors of the hospital to non-residents of the District, when the only respectable general hospital in the District has for years had an annual appropriation for non-residents but none for the resident poor; it was supposed that Washington would, upon the passage of this act, be immediately flooded with all of the sick pauperdom of the United States that could beg or steal a passage to this Mecca. Mr. Cobb, of Indiana, laid much stress upon this, giving Washington a population of 176,000 and a pauper list of 31,000; but he did not say what he might have stated, that Congress itself is directly responsible for a large proportion of this pauperism by encouraging men to travel long distances from their homes with the fallacious hopes of getting offices founded upon the promises of politicians as their representatives; by putting individuals in office to enjoy salaries far exceeding in amount what they have ever been accustomed to, giving them expensive and luxurious habits, and, when the spirit of ambition has died out within them, and they are unfitted for any other kind of life, turning them out of office to make room for some one else; that this has led in some cases to something worse than pauperism, that prostitution has had its ranks increased by just such causes.

**HOSPITAL RECORDS; SURGEON-GENERAL'S OFFICE.** A resolution calling for a proper index for these records was offered January 23d in the House of Representatives, and referred to the proper committee. Mr. Taylor, of Ohio, in offering the resolution, stated that these records formed some sixteen thousand volumes and a mass of bed-cards, hospital reports, reports of casualties in battle, hospital muster rolls, etc., and that they were rapidly being made illegible from constant reference and re-reference for the want of a suitable index, it not being unusual to have searches made a dozen times over in a single case; the clerical force of about one hundred and sixty clerks in the surgeon-general's office is not sufficient for such work, and the resolution is offered in the interest of the Pension Bureau, and to lessen expenses in the surgeon-general's office.

**DISTRIBUTION OF VACCINE VIRUS.** Both houses of Congress have passed a bill appropriating fifteen

thousand dollars for the purchase of vaccine virus to be designated as pure by the National Board of Health, and to be furnished by the said Board to all persons applying for it at cost price, the proceeds to be paid into the treasury.

**MUSEUM OF HYGIENE.** The Bureau of Medicine and Surgery, Navy Department, has issued a circular, stating that the surgeon-general has established a Museum of Hygiene, which the American Public Health Association has made its permanent central repository.

The circular states that "It is intended that it shall exhibit the present state and future progress of the nation in all departments of hygiene," and asks the coöperation of all interested in sanitary matters by contributions of whatever tends to the preservation of health and the prevention of disease. Medical Inspector A. L. Gihon is directly in charge of the collection, and a large room has been devoted to its present uses.

This opens up a very extensive and useful field, and if fully carried out must excite great interest, and furnish the basis for a distinct branch of medical education.

**FIRE-PROOF BUILDING FOR THE ARMY MEDICAL MUSEUM AND LIBRARY.** The surgeon-general of the army has submitted to Congress the plans and estimate, amounting to three hundred thousand dollars, for the purchase of a site and the erection of a fire-proof building to contain the records, library, and museum of the surgeon-general's office. His accompanying statement sets forth that the space now available has become quite inadequate, not merely for proper display, but even for satisfactory storage, that the building is not fire-proof, and that it is surrounded by, and in immediate contact with, inflammable houses and sheds, which are on private property.

The library now contains about 51,500 volumes and 57,000 pamphlets relating to medicine, surgery, and allied topics, and many of these, if destroyed, could be replaced with great difficulty and cost. The collection of the Army Medical Museum consists of 22,000 specimens, and is unique in the completeness with which both military surgery and the diseases of armies are illustrated. The hospital records of 16,000 bound volumes, and a mass of other papers, serve greatly to the protection of the government, and to the advantage of many claimants; once destroyed there is no replacing them.

Surgeon-General Barnes has shown very happily and forcibly, in his accompanying report, the sentiments which should guide Congress in making this appropriation, to foster the successful study in this country of military hygiene, military medicine, and military surgery, for our material interests "as well as the humanitarian sentiments which characterize our modern civilization." He also points out the comparatively trifling cost as a national expenditure of such a library and museum, as almost all other civilized nations have spent much more money in this direction than ourselves, yet the expense is so great as to prevent the establishment of such collections by the resources of individuals or private corporations.

## Miscellaneous.

### REPORT OF THE SEVENTY-SIXTH ANNUAL MEETING OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

HELD AT ALBANY, FEBRUARY 7TH, 8TH, AND 9TH.

#### FIRST DAY'S PROCEEDINGS.

THE President of the Society, DR. A. JACOBI, of New York, opened the meeting with his

#### INAUGURAL ADDRESS.

Reviewing the changes that had occurred in the practice of medicine during the life of the Society, he showed that in earlier times it was the practitioner and not the professor who gave the greatest advances to medicine, now, year by year, these two classes were becoming less distinct, and, as their interests become more identical, their services were more valuable. The employment of specialists as instructors had done much to further the reform. He alluded to the universal and constant discussion among the profession at large of measures for the advancement of medical education, and the stimulus these gave to improvement in medical schools. In this connection, deprecating the present system of legislation which permits the matriculants of any school to practice, — although the requirements for a diploma are so lacking in uniformity, he urged the passage of a law which should exclude all unworthy members of the profession, and the appointment of a State Board of Examiners who should grant licenses only to those whose education, both preliminary and medical, entitled them to recognition.

Commenting upon the legislation of 1872 upon this subject, which was inefficient from the introduction of a clause recognizing homœopathy, he spoke in a spirit of very progressive liberality, urging that regular physicians should not be the most backward in promoting harmony, nor should strive to exclude from the expected benefits of the new bill those who share with them the honor of legal recognition. Dismissing the subject of medical education and improvement he discussed next public hygiene, especially with reference to diphtheria and scarlatina, which, as contagious diseases, he declared were constantly disseminated by the practice of congregating cases, and insisted that every patient should be isolated. He showed the present difficulty in the proper treatment of contagious diseases, especially among children, to be lack of suitable institutions, and urged the coöperation of the Society in securing a new hospital for this purpose.

The last topic introduced was a recommendation for more stringent legislation regarding employment of children in factories, and the advocacy of a bill including, as essential points: —

First. Children employed in factories should be under official supervision. In large cities the boards of health could be entrusted with this supervision.

Second. Before being admitted to factory work, a child, of legal age, ought to be examined. Chlorotic, anæmic, scrofulous, crippled, scorbutic, bronchitic, and phthisical children, and those under the normal size of their ages, must be excluded, and the physician's certificate should be conclusive.

Third. No night or Sunday work should be permitted.

Fourth. Some branches of work should be forbidden entirely. There are some which are known to inter-

fere with physical development, and others which are known to prove highly dangerous to childhood and adolescence for various reasons. These are mining, glass-works, rag sorting, employment on mercury, lead, arsenic, iron and brick works, and match factories.

Fifth. The earliest age at which the young ought to be admitted to manufacturing employments, should be fourteen.

In concluding his address the President paid a pleasing compliment to professional liberality and hospitality in America.

DR. F. R. STURGIS, of New York, presented the first regular paper of the day on Hints and Thoughts on Medical Education, referring all the present defects in American medical education to the necessity of conducting nearly all the schools as money-making enterprises on business principles. The reader also insisted on the importance of a State Board of Examiners. The remedies suggested were: —

"First, the absolute incorporation of medical schools with some chartered college or university; make the governing bodies of both the same.

"Second, endow the school liberally for educational purposes and make it independent of its students.

"Third, separate the right to practice from the diploma. This latter, then, should be a token of proficiency in study and knowledge, and its possession from some school in good legal and professional standing should be made obligatory before a candidate can present himself for authority to practice in the State." Dr. Sturgis closed his valuable paper by quoting from the report of President Eliot, of Harvard, the following requisites of a good medical education: "First, that the number of clinical instructors should be as large as the community can well supply; and, secondly, that the University should be more concerned to have a very good school of medicine than a very large one."

DR. E. R. SQUIBB, of New York, followed with a scientific paper on Defective Construction of Thermometers due to various causes.

DR. W. S. ELY, of Rochester, gave some Notes on Beef Juice.

The afternoon session was devoted to papers, among the readers being Drs. SEGUN, C. S. BULL, and VANDERPOEL, of New York.

#### CODE OF ETHICS.

The report of the committee on revising the Code of Ethics was submitted in the evening. The changes were principally the abolition of many antiquated and useless rules, and the encouragement of a more liberal spirit towards practitioners of other schools of medicine, especially in the matter of consultations.

DR. D. B. ST. JOHN ROOSA, of New York, proposed as a substitute for the report of this committee a new code, in which the only ethical offenses for which the medical profession claimed and promised to exercise the right of discipline were those comprehended under the commission of acts unworthy a physician and a gentleman. This substitution, failing to obtain the necessary two-thirds vote, was not adopted.

#### SECOND DAY'S PROCEEDINGS.

Following the business meeting and the reports of committees the day was devoted to scientific papers. Among the more contributors were Drs. AUSTIN FLINT, L. D. BULKLEY, H. D. NOYES, and C. R. AGNEW, of New York.

## THE ANNIVERSARY ADDRESS

was delivered in the evening by the President, Dr. JACOB, of New York, on Infant Feeding and Infant Foods. The statistical part of the paper showed that in New York twenty-eight per cent. of the infant population die during the first year, and forty to fifty per cent. of these from diseases of the digestive organs. Great credit was given the efforts of the Society for the Prevention of Cruelty to Children to lessen this excessive mortality by attention to infants' food. The value of breast milk during the first months of infancy was strongly insisted upon, and disease or absence of milk were the only excuses allowed for neglect on the part of the mother to nurse. The common fault in breast milk was stated to be an undue proportion of fat, casein, and salt, which was easily corrected by attention to diet. Cows' milk was ranked next to breast milk, with the caution that what was popularly called "good" milk contains an excess of fat and consequently was unfit for infantile digestion. Properly dieting the animal and employment of the morning milk diminished this excess of fat. Skim milk was condemned as an article of food for infants. A description was given of the establishments in Europe where cows' milk was pre-

pared for infants' use, showing the great care exercised in the choice of animals, their diet, and the stable accessories.

The ideal article of infants' food was defined as that supplying sufficient material to build up the tissues and promote an equal temperature and normal action of the vital organs. Most of the so-called "Infant Foods" were condemned as failing in these requisites.

## THIRD DAY'S PROCEEDINGS.

The reports of several committees were submitted and ordinary business transacted.

The only papers read were by Drs. D. W. GOODWILLIE and E. H. M. SELL, of New York. A number of papers were presented by their title only.

The form of an amendment to chapter 746 of the Laws of 1872, entitled "An act relating to the examination of candidates for the degree of doctor of medicine," was presented by the committee to which the subject had been referred, and recommitted. The committee also presented the draft of an act to regulate the licensing of physicians and surgeons, the previous laws of 1872, 1880, and 1881 having fallen into abeyance or worked unsatisfactorily. No action was taken. The Society adjourned.

## REPORTED MORTALITY FOR THE WEEK ENDING FEBRUARY 4, 1882.

| Cities.                           | Population by Census of 1880. | Reported Deaths in each. | Deaths under Five Years. | Percentage of Deaths from         |                |                       |                |                     |
|-----------------------------------|-------------------------------|--------------------------|--------------------------|-----------------------------------|----------------|-----------------------|----------------|---------------------|
|                                   |                               |                          |                          | The Principal "Zymotic" Diseases. | Lung Diseases. | Diphtheria and Croup. | Typhoid Fever. | Diarrheal Diseases. |
| New York.....                     | 1,206,590                     | 797                      | 394                      | 34.75                             | 16.68          | 10.16                 | .72            | 1.38                |
| Philadelphia.....                 | 846,984                       | 433                      | 162                      | 16.62                             | 9.93           | 7.85                  | —              | —                   |
| Brooklyn.....                     | 566,689                       | —                        | —                        | —                                 | —              | —                     | —              | —                   |
| Chicago.....                      | 503,304                       | —                        | —                        | —                                 | —              | —                     | —              | —                   |
| Boston.....                       | 362,535                       | 180                      | 51                       | 15.55                             | 16.66          | 9.44                  | 2.21           | 1.11                |
| St. Louis.....                    | 350,522                       | 106                      | 38                       | 15.09                             | 19.81          | 1.88                  | 2.83           | .94                 |
| Baltimore.....                    | 332,190                       | 156                      | 68                       | 19.23                             | 16.66          | 10.25                 | 1.28           | .64                 |
| Cincinnati.....                   | 255,708                       | —                        | —                        | —                                 | —              | —                     | —              | —                   |
| New Orleans.....                  | 216,140                       | —                        | —                        | —                                 | —              | —                     | —              | —                   |
| District of Columbia.....         | 177,638                       | 80                       | 32                       | 20.00                             | 21.25          | 7.50                  | 2.50           | —                   |
| Cleveland.....                    | 160,140                       | —                        | —                        | —                                 | —              | —                     | —              | —                   |
| Pittsburgh.....                   | 156,381                       | 89                       | 44                       | 34.83                             | 15.73          | 4.49                  | 6.74           | —                   |
| Buffalo.....                      | 155,137                       | —                        | —                        | —                                 | —              | —                     | —              | —                   |
| Milwaukee.....                    | 115,578                       | 39                       | 26                       | 23.07                             | 23.07          | 10.25                 | 5.12           | —                   |
| Providence.....                   | 104,857                       | 48                       | 18                       | 8.33                              | 12.50          | 8.33                  | —              | —                   |
| New Haven.....                    | 62,882                        | 27                       | —                        | 7.40                              | 11.11          | 3.70                  | —              | —                   |
| Charleston.....                   | 49,999                        | 24                       | 2                        | 12.47                             | 12.47          | 4.15                  | 8.31           | —                   |
| Nashville.....                    | 43,461                        | 16                       | 5                        | 6.25                              | 6.25           | —                     | 6.25           | —                   |
| Lowell.....                       | 59,485                        | 18                       | 7                        | 11.11                             | 22.22          | —                     | 11.11          | —                   |
| Worcester.....                    | 58,295                        | 15                       | 2                        | 6.66                              | 13.33          | 6.66                  | —              | —                   |
| Cambridge.....                    | 52,740                        | 27                       | 9                        | 3.70                              | 29.62          | —                     | 3.70           | —                   |
| Fall River.....                   | 49,006                        | 16                       | 6                        | —                                 | 6.25           | —                     | —              | —                   |
| Lawrence.....                     | 39,178                        | —                        | —                        | —                                 | —              | —                     | —              | —                   |
| Lynn.....                         | 38,284                        | 10                       | 4                        | 40.00                             | 20.00          | —                     | 10.00          | —                   |
| Springfield.....                  | 33,340                        | 12                       | 1                        | —                                 | 8.33           | —                     | —              | —                   |
| Salem.....                        | 27,598                        | 7                        | 0                        | 42.85                             | —              | 14.28                 | 14.28          | —                   |
| New Bedford.....                  | 26,875                        | 12                       | 3                        | —                                 | 8.33           | —                     | —              | —                   |
| Somerville.....                   | 24,985                        | 13                       | 4                        | 30.76                             | 15.38          | 15.38                 | 7.69           | —                   |
| Holyoke.....                      | 21,851                        | 6                        | 2                        | 33.33                             | 16.66          | 16.66                 | 16.66          | —                   |
| Chelsea.....                      | 21,785                        | 5                        | 2                        | —                                 | —              | —                     | —              | —                   |
| Taunton.....                      | 21,213                        | 9                        | 0                        | —                                 | 22.22          | —                     | —              | —                   |
| Gloucester.....                   | 19,329                        | —                        | —                        | —                                 | —              | —                     | —              | —                   |
| Haverhill.....                    | 18,475                        | 8                        | 0                        | 25.00                             | 12.50          | 12.50                 | —              | —                   |
| Newton.....                       | 16,995                        | 4                        | 0                        | —                                 | —              | —                     | —              | —                   |
| Newburyport.....                  | 13,537                        | 8                        | 0                        | —                                 | 12.50          | —                     | —              | —                   |
| Fitchburg.....                    | 12,405                        | 3                        | 1                        | 33.33                             | —              | 33.33                 | —              | —                   |
| Twenty-five Massachusetts towns.. | 200,802                       | 67                       | 6                        | 8.95                              | 14.92          | 1.49                  | 2.98           | —                   |

Deaths reported 2235 (no reports from Brooklyn, Chicago, Cincinnati, New Orleans, Cleveland, and Buffalo); 887 under five years of age; principal "zymotic" diseases (small-pox,

measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and fevers) 515, consumption 319, lung diseases 343, diphtheria and croup 117, scarlet fever 118, small-

pox 54, measles 39, typhoid fever 56, erysipelas 28, whooping-cough 17, diarrheal diseases 16, malarial fevers 14, cerebro-spinal meningitis nine, puerperal fever eight. From *scarlet fever*, New York 101, Philadelphia seven, St. Louis, and Baltimore three each, Pittsburgh two, District of Columbia and Lynn one each. From *small-pox*, New York 20, Pittsburgh 14, Philadelphia 12, District of Columbia three, Boston, St. Louis, Baltimore, Milwaukee, and Adams one each. From *measles*, New York 35, Philadelphia, St. Louis, Baltimore, and New Bedford one each. From *erysipelas*, Philadelphia 15, New York seven, Baltimore four, St. Louis and Lynn one each. From *whooping-cough*, New York five, Philadelphia, Boston, Baltimore, Pittsburgh, and Attleborough two each, Lynn and Somerville one each. From *diarrheal diseases*, New York 11, Boston and St. Louis two each, Baltimore one. From *malarial fevers*, New York nine, St. Louis and District of Columbia two each, Milwaukee one. From *cerebro-spinal meningitis*, New York two, Philadelphia, Boston, Pittsburgh, Milwaukee, Salem, Holyoke, and Haverhill one each. From *puerperal fever*, District of Columbia and Pittsburgh two each, New York, Boston, St. Louis, and New Haven one each.

Seventy-four cases of small-pox were reported in Pittsburgh, 14 in Baltimore, four in Milwaukee, four in Holyoke, three in Boston, Adams three, and District of Columbia one; diphtheria 23 cases, scarlet fever 15, typhoid fever 10, in Boston; scarlet fever 11, and diphtheria five, in Milwaukee.

In 42 cities and towns of Massachusetts, with a population of

1,090,033 (population of the State 1,783,086), the total death-rate for the week was 20.60, against 23.48 and 19.79 for the previous two weeks.

For the week ending January 14th, in 173 German cities and towns, with an estimated population of 8,275,419, the death-rate was 24.9. Deaths reported 3963: under five 1777; pulmonary consumption 538, acute diseases of the respiratory organs 439, diphtheria and croup 237, diarrheal diseases 117, scarlet fever 92, whooping-cough 68, typhoid fever 52, measles and röteln 35, puerperal fever 23, small-pox (Dresden, Frankfort-on-Oder, Aachen, Eupen two) five, typhus fever (Königsberg, Thorn, Tilsit, Posen) four. The death-rates ranged from 13.4 in Cassel to 41.7 in Kiel; Königsberg 31; Breslau 30.3; Munich 28.9; Dresden 25.3; Leipzig 20.9; Hamburg 25.6; Hanover 27.5; Bremen 20.5; Cologne 30.5; Frankfort 17.8; Strasburg 27.1.

In the 28 English towns, with an estimated population of 8,455,308, for the week ending January 21st, the death-rate was 22.6. Deaths reported 3669: acute diseases of the respiratory organs (London) 417, whooping-cough 178, measles 127, scarlet fever 96, fever 46, diarrheas 42, diphtheria 31, small-pox (London 20) 21. The death-rates ranged from 15.6 in Derby to 33.4 in Oldham; Bristol 30.1; Birmingham 20.6; Leeds 20.6; Manchester 22.2; London 22.8; Liverpool 24.7; Sheffield 25.1. In Edinburgh 18.4; Glasgow 25.4; Dublin 33.7.

The meteorological record for the week ending February 4th, in Boston, was as follows:—

| Date.                   | Barom-eter. | Thermom-eter. |          |          | Relative Humidity. |            |             |       | Direction of Wind. |            |             | Velocity of Wind. |            |             | State of Weather. <sup>1</sup> |            |             | Rainfall.            |                   |
|-------------------------|-------------|---------------|----------|----------|--------------------|------------|-------------|-------|--------------------|------------|-------------|-------------------|------------|-------------|--------------------------------|------------|-------------|----------------------|-------------------|
|                         |             | Mean.         | Maximum. | Minimum. | 7.23 A. M.         | 3.23 P. M. | 11.23 P. M. | Mean. | 7.23 A. M.         | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.        | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.                     | 3.23 P. M. | 11.23 P. M. | Duration Hrs. & Min. | Amount in inches. |
| January-February, 1882. |             |               |          |          |                    |            |             |       |                    |            |             |                   |            |             |                                |            |             |                      |                   |
| Sun., 29                | 29.785      | 23            | 34       | 13       | 88                 | 61         | 71          | 73    | SW                 | W          | W           | 11                | 27         | 16          | O                              | C          | C           | —                    | —                 |
| Mon., 30                | 30.049      | 23            | 33       | 11       | 83                 | 56         | 73          | 71    | SW                 | W          | W           | 14                | 16         | 12          | F                              | C          | C           | —                    | —                 |
| Tues., 31               | 29.697      | 28            | 32       | 17       | 61                 | 75         | 100         | 80    | SW                 | E          | NE          | 7                 | 4          | 35          | 0                              | S          | C           | —                    | —                 |
| Wed., 1                 | 29.852      | 31            | 38       | 21       | 88                 | 58         | 77          | 74    | NW                 | W          | SW          | 18                | 5          | 8           | F                              | C          | C           | —                    | —                 |
| Thurs., 2               | 29.945      | 33            | 42       | 26       | 77                 | 48         | 72          | 66    | SW                 | SW         | SW          | 9                 | 21         | 9           | C                              | C          | C           | —                    | —                 |
| Fri., 3                 | 29.908      | 25            | 38       | 12       | 78                 | 50         | 70          | 66    | W                  | NW         | NW          | 13                | 20         | 16          | F                              | C          | C           | —                    | —                 |
| Sat., 4                 | 29.931      | 15            | 24       | 4        | 76                 | 91         | 100         | 89    | NW                 | N          | NE          | 9                 | 8          | 36          | F                              | S          | S           | —                    | —                 |
| Means, the week.        | 29.881      | 25            |          |          |                    |            |             |       |                    |            |             |                   |            |             |                                |            |             | 30.50                | 1.96              |

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., snow; R., rain; T., threatening; X., clearing.

# OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM FEBRUARY 4, 1882, TO FEBRUARY 10, 1882.

WOODHULL, A. A., major and surgeon. The leave of absence granted him in S. O. 227, A. G. O., 1881, is extended one month and ten days. S. O. 27, A. G. O., February 3, 1882.

TREMAINE, W. S., captain and assistant surgeon, who reported at these headquarters January 9, 1882, per paragraph 12, S. O., C. S., A. G. O., will await further orders in New York city from date of his so reporting. S. O. 20, Department of the East, February 7, 1882.

WOOD, M. W., captain and assistant surgeon. The seven days' leave granted him on 4th inst. by post commander, Fort Brady, Mich., is extended twenty-three days. S. O. 19, Department of the East, February 6, 1882.

THE SURGICAL SECTION OF SUFFOLK DISTRICT MEDICAL SOCIETY will meet on Saturday, February 18th, at 19 Boylston Place, at eight o'clock. Dr. D. W. Cheever will report A Case of Cæsiophotomomy, with Fatal Results; also A Case of Litholapaxy, Successful. Dr. G. W. Gay will report A Successful Case of Litholapaxy. Dr. Henry J. Bigelow will take part in the discussion. H. C. HAYES, Secretary.

BOSTON SOCIETY FOR MEDICAL OBSERVATION.—A regular meeting of the Society will be held on Monday evening, Feb-

ruary 20th, at eight o'clock, at 19 Boylston Place. Reader, Dr. Nichols. Subject, A Case of Abdominal Abscess.

M. H. RICHARDSON, Secretary.

ALBANY MEDICAL COLLEGE.—The annual dinner of the Alumni Association of the above institute will take place at the Delevan House, Wednesday, March 1, 1882, immediately after the commencement exercises at Sneddle Hall.

W. G. TUCKER, M. D., Secretary.

BOOKS AND PAMPHLETS RECEIVED.—Moral (Affective) Insanity. A Plea for its Retention in Medical Nomenclature. By C. H. Hughes, M. D., St. Louis, Mo. Abstract of Paper presented to London International Congress. (Pamphlet.)

Opium-Smoking in America and China. A Study of its Prevalence and Effects, Immediate and Remote, on the Individual and the Nation. By H. H. Kane, M. D. New York: G. P. Putnam's Sons. 1882.

Transactions of the Thirty-First Annual Meeting of the Illinois State Medical Society, held at Chicago, May 17, 18, 19, 1881.

Transactions of the Minnesota State Medical Society, 1881. Transactions of the Medical Society of the State of New York for the Year 1881.

A Manual and Atlas of Medical Ophthalmoscopy. By W. R. Gowers, M. D., F. R. C. P. Second Edition. Philadelphia: Presley Blakiston. 1882.

## Original Articles.

NOTES ON CASES OF TYPHOID FEVER OCCURRING IN THE SERVICE OF DR. LYMAN AT THE BOSTON CITY HOSPITAL FOR QUARTER ENDING DECEMBER 31, 1881.<sup>1</sup>

DURING the last quarterly term of service, namely, from October to December inclusive, forty-seven cases of typhoid fever came under my charge. Of these, one died, one remained with phthisis complicated with syphilis, and the remainder were either discharged well of the fever or were so far convalescent as to be out of danger. Of the above cases many presented nothing unusual, running an uninterrupted course of greater or less severity to ultimate recovery, but all of them with certain pathognomonic symptoms in addition to the febrile condition, such as enlarged spleen, epistaxis, rose spots, diarrhoea, high temperature, etc., which made the diagnosis clear. Other cases of simple febricula without marked symptoms to justify a diagnosis of typhoid are not included in this summary.

As some of the cases presented interesting features, either during their course or as sequelae, I present them to the Society as a topic for discussion.

The number of cases for the quarter was unusually large. Heretofore admissions with typhoid have rapidly diminished after October 1st, but this year it has been otherwise, new cases being admitted until quite late in the season, a circumstance due, probably, to the unusual atmospheric conditions, the remarkable prolongation of mild autumnal weather. Whether the notorious condition of the city water supply for drinking purposes could have had any influence is uncertain, though the coincidence is noticeable.

Catarrhal and pulmonary complications have been more prominent than usual, in some instances, indeed, soon becoming the most important element of danger from broncho-pneumonia, pleuritis with effusion, and some terminating in well developed phthisis. A few of these I will sketch.

**CASE I.** *Typhoid fever followed by pleuritis and effusion.* James Phalan, twenty-seven years, single, entered September 27th. After a severe attack he convalesced so as to be able to sit up in three weeks, but in a day or two he had a sharp attack of pleuritis with well marked friction rub followed by effusion. This rapidly absorbed and in less than a fortnight he was discharged entirely well.

**CASE II.** *Pleuritis and muscular pains.* Beverly McDonough, age twenty-nine, entered September 21st with well marked symptoms. The disease progressed favorably for three weeks, though characterized by unusual prostration, tympany, and pain. When apparently convalescent he had a sharp attack of pleuritis. The convalescence from this was marked by severe rheumatic pains in the arms and lumbar region. He was discharged well November 14th. The chart shows a long continuance of high temperature with regular typhoidal curve in both primary and secondary affection. For sixteen days, from September 21st to October 7th, his temperature ranged from 103° F. to 104.5° F., fell for a week, and then rose again for ten days from 101.5° F. to 103° F.

**CASE III.** *Typhoid fever followed by pneumonia.* Bertha Roberts, age four, entered August 21st. She was very ill, and upon convalescence, September 18th, broncho-pneumonia developed, from which she recovered after long convalescence, and was discharged November 1st. The chart gives high and irregular temperatures.

**CASE IV.** *Laryngitis and hæmorrhage.* Henry Kolb. Entered September 11th. Had apparently no pulmonary signs, but the course of the disease was attended with a good deal of vomiting, diarrhoea, and delirium. On the fourteenth day he had a slight attack of hæmoptysis. Nothing further of importance occurred until the temperature became normal, on the 2d of October, when he had a well marked attack of laryngitis with cough and aphonia, which continued until November 7th, when he began to regain his voice and was discharged well on the 14th with nothing discoverable in the lungs by auscultation.

Intestinal hæmorrhage occurred in three cases as follows:—

**CASE V.** Garrett Fitzgerald, age thirty, entered December 21st, having been sick for some weeks. He was in a state of delirious stupor with diarrhoea, a black, dry tongue, and a most unpromising condition generally. Spleen much enlarged. On the 26th had an involuntary defecation with a small quantity of blood, followed in a few hours by a profuse and exhausting hæmorrhage, and later in the day a third, smaller in quantity. There was no subsequent recurrence, he convalesced very rapidly, and by January 16th was entirely convalescent.

**CASE VI.** Martin Haley (or Foley) entered August 28th with epistaxis, diarrhoea, etc. His temperature, as shown by the chart, with remissions of three to four degrees between morning and evening, went to 105.2° F. on the 1st and 3d of September, otherwise nothing unusual until the 20th, when he was able to sit up. On the 22d he had a return of diarrhoea with some hæmorrhage, and again on the 24th. Those were supposed to be due to improper food given surreptitiously by his friends. On October 14th he was discharged well.

**CASE VII.** F. Boylan, age 20, single. Entered October 14th, having been sick a week with usual symptoms. On the 18th had epistaxis and abundant rose spots, on the 21st was delirious and had a dichrotic pulse; on the 26th he had a recurrence of the epistaxis with carphologia; on the 28th excessive tympany, and on November 1st a very profuse hæmorrhage from the bowels followed by a smaller hæmorrhage and death.

The skin was affected by unusual symptoms in two cases, and in one case facial erysipelas existed as a complication.

**CASE VIII.** *General erythematous eruption.* Ellen Keefe, age twenty, single. Entered October 3d; besides rose spots there was a general erythematous rash over the arms and legs; there was no syphilitic history. In this case the spleen was enlarged to an unusual degree and very painful on pressure. November 2d three well marked fresh rose spots appeared. The splenic tenderness continued to November 24th.

The 5th of December she was discharged well.

**CASE IX.** *Macule.* John Roach, age thirty-seven, entered November 22d with well developed fever of two week's duration, with much cerebral disturbance, subsultus, spleen enlarged and tender. The trunk and legs were covered with a large number of macule from

<sup>1</sup> Read by Dr. Lyman before the Section for Clinical Medicine and Pathology of the Suffolk District Medical Society, January 21, 1882.

the size of a pin's head to a split pea. Some of these were crimson, but none resembled the darker macule of typhus. On the 24th began to improve, the charts showing temperature descending rapidly to below normal, the delirium disappeared and convalescence was rapid to December 3d, when he was discharged well.

**CASE X. *Erysipelas, taches bleues.*** William Gil-martin entered November 7th, having been sick one week with headache, sleeplessness, brown, dry tongue, epistaxis, and diarrhœa. On the 10th "taches bleues" were abundant on abdomen and thighs. December 3d, after an increased temperature of several days, quite a sharp attack of facial erysipelas supervened, lasting to December 11th, after which convalescence was rapid and he was discharged well on the 24th. (The chart gives a regular typhoid curve until erysipelas supervened, when the contrast became marked.)

Muscular pains of unusual severity and obstinacy have also been a marked feature, due, presumably, to partial granular degeneration of the muscular fibre from defective nutrition. In one of these, complete paralysis of the lower extremities is noticed as follows:—

**CASE XI. *Typhoid fever followed by temporary paralysis.*** Mary Nyphon, twenty, single, entered September 1st, complaining for a week with pain in the head and bones, and weakness. Has had some cough and diarrhœa, also chancreoid ulcers in vagina. Has been confined to bed for one week. Pulse 126, temperature 104° F.

September 4th, examination of chest gave negative results. Has no symptoms corresponding to the high temperature.

September 7th, vomiting. Mind quite stupid.

September 9th, temperature 105° F., more drowsy and delirious, rose spots and diarrhœa.

September 14th, abundant sonorous and sibilant râles, temperature 105° F., and very delirious.

September 18th, mind clear, but answers slowly; much prostrated.

September 22d, delirious again, and more prostrated. She was desperately ill for a few days, rejecting everything from stomach.

September 30th, mind became clear though with rising temperature, tongue more moist. She continued with alternations of diarrhœa, vomiting, etc., to October 8th, when she again became delirious and deaf.

October 10th, was better. The râles disappeared, the chancreoids healed, and she improved slowly but steadily, with normal temperature, to the 31st, when she was allowed to get up. On attempting to walk found an entire loss of power in lower limbs. She could stand with assistance but was unable to control the direction of her movements. Under the use of frictions, stimulants, and good diet she gradually regained locomotive power and was discharged well November 18th.

In this case the temperature ranged from 101° F. to 105° F. to the sixteenth day after entrance, then gradually receded to 99° F. the twenty-second day, when it began to rise again to the 28th, the thirty-third day of her illness, when it reached 104.6° F. From this it fell gradually to normal.<sup>1</sup>

One case was noticeable as being followed, when entirely convalescent, by a sharp attack of variola, and is merely mentioned here, not as having any relation to the antecedent fever, but as showing the occasional difficulty of tracing the origin of contagious disease. The patient entered the hospital October 22d, on the tenth day of typhoid fever. It pursued a regular course. She was convalescent November 18th, up and about the ward. On the 21st she was attacked with nausea, lumbar pains, injected conjunctivæ, etc., temperature rising to 105° F., and pulse 124. On the 22d the vesicles were manifest, and she was transferred to Small-pox Hospital, where she eventually recovered. She had had no exposure to outside contact for a month. It can only be accounted for by supposing that the germs had been implanted before entrance, remaining latent during the intercurrent typhoid.

Finally, three cases of well-marked phlebitis or thrombosis occurred as sequelæ to the fever, and I may add that a fourth occurred in my private practice about the same time, a sketch of which I shall add to the others. The first of these was so slight a case as to be hardly worthy of notice, except as in connection with the others.

**CASE XII. A. M., twenty-one, single, entered September 3d.** He had a severe attack, with rose spots, delirium, subsultus, etc. The fourth day after entrance his chart records a temperature of 105.5° F. From that time it fell steadily, reaching normal on the 16th of September, the nineteenth day of the disease. He remained in the hospital for convalescence until October 15th, when he had pains in the right leg and ham, with œdema. The application of a blister, with flannel bandaging, relieved the pain, the œdema gradually subsided, and he was discharged well October 26th.

**CASE XIII. D. McD., aged twenty-eight, entered December 17th, convalescent from typhoid of six weeks' duration.** He had three rigors before entrance, night sweats for a week, and was very anæmic, tongue dry and brown, and he complained much of pain in the right leg, which was swollen and œdematous. This pain, first noticed in the calf, was now chiefly in the foot, the inner aspect of the thighs, and about the crural opening, where it was tender on pressure. A blister was applied to the groin, the leg firmly bandaged, and tinct. chlo. iron given internally. The relief to the pain was immediate, the tenderness and swelling gradually disappeared, and he was discharged well January 7th with some weakness only in the limb.

**CASE XIV. B. S., twenty-nine, entered November 5th with well marked symptoms.** Temperature 105° F.; daily typhoid dejections, tympany, stupor; dielrotic pulse; subsultus; a few bronchial râles; and much prostration. His temperature after the first day was very irregular, varying from 99° F. to 103.5° F., with the ordinary course of a grave case of typhoid until the 27th, when he had a marked rigor, followed on the 29th by one still more severe, the temperature rising to 105.6° F. On seeing him the following morning I found well marked bronchial respiration, with flatness on percussion over the lower right back, and above the nipple in front, with a few moist râles on forced respiration. His evening temperature fell to 97° F., eight and six tenths degrees; pulse 76. On the following day, December 1st, in addition to the pulmonary complication there appeared swelling and œdem of the left leg and thigh, but without pain,

<sup>1</sup> A case of purpural polyæthærosis of long duration, but now convalescent, was mentioned in this connection, where the loss of sensation and motion in lower extremities is well marked. Her chart shows long continuance of high temperature.



heat, or redness. Patient very stupid. December 2d. Limb more swollen, and notwithstanding his weakness and stupor he complained manifestly of pain and tenderness in the popliteal region. On the 6th he had another severe rigor, and on the 8th there was discovered hardness and pain in the femoral region, with extensive œdema from the toes to the groin. These were relieved by a blister and a firm flannel bandage from the foot upwards. From this date he rapidly convalesced from his complicated troubles, and was discharged well January 10th, with but little weakness remaining in the limb.

CASE XV. Mrs. F., aged sixty, was taken the 1st of November with the ordinary symptoms of mild typhoid. She complained mostly of headache and extreme prostration, and there was occasionally some mental confusion. The temperature on two occasions only, rose above 100° F., once to 103.2° F., and once to 100.5° F. The disease ran its course with no complications until the commencement of convalescence, early in December, when she had a sharp attack of pneumonia, with pain, chill, and dyspnoea. She had crepitant râles, succeeded by bronchial respiration and gradual resolution. The worst day of the disease was December 9th, when her temperature was 101.5° F., pulse 140, respiration 42. The pain prevented cough and expectoration, but there was a constant subdued effort at cough. The bed-pan being very troublesome in the horizontal position, she, on several occasions, rose from the bed to use it, but the tendency to syncope, once resulting in momentary loss of consciousness, was so marked that she was forbidden to repeat the experiment. December 16th I considered her convalescent, but the following day she complained of swelling, pain, and stiffness in the right leg, with a renewal of febrile symptoms. The swelling of the limb rapidly assumed enormous proportions. A blister to the upper part of the thigh, with tight bandaging from the foot upwards, relieved her discomfort, and now, January 21st, the swelling is nearly gone, and she is able to walk from room to room. I should add that Mrs. F. has for some years had more or less of inconvenience from varix of both lower extremities.

It is quite common to call such cases of venous obstruction, with more or less of hardness and tenderness of the veins, and with distal swelling and œdema, phlebitis, but it is questionable whether this is not without sufficiently careful discrimination between phlebitis and thrombosis.

We may have phlebitis of the crural, for instance, with thrombus as one of its results, or thrombus may occur as the result of weakened circulation and altered blood, followed by more or less phlebitis, as is evidenced by the pain, tenderness, and febrile reaction.

A partial anasarca may well enough occur in typhoid fever from cardiac weakness, renal complication, or enlargement of mesenteric glands, all of such common occurrence in typhoid, but true thrombosis and much more true phlebitis is probably not of frequent occurrence.

Liebermeister gives<sup>1</sup> but thirty-one cases of thrombi in 1743 patients, and Dr. DaCosta, in a recent number of our Medical and Surgical Journal, cites such a case as a rare and unusual complication.

A simple thrombus occurring, as is usually the case, late in the disease, should be of itself rarely fatal, and the less so the more distant from the heart, but it

should lead to extra caution until the convalescence is unmistakably well advanced; and until the heart has recovered its tone, common prudence dictates absolute rest and freedom from excitement. If it be the expression of cardiac weakness from muscular degeneration, the erect posture, by inducing faintness (as in the last of the above cases), might result in heart clot. Or too early exertion may favor the formation of an embolus from detachment of a portion of the clot. This is now well recognized as a matter of importance in all exhausting diseases complicated with high temperatures.

Entire rest, proper bandaging of the swollen limb, and, if there be local tenderness discoverable, a small blister, will usually give great and speedy relief. The above cases, it will be noticed, all occurred so late in the disease that a blister was unobjectionable.

I offer the above cases chiefly as being illustrations of the well-known tendency existing after exhausting disease with long continued high temperature, to granular muscular degeneration, and also to the liability to fibrinous deposit in any septic condition of the blood, causing thrombi either in the larger vessels of the extremities, where they are immediately recognizable, or in the capillaries of the internal organs, lungs, liver, spleen, and kidneys.

#### A CASE OF DISEASE OF THE LIVER TERMINATING FATAALLY IN A MONTH.<sup>2</sup>

BY HENRY J. BIGELOW, M. D.

I HAVE been requested to report this medical case here to-night. The patient was about forty years old, and had been in good health up to the early part of November, 1881. He possessed a robust constitution, and his antecedents were healthy. When a child he had been subject to prolonged attacks of pain in the bowels, the character of which it is not easy now to determine, but for which he was subjected to a severe dietetic regimen for many weeks at a time; evidence, perhaps, connected with the condition of the appendix caeci discovered at the autopsy. He spent the summer of 1881 at his country residence, and was then in excellent health.

On the 1st of November he returned to town, when certain prodromata at once supervened. These symptoms were mainly a feeling of weariness, with loss of appetite and sleeplessness.

November 14th the patient had a first and only chill, followed by pain in the bowels, for which he took a dose of oil without relief. The next day, November 15th, Dr. Bigelow saw him. There was then a localized pain in the region of the anterior superior spinous process of the right side, with tenderness on pressure to a degree that suggested the existence of typhilitis or perityphilitis. This pain lasted three days, and, November 20th, was replaced by another. The location of the second pain was three inches higher on the abdomen, with less tenderness, being more like colic, and was treated with opiates in small doses. This continued a few days, and then in its turn also subsided.

On the 23d of November a pain began to locate itself near the lower border of the ribs, being indistinctly diffused over the entire hepatic region. There was now

<sup>2</sup> Reported to the Section for Clinical Medicine and Pathology of the Suffolk District Medical Society, January 21, 1882.

<sup>1</sup> Ziemssen, vol. i., 164.

also dyspnoea and shortness of breath, directing attention to the thorax, which was repeatedly and carefully examined. But although a certain feebleness of respiration and dullness existed at the lower part, it was soon determined that this was not due to pleurisy. The dyspnoea was the result of pain in the hepatic region. The tenderness now extended quite around this side of the chest.

About December 1st there was a little oedema, the skin being now pitted upon pressure over the side and back.

Dr. Bigelow here read a passage from Ziemssen,<sup>1</sup> which had suggested to him at this time what proved to be the correct solution of the various symptoms in this case, namely, an inflammation near the head of the caecum extending through the venous circulation to the liver, spreading and suppurating in that organ. The principal symptoms were now (early in December) those of inflammation of the liver. There was little doubt of suppuration in or about the liver; for though the absence of chills was thought remarkable, authorities agree that chills are not necessarily present in suppuration of the liver. The liver now began to appear in the right hypocondrium; a portion measuring one finger long by two fingers broad protruding below the margin of the ribs. This part alone was accessible to the touch, and to this the patient referred a chief pain and tenderness which continued till the end. Death occurred December 14th, a month after the invasion of active symptoms.

The charts of temperature and pulse in this case are interesting by their negative indications. From November 16th to November 23d the temperature was normal. November 24th and 25th it reached its highest point, being 101.5° F. December 1st, 2d, and 3d it was never higher than 101° F., and in the afternoon sank regularly to about 99° F. From this time the temperature was nearly normal, and during the remainder of the disease was often a degree below that point. The pulse stood at about 70 during the entire illness till three days before the fatal termination, when it gradually rose to 100, its highest rate. The tongue was uniformly covered by a light-colored pasty coat, not dry until a few days before the fatal termination. The bowels were constipated, but the daily employment of opiates to alleviate the pain may have contributed to this result. During the last week of the disease there were two large evacuations of dark color and pasty consistence, each discharge followed by an alarming exhaustion and collapse. These unfortunately were not analyzed. They possibly contained blood. If so the hæmorrhage was not a recent one. The anorexia was complete throughout the disease, food consisting of arrowroot and broth being taken with reluctance. There was never vomiting. During the third week of the disease the oedema of the right side became more marked, and there was anasarca of the right leg and foot. As the oedema of the side increased the patient was examined daily to determine the possibility of aspiration. There was no indication to justify this operation. The autopsy showed that any attempt at aspiration would have been fruitless. There was a slight jaundice of the conjunctiva during the last three days. The urine was scanty, but was not examined chemically or microscopically during the disease. Before death the abdomen was tympanitic and tender, as it might be from peritonitis.

In consultation Dr. Wyman saw the patient repeatedly, and at a final consideration of the question of tapping, also Dr. Hodges.

## A PARTIAL REVIEW OF EIGHTEEN CASES OF GENERAL PARALYSIS OF THE INSANE.<sup>2</sup>

BY E. S. BOLAND, M. D.

I HAVE to offer to-night only an imperfect review of eighteen cases of general paralysis, which are among those treated at the Boston Lunatic Hospital since April, 1878.

Four of these cases still live, and have to be excluded from some of the figures.

From incomplete records and want of systematic observation some important clinical facts have been overlooked. This paper was first thought of as a consideration of the epileptiform seizures of general paralysis, but my facts were found to be too scanty to be of value. The same is true of the patellar and pupillary reflexes and ophthalmoscopic examinations to some extent, these latter having been noted only in the last half of the cases.

I have no new facts nor theories to advance as to cause, pathology, or treatment, but trust that the interchange of opinion which this reading may occasion shall be of mutual benefit.

This investigation has shown me the necessity for a systematic form for case taking and recording, so as to be of value for study and comparison. The following facts in regard to these eighteen cases are arranged according to such a form.

For the time covered by this paper the general paralyties were ten per cent. of all admissions.

*Sex.*—One female, seventeen males.

*Age.*—The ages on commitment varied from thirty to sixty-eight years, average forty-five and one third years.

*Nativity.*—Twelve American; three Scotch; one English; one Holland; one New Brunswick.

*It is seen there are no Irish in this list, though the actual number of Irish is over twenty-seven per cent. of all admissions. The exemption of the Irish has been discussed by English observers, but I do not remember to have seen a satisfactory explanation.*

*Occupation.*—Five worked at trades; four merchants; four clerks; three worked at mechanic arts; two followed professions.

The number following laborious occupations is seen to be small.

*Social condition.*—One widower; three single; fourteen married.

*Hereditary predisposition.*—Two known to have had insane relatives; sixteen either no hereditary influences or antecedents unknown.

*Habits as to the use of alcoholics.*—Three were known to have been intemperate; three were known to have been moderate drinkers; twelve were known to have been temperate.

*Sexual habits.*—Three were known to be addicted to excesses. One showed increased sexual desire after the inception of the disease. Three had other venereal troubles, as stricture, gleet, suppurating bubo or scars. Three only were believed to have had syphilis.

<sup>1</sup> Vol. xix., pages 899-917.

<sup>2</sup> Read before the Boston Medico-Psychological Society.

**Epileptiform seizures.**—Ten had the seizures from three months to as many years before death. Six had the attacks from two to twenty days before death. Two have not yet had the seizures.

Many of the attacks could not be distinguished from the *grande mal*, except that the sphincters were more often involved, and the temperature was almost always found increased during and after the attack, and ranged from 99° to 105° F., the latter with a fatal termination.

**Gait.**—Ten showed ataxic gait on admission. In the other cases ataxia did not occur until months later, and in one case the patient could run as late as two days before he died.

**Appearance.**—In three depression was observed. The others were either maniacal, exhilarated, or vacantly contented.

**Speech.**—Ten, speech much affected on admission. Four showed but little impairment until the onset of the fatal convulsions. Four seemed to be cases of ataxic aphasia, for there was no lack of ideas or of will to express them.

**Nature of the ideas or delusions.**—Twelve had the expansive delirium in regard to their abilities, prospects, or possessions. Six showed no such extravagant ideas.

**State of the eyes.**—Dilatation of pupils not noted. Contraction of pupils seen occasionally. Inequality of pupils noted often after the epileptiform seizures. In two the mobility of the eyes (ocular muscles) was so great as to interfere with the examination. Nine cases examined with the ophthalmoscope gave negative results.

**State of patellar reflex.**—Thirteen were tested as to the knee phenomenon. Eleven gave the normal reaction; one gave no reaction; one gave the rebound on the right side, but not on the left.

**Length of Disease.**—Average time in hospital, twenty-two months. Average time of disease thirty-seven months.

**Mode of death.**—Gradual exhaustion associated with hypostatic pneumonia, oedema of the lungs, inhalation pneumonia, and bed-sores. After the epileptiform seizures bed-sores would often form, to heal again after the effects of the seizure had passed off.

**Pathology.**—Of fourteen dying in the hospital twelve were examined, seven by the staff and five by Dr. W. W. Gannett and the staff.

The subjoined list shows the principal lesions noted, though the connection or dependence of the clinical observations could not always be demonstrated:—

|  |    |
|--|----|
| Increased thickness of skull . . . . .                               | 4  |
| Abnormally adherent dura . . . . .                                   | 3  |
| Pachymeningitis . . . . .  | 4  |
| Meningeal hæmorrhage . . . . .                                       | 2  |
| Bone plates in dura . . . . .  | 2  |
| Thickening and opacity of the pia . . . . .                          | 3  |
| Degenerative changes in the arteries of the base . . . . .           | 6  |
| Occlusion of one vertebral artery . . . . .                          | 3  |
| Decortication of the summits of some of the convolutions . . . . .   | 3  |
| Atrophy of the brain . . . . .                                       | 14 |
| Oedema of the pia . . . . .  | 14 |
| Gross atrophy of gray matter . . . . .                               | 3  |
| Increase of fluid in ventricles . . . . .                            | 6  |
| Cysts of the choroid plexus . . . . .                                | 3  |
| Granular ependymitis . . . . .                                       | 6  |
| Atrophy of the olfactory bulbs . . . . .                             | 2  |
| Round-celled infiltration of the perivascular lymph spaces . . . . . | 5  |
| Pigmentation of the ganglion cells of the gray matter . . . . .      | 5  |
| and basal ganglia . . . . .  | 1  |
| Miliary aneurisms . . . . .  | 1  |

<sup>1</sup> These five were all that were examined microscopically.

## REPORT ON PROGRESS IN THE TREATMENT OF THORACIC DISEASES.<sup>1</sup>

BY F. L. KNIGHT, M. D.

### TREATMENT OF INTRA-THORACIC SUPPURATING HYDATID BY INCISION AND EXTRACTION OF THE CYST. (*Continued*.)

Drs. Fenger and Hollister have a very interesting and exhaustive paper<sup>2</sup> on opening and draining cavities in the lungs, in which they give a case of their own which has also been published in the *Chicago Medical Review*, vol. iii., No. 3. In this case there was, in a man thirty-four years old, a large fetid abscess-cavity in the middle lobe of the right lung caused by supuration around a large echinococcus cyst of twelve years' standing. There was diffuse purulent bronchitis in the rest of the right lung, with fever, emaciation, and collapse. After exploratory aspiration an incision was made in the third intercostal space on the anterior surface, two inches to the right of sternum. Digital exploration of the cavity was made. A counter-opening also was made in the fifth intercostal space, anterior axillary line. The sac of the echinococcus cyst was removed through the anterior opening. Drainage was established by means of a large rubber tube, the cavity was washed out with carbolic acid solution, and antiseptic dressings applied. The fetor of breath and expectoration ceased, and the wound closed in six weeks. In the seventh week there was broncho-pneumonia of the right lung, with diffuse purulent bronchitis of this and of the lower lobe of the left lung, lasting four weeks. There was, however, perfect recovery.

### ÆTIOLOGY OF MILIARY TUBERCULOSIS.

Klein contributes an interesting article on this subject.<sup>3</sup> He says that the evidence afforded by modern pathology favors the assumption that miliary tuberculosis is a specific infectious disease. (Miliary tuberculosis is considered here as defined by Virchow, and altogether distinct from caseous inflammation and scrofula.) This evidence is, however, not yet so complete as we could wish, nor such as to place it on a level with that by which the nature of other specific diseases is already ascertained.

The evidence which has yet been obtained may be conveniently stated under the following heads:—

- (1.) Evidence to show that miliary tuberculosis is communicable from one human being to another.
- (2.) That it is communicable from a human being to an animal, and from animal to animal.
- (3.) Evidence regarding the nature of the *materies morbi*.

He now takes up these heads and considers them in detail:—

- (1.) Evidence that tuberculosis is communicable from one human being to another.

(a.) Tuberculosis may be inherited. Although inheritance is not a distinguishing character of infectious diseases,—being an endowment common to all living matter, and being specially noticeable in certain morbid states altogether distinct from infectious diseases, for example, cerebral abnormalities, cancer, gout, etc., are notoriously capable of being inherited—yet associated with other characters distinguishing a specific dis-

<sup>1</sup> Concluded from page 159.

<sup>2</sup> American Journal of the Medical Sciences, October, 1881.

<sup>3</sup> Practitioner, vol. xxvii., No. II.

ease, inheritance has nevertheless a certain value, even if only an indirect one.

(h.) Tuberculosis is acquired in various ways:—

Firstly, it may be communicated from husband to wife, or *vice versa*. The evidence on this point is rather conflicting, inasmuch as there are a good many assertions denying such a communicability; but as in other conditions, so also here, one well authenticated, positive case outweighs all the negative ones. While Gabler, Drysdale, Guérin, Bouley, and Villemin cite cases to show the communicability of tuberculosis from husband to wife and *vice versa*, Cotton, Pidoux, Roche, and others deny such communicability. Guérin mentions the case of a man who, suffering from tuberculosis, infected his wife with this disease; the man dies and his widow marries again. She, having communicated the disease to her second husband, died; this man marries again, and communicates the malady to his second wife.

Reich observed in the village of Neuenburg, situated on a high bluff of the Rhine, and enjoying excellent hygienic conditions from July 11, 1875, to September 29, 1876, ten deaths from tubercular meningitis in children born between April 4, 1875, and May 10, 1876. No hereditary disposition could be established. All these children were attended by the same midwife, who was suffering from lung disease (caseous and sanguipurulent sputa) and died July 23, 1876. She had the bad habit when the child was born of removing the phlegm from the respiratory passages by sucking with her mouth, and in slight cases of asphyxia, of blowing air into the child's mouth.

(2.) Evidence that tuberculosis is communicable from man to animals, and from animal to animal.

Villemin in 1865 first succeeded in inoculating rabbits with matter taken from human gray as well as softened tubercles and producing in them a disease, which in its general characters showed a great resemblance to disseminated milary tuberculosis, chiefly in the lungs, but also in the liver and intestines, and occasionally also in the spleen.

These experiments of Villemin, that is, of inoculating animals, chiefly rabbits and guinea-pigs, have been successfully repeated over and over again by a great many observers, — Taubhaus, Bijen, Hérard, Cornil, Lebert, Marcet, Hoffmann, Waldenburg, Klebs, Sanderson, and Simon, Wilson, Fox, Cohnheim, and Fränkel, Friedländer, Herring, and many others.

This question of the production of disseminated tuberculosis in animals by inoculation has, in more recent times, assumed altogether a more satisfactory aspect since Cohnheim and Salomonsen succeeded in producing undoubted milary tuberculosis of the iris, with subsequent general tuberculosis, in rabbits and guinea-pigs, into whose anterior eye-chamber a minute particle of human tubercular matter had been previously introduced. The results of these inoculations are so striking and so conclusive that all doubts must disappear as to the inoculability of human tuberculosis into animals to the full extent asserted by Villemin. These assertions, namely, "that human tuberculosis is an infectious disease caused by a specific agent, transmissible to animals," at first, with few exceptions, met with considerable opposition. Compare Pilon, Colin, Aufrecht. But since the last experiments of Cohnheim and Salomonsen, and others presently to be mentioned, they certainly are borne out to their full extent. These observers introduce a perfectly fresh bit of tu-

berculous tissue from the human subject into the anterior chamber of the eye of a rabbit or guinea-pig. They find that in a short time the first irritation passes off, the bit of tissue diminishes gradually in size, and disappears altogether. After the lapse of an incubation period of three weeks there appears suddenly a crop of minute gray tubercles in the iris, which, after having increased to a certain extent in size, undergo cessation.

These observers have been further able to ascertain that this result, namely, an irruption after a definite incubation of minute gray tubercles in the iris, is followed only and exclusively after the introduction of real tubercular matter, and of no other substance. Cohnheim, in his classical work on Tuberculosis (*Ordinarius Medicorum Lipsiensis decanus et reliqui professores memoriam E. G. Boscii, die 23 September, 1879, etc.*), in consequence of this important discovery, borne out by subsequent investigation, is enabled to assert that "To tuberculosis belongs everything which by transmission on suitable animals produces tuberculosis, and nothing, which is not transmissible."

Now, for the first time, we appear to have succeeded in obtaining, through Cohnheim and Salomonsen, the means by which real tubercular matter can be distinguished from all other caseous, secondary, and chronic inflammatory products, especially scrofula, namely, the iris tuberculosis produced in rabbits and guinea-pigs by human tubercle and nothing else.

Besides the transmission from man to man by inoculation, there are recorded observations as to the transmissibility of tuberculosis by feeding. Jacobs mentions that a dog that swallowed for some considerable period the sputa of his tuberculous master showed on post-mortem examination tuberculosis of the lungs and of the pleura.

(3.) Evidence as regards the nature of the *materies morbi*. Brühl was the first to maintain a causal relation between caseous matter and milary tuberculosis, inasmuch as he regards milary tuberculosis as a specific infectious disease due to the absorption of matter from a caseous focus. This dependence of milary tuberculosis on caseous matter received a great deal of support from the production by inoculation with caseous (tubercular and non-tubercular) matter, and with indifferent substances leading to caseous inflammation, in rabbits and guinea-pigs, of artificial milary tuberculosis, or what resembles it. But, as was subsequently proved by Cohnheim and Salomonsen, and by Baumgarten, for the production of milary tuberculosis of the iris with subsequent general tuberculosis in rabbits (compare also Tappeiner's inhalation tuberculosis in dogs) real tubercles (gray or caseous) must be employed, other non-tubercular matter, caseous or catarrhal, not producing any effect. It follows, then, that the *materies morbi* is present in the gray tubercle, and is not present in all and every caseous matter, but only in that derived from real tubercles.

— The *Boston Journal* is responsible for the following: The Board of Health of Arcade, N. Y., has served notice on a farmer living near that village to wash himself. He has not done so, it is claimed, for forty years, and so filthy had he become that a committee was appointed to abate the nuisance if possible.

## Reports of Societies.

### SUFFOLK DISTRICT MEDICAL SOCIETY: SECTION FOR CLINICAL MEDICINE AND PATHOLOGY.

ALBERT N. BLODGETT, M. D., SECRETARY.

JANUARY 21, 1882. The meeting was called to order at eight o'clock. The death of Dr. T. B. Curtis, who was elected to the office of chairman of the Section at the last meeting, made the election of a new chairman necessary. On motion of Dr. G. H. Lyman Dr. G. B. SHATTUCK was elected chairman. The records of the last meeting were read and approved.

Dr. G. H. LYMAN read a paper entitled

#### SOME OF THE SEQUELÆ OF TYPHOID FEVER.<sup>1</sup>

Dr. BOWDITCH called attention to one of the cases mentioned by Dr. Lyman in which simultaneously with an attack of intercurrent erysipelas there was a notable fall of temperature, and asked the explanation of so unexpected an occurrence. Dr. Bowditch would have expected an elevation of the former temperature, but there was in this case a decided reduction.

Dr. LYMAN said such an event was not common and he attributed it to weakness.

Dr. E. G. CUTLER stated that in the case of one patient with typhoid, there was an intercurrent attack of pleuritis with decided elevation of the former temperature, and in this condition quinine seemed powerless to effect a reduction of temperature. Dr. Cutler also called attention to one of Dr. Lyman's cases, Bertha Roberts, in which the daily fluctuations were extreme and not in accordance with the general variation in this disease.

Dr. LYMAN said that this patient had been a long time in the hospital and was already convalescent from typhoid, and that these temperatures belonged to the sequelæ. In many cases the typical typhoid chart, as described by Wunderlich, is observed, but in the majority the temperature is irregular. Many of the charts show the long continuance of high temperatures as influencing the development of thrombus and the granular degeneration of muscles.

Dr. H. J. BARNES asked if typhoid had not been unusually prevalent this year.

Dr. LYMAN said it had been. Dr. Rowe had endeavored to discover some localization in regard to the various portions of the city, but was unable to do so.

Dr. BARNES observed that people on the Back Bay district of Boston do not suffer from typhoid and that they have not drunk the water supplied to the city.

Dr. LYMAN agreed with the last speaker in the extreme rarity of typhoid on the Back Bay.

Dr. TARBELL gave a brief *résumé* of the cases occurring under his care in the wards of the Massachusetts General Hospital during September and October, 1881.

There were twenty-eight in all. Of these five died and the rest have recovered. Of the complications referred to, five had extreme deafness, three had severe intestinal hemorrhage, three had phlebitis of femoral vein, three had broncho-pneumonia, and four had distinct relapses of the fever. The epidemic of this year had been of an unusually severe type, as indicated by the large death-ratio. Of the five deaths, two were moribund at time of admission, two died in the fourth and fifth week of the fever, after severe intestinal hæm-

orrhages. The treatment consisted of sponging with tepid water, milk diet, with beef tea as a stimulant where it was well borne. Little or no medicine, and alcoholic stimulants to but a small proportion of the patients, and to them only in the period of exhaustion, usually during and after the third week of the disease.

Dr. LYMAN said his treatment was to let them alone, responding only to special indications. Sponging with cool water is employed in cases of high temperature, enemata are administered when constipation is present, at times turpentine stupes are employed, but as a rule they receive no medication whatever. They are given milk in any desired quantity, and stimulants are added if there is cardiac weakness. In some cases a large amount of stimulants is required, and as much as eighteen or twenty ounces are necessary in the course of a day.

Dr. TARBELL recalled a paper read by Dr. Edes some years ago advocating the employment of the cold douche in pyrexia. During the same year Dr. Tarbell had the same number of cases of typhoid in none of which the douche was employed in treatment, and obtained a trifling better result in recoveries.

Dr. LYMAN said he never uses cold baths, and is inclined to think there is much fallacy in this mode of treatment. Dr. Lyman basis his treatment of typhoid on the formula of Thomas Watson, which is to "obviate the tendency to death." Hemorrhage, diarrhoea, etc., must be met by appropriate remedies when necessary.

Dr. HAROLD WILLIAMS said he had recently treated a case of typhoid in which death occurred from phlebitis.

Dr. TARBELL had seen no fatal result from this cause.

Dr. LYMAN said that one of Dr. Sumner's patients in the City Hospital died from phlebitis.

Dr. C. F. FOLSON said that there had been an increase in the prevalence of typhoid fever throughout the State during the year 1881, as well as in Boston. The decrease from 1872 to 1879 had been steady and very great, reaching the lowest death-rate from that cause ever recorded in Massachusetts, at the same time that there was an excessive amount of intermittent fever in the western part of the State, which gradually increased from 1879 to 1880. Typhoid fever had been increasing since 1877. Thus far, it has been the case that, in spite of a great improvement in the sanitary condition of towns from year to year, typhoid fever does not progressively diminish in its degree of prevalence but increases for a period of years, decreases, and then rises and falls in the mortality list as it did before attempts were made to control it. From 1877 to 1880 both typhoid fever and intermittent fever increased in prevalence; from 1880 to 1881, the same has been true of typhoid fever but the opposite of intermittent fever.

Dr. LYMAN asked for information in relation to the correspondence of continued high temperature with degeneration of muscular structures, especially the heart.

Dr. FITZ replied that muscular degeneration takes place independently of high temperatures. Blood poisoning and other destructive processes have a greater influence on granular degeneration of muscular fibre than the temperature. A peculiar waxy degeneration affects the rectus abdominis muscle especially and is often due to hemorrhage into the muscular structure. Muscular degeneration is always associated with great prostration, in which condition hemorrhages may more frequently occur.

Dr. LYMAN said it was interesting to notice how

<sup>1</sup> See page 169 of this JOURNAL.

few cases of muscular degeneration had been observed in the combined cases of Dr. Tarbell and himself. In these seventy-eight cases there was almost entire absence of this feature. In hospital practice it was not probable that the lesion would be overlooked, so that it is fair to consider it absent. This makes it evident that the muscular degenerations must depend upon something else than high temperature.

DR. F. G. MORRILL asked in what proportion of cases a reduction of the temperature is observed after the administration of quinine.

DR. LYMAN replied that it was noticed in almost every instance. The drug was given at night in doses of fifteen to twenty grains and the temperature was uniformly lowered. It is the rule in the City Hospital.

DR. MORRILL observed that in one of the clinical charts the temperature continued high, although quinine was administered.

DR. LYMAN remarked that this was a complicated case, and was not a fair one in which to test the efficacy of antipyretic measures.

DR. MINOT said that in many cases in which twelve grains of quinine effect no reduction of temperature he is accustomed to prescribe ten grains every fifteen minutes until forty grains have been taken, unless the temperature falls sooner.

DR. LYMAN said he followed the same rule whenever the temperature reached  $104^{\circ}$  to  $105^{\circ}$  F. He has observed no ill effects from these large doses. In the City Hospital ten grains is given every hour in excessive degrees of temperature, and in one case ninety grains were administered in one night before the thermometer indicated a lower temperature. He should pursue the same treatment in a similar case. Quinine does not cause deafness in single large doses. In continued small doses deafness often follows.

DR. BOWDITCH called attention to a paper by Dr. Baldwin (of South Carolina?), who contends that quinine often produces great injury to the system, sometimes causing death, and asked the opinion of other gentlemen.

DR. LYMAN replied that the article in question was a part of a controversy in which Dr. Baldwin was engaged with another practitioner in regard to quinine. Dr. Baldwin opposed the reckless administration of quinine for *everything*, as is often the case in the South, but did not object to any proper and necessary use of the drug.

DR. WOOLDRIDGE has long practiced in malarial districts, and has been accustomed to prescribe fifteen to twenty grains at a single dose, and no more. He has usually observed no ill effects, though patients differ in toleration of large amounts of this drug. Some cannot tolerate even small doses without great suffering, and many may have been killed by its continued use.

DR. LYMAN asked if the bromides were given in conjunction with quinine.

DR. WOOLDRIDGE replied that he usually combined them, as the toleration of quinine was thereby augmented, and the bromide is useful in itself.

DR. SHATTUCK observed that numerous cases are reported in German literature in which thirty to forty grains produce delirium and serious gastric symptoms, and that salicin is sometimes substituted for quinine. It is generally administered in cachets. Dr. Shattuck asked Dr. Folsom the relation of intermittent fever to typhoid as shown by the late vital statistics of Massachusetts.

DR. FOLSOM replied that in Berkshire County, dur-

ing the years 1874 to 1876, 1878 and 1879, during an uninterrupted diminution of typhoid fever, intermittent fever increased astonishingly. During 1879-80 both diseases prevailed extensively. It is probable that during the years 1880-81 there has been a decadence of both diseases, but statistics upon this subject are not yet accessible.

DR. H. J. BIGELOW then presented a paper entitled

#### A CASE OF DISEASE OF THE LIVER TERMINATING FATALLY IN A MONTH,

which is published on page 171 of this journal.

DR. FITZ gave an account of the autopsy, which was made about thirty hours after death.

The thoracic organs showed nothing abnormal. On opening the abdominal cavity, gas escaped, the intestines were found glued together by soft, yellow, friable adhesions, and the general peritoneal surface was injected. The right lobe of the liver projected an inch and a half below the costal cartilages, and the diaphragm was displaced upwards to a considerable extent. The transverse colon was adherent to the anterior surface of the liver by recent though moderately firm adhesions, and the anterior surface of the right lobe of the liver was adherent to the edges of the costal cartilages, thus shutting off the portion of the abdominal cavity between the diaphragm and the liver. The cavity thus circumscribed communicated with an abscess extending into the substance of the right lobe of the liver, which, with its wall and contents, represented fully one fourth of the volume of this lobe.

The skin over the lower costal cartilages of the right side was oedematous, and the upper insertions of the external oblique muscle showed a limited but diffused purulent infiltration.

The liver was found to be greatly enlarged and to contain two abscesses. One, already referred to, was in the right lobe; another, wholly disconnected, with a cavity as large as a fig, was in the left lobe, near the surface. The wall of the latter was formed in part by the anterior wall of the oesophageal end of the stomach.

The larger abscess had an irregularly elongated and sinuous cavity. The walls of both were shreddy, and extended outwards into the substance of the liver, for a considerable distance, as lobulated, somewhat arborescent patches and confluent spots. These patches were of a uniform yellow color, and consisted of enlarged and opaque lobules, gradually shading into more reddish-gray lobules of unusual size. The liver in general was paler and more opaque than normal. The examination of the trunk of the portal vein showed nothing abnormal within or around the wall. On opening the branches within the liver, in the immediate vicinity of the large abscess, a soft, curd-like puriform mass was found partly adherent to the wall. The fibrous wall of the vein gradually disappeared, and the canal became wider, with a predominance of the curd-like mass, which represented in part disintegrating liver substance. The examination of the hepatic veins in the immediate vicinity of the abscess showed a somewhat similar condition. In a primary branch of the main vein was a continued thrombus, yellow, conical, not completely filling the vessel, the centre of which was in a state of yellow softening. The thrombus was continued from the vicinity of the abscess where the vein was dilated and its wall soft and yellow.

The spleen was soft and pale, not increased in size.

The vermiform appendage, some five inches in length, was directed upwards towards the liver, and intimately adherent to the outer surface of the ascending colon by old adhesions. Its cavity was obliterated throughout the greater portion of its length.

On opening the cæcum an ulcer was found of the size of the palm of the hand. The base was shredily, of a greenish color and offensive odor, composed of the sloughing mucous and muscular coats. At one point, corresponding with the anterior and outer surface of the cæcum, was a pin-hole opening, the peritonæum about which was friable and of a dirty green color. The branches of the portal vein in the vicinity of the cæcum and elsewhere in the mesentery were examined for evidences of thrombosis, but with negative result. The wall of the intestine, except in the immediate vicinity of the gangrenous ulcer, showed nothing abnormal.

It was inferred from the above-mentioned appearances that death was the result of an acute peritonitis from perforation of the cæcum due to a gangrenous typhilitis, and that the latter had also given rise, probably through embolism, to an extensive hepatic pyelephlebitis.

DR. BIGELOW observed in relation to the autopsy that from the symptoms, it was evident that peritonitis existed during the last three or four days of the patient's life.

DR. BOWDITCH asked if the treatment to which the patient was subjected when a child was supposed to have had any influence upon the obliteration of the appendix cæci.

DR. BIGELOW replied that the old obliteration of the cæcum, viewed in connection with the attacks of pain in the abdomen occurring thirty or forty years before, with which it may have been connected, was a striking feature in this case.

DR. FITZ remarked that this case was interesting in showing a tendency to inflammation in certain regions. One severe inflammation healed, the second severe inflammation was fatal.

DR. G. B. SHATTUCK asked if there was any exciting cause for the final attack.

DR. BIGELOW replied that he knew of none. The patient was never in better health than during the past autumn. The family referred, however, to a draught of air in a railway car as a possible exciting cause.

DR. SHATTUCK remarked that if he was correct in supposing the patient to have been a person of peculiarly temperate and regular habits of life, it would seem as if there must have been some organic predisposition to this disease.

DR. LYMAN asked Dr. Fitz if the symptoms in this case were not very slight in comparison with the gravity of the disease.

DR. FITZ replied that the symptoms elucidated by the autopsy were trivial in comparison with what might have been expected from the extent of the lesion of the liver. The disease of the colon might not have caused pain. There were the evidences of a general peritonitis occurring in the last few days: the other pathological processes were of earlier date. Symptoms of disease of the liver are generally confined to this organ or its immediate region.

#### FROZEN SECTIONS THROUGH A THORAX WITH PLEURITIC EFFUSION.

DR. THOMAS DWIGHT showed a series of horizontal frozen sections through the thorax of a child three years old, who had a pleuritic effusion on the right

side. He stated that the body had been frozen lying on its back, and that when the sections were fresh the fluid appeared as ice, which of course subsequently melted. The tissues being hardened while still frozen, the lung had retained the shape into which it had been compressed, and the space occupied by the fluid remained vacant. Owing to the position of the child the fluid was most plentiful at the upper part of the pleural cavity, and but little was to be seen near the diaphragm.

DR. DWIGHT remarked that the œsophagus lay much more to the left than was usual, but he was not prepared to say that this was a result of the effusion.

In the subsequent discussion Dr. Dwight said that he preferred natural cold, and that it was very important that the subject should be thoroughly frozen. The sections while still frozen should be put into cold alcohol.

DR. TARBELL asked Dr. Blodgett if he considered these sections a fair explanation of the position of the pleuritic effusion during the life of the patient.

DR. BLODGETT replied that he knew no reason for supposing that any change in the relations of the fluid and surrounding tissues had occurred since the death of the individual. The fluid was in the chest before death, and the process of freezing had simply solidified everything, so that we now find the effusion in the exact position it occupied in relation to the lung and chest wall while the patient was alive. It seems to prove conclusively that the pleuritic effusion gravitates by its own weight to the most dependent portion of the thorax. It is found most abundantly at the apex in this case, because the body when frozen lay with the shoulders slightly lower than the rest of the trunk, hence the fluid collected at the apex.

DR. LYMAN asked why this was not a perfect demonstration of the normal relations of a pleuritic effusion.

DR. CUTLER said the position of the effusion during life would be exactly the same as after death. The weight of the liquid would lead to its accumulation at the lowest attainable point in the chest cavity. If we change the position of the patient the fluid changes its location so as to constantly seek the lowest part of chest. He had at that time a patient with pleurisy, in whom it was easy to trace the change in position of the effusion when the posture of the patient was changed. The lung floated on the liquid. The heart is displaced to the left, its apex lifted to the level of the nipple. When the patient is lying on the back there is tympanitic percussion in front, when on the left side there is re-onance under the arm, and when sitting the resonance changes to the apex, and there is flatness at the nipple. Dr. Cutler also called attention to another fact demonstrated by the sections of the thorax relating to the height of the apex of the lung in comparison with the height of the shoulder. Percussion at the apex must be gentle, owing to the thickness of the tissues beneath. The heart is more completely covered by the left lung than is generally imagined, and the sternum is underlaid by a large amount of lung tissue. The liver is entirely covered by the lower border of the right lung, and can be percussed only in a limited region in front.

DR. BIGELOW spoke of the surgical relations of the height of the shoulder to the height of the apex of the lung, as being of importance in many of the more serious operations in this region. In persons with high shoulders the apex of the lung is relatively low, and in

those with drooping shoulders the apex of the lung is found relatively much higher. The inclination of the ribs determines the height of the pulmonary apex.

DR. DWIGHT said that in adults the inner border of the clavicle is not a guide to the top of the lung. The only reliable landmark is the edge of the neck of the first rib as it leaves the transverse process of the first dorsal vertebra.

DR. CUTLER thought that tolerably distinct rules are laid down for the location of the pulmonary apex. In hospital patients, however, it is often difficult to obtain satisfactory results on account of the diseased and thickened lung tissue.

DR. BOWDITCH asked Dr. Cutler what he meant by "light percussion."

DR. CUTLER answered, "percussion with the fingers only."

DR. BOWDITCH always presses the finger firmly on the point to be percussed, and then strikes lightly.

DR. BIGELOW spoke of the importance of correct percussion as an element in many surgical examinations, especially that of hernia. In this we need a sharp, dry blow, and not a prolonged, heavy blow. Dr. Bigelow illustrated different kinds of percussion upon the wooden table, obtaining very different resonance according as the blow was short and dry or dull and heavy.

DR. DWIGHT explained the method of making sections. The saw must be very sharp, and the freezing so perfect that the flesh and bones are not distinguishable in sawing. Only the structure of tooth should seem harder than the other tissues. The sections are then washed in warm water to remove sawdust, and placed, still frozen, in cold alcohol, where they must remain till fully hardened, when they will not undergo any change in relations.

DR. BIGELOW stated that when seeking to determine the exact relations of the bladder *in situ*, some years ago, he had found the ice-chest of an undertaker a very satisfactory means of freezing a body in a few hours, so that useful sections could be obtained for photography.

#### SPECIMENS.

DR. CUTLER exhibited the lungs from a case of catarrhal pneumonia, in which were found bronchial dilatation, broncho-pneumonia, and peri-bronchitis. There was a scrofulous condition of the bronchial glands, but no tubercle. He also exhibited the heart of a patient who had expired suddenly the day before. The organ was much enlarged, weighing twenty-four and one half ounces. The left coronary artery was plugged by an embolus at the angle of bifurcation.

Adjourned at 10 30 p. m.

#### PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

T. M. RITCH, M. D., SECRETARY.

#### DEBATE ON THE TREATMENT OF TYPHOID FEVER.

DR. A. L. MASON opened the debate with the following remarks:—

Having been requested by the President of the Society to say a few words by way of opening a more general discussion of the management of typhoid fever, I will briefly call your attention to the different classes

of cases, as ordinarily met with, and to their varying therapeutic requirements. The-e latter, in a general way, are: (1.) Ventilation and sunlight. (2.) The management of the diet and bowels. (3.) The use of stimulants and other remedies. (4.) The regulation of the temperature. (5.) The disinfection of the stools.

It appears from hospital record books that about seventy-five per cent. of the cases do well if proper attention is given to the points mentioned under the first two headings, with such mild measures as may be necessary for securing sleep and allaying discomfort; that is, under an expectant plan of treatment.

A diet consisting mainly of milk, with plenty of cold water to drink, probably meets the requirements better than any other, and as a rule two quarts of milk will supply sufficient nutriment. Patients will sometimes manage three and four quarts, but it is often found undigested and sour in the stools.

In cases which are prolonged to five or six weeks, without relapse, with slightly raised temperature and quick pulse, from muscular debility, too long continuance of liquid diet is apt to delay recovery. On the other hand, too early ingestion of solids, before the intestinal ulcers are well advanced toward healing, may cause almost immediate aggravation of the symptoms. Examination of the abdomen sometimes enables us to determine whether the unhealed lesions or whether muscular degeneration, with nervous exhaustion, are responsible for the tardy convalescence.

With regard to the bowels, it has been an open question whether any interference is desirable beyond checking too free a diarrhoea. Cases which are costive throughout often do perfectly well, and the absence of peristaltic action during the second and third weeks would be expected to contribute to the healing of the ulcers. But in ordinary cases, with a tendency to constipation, it is better to empty the rectum occasionally by enemata. Few practitioners care to meddle with the bowels any further than that, although the use of occasional laxatives throughout the disease has been said to be of service in relieving the abdominal discomfort and tympanites.

An exception may be made in favor of the German mode of giving ten grains of calomel at the outset, a practice which has appeared to me to give the patient a fairer start, so to speak, than allowing the bowels to remain overloaded. There is probably no greater virtue in calomel than in a dose of castor oil or other cathartics, except that it is easy to administer.

*The use of stimulants and other remedies.* As was before remarked, about seventy-five per cent. of the cases are mild and get well under purely expectant treatment, perhaps requiring a little alcohol towards the close to hasten convalescence. But of the remaining twenty-five per cent. of cases about ten per cent. assume a severer type, and, after suffering from the graver symptoms caused by the higher range of temperature, the deeper intestinal lesions, and the ataxic state, perhaps after having survived hamorrhages from the bowels, bed sores, and an extreme degree of muscular degeneration, these cases also, to some extent by virtue of the rational therapeutics of to-day, rally from the last stages of physical exhaustion and recover.

And, lastly, we have the fatal cases to deal with, varying in number from five to twenty-five per cent., according to the severity of the epidemic, and, if we can draw any conclusions from statistics, according also to the therapeutic measures which are adopted.



Among the requisites for successfully tiding over many critical cases alcohol stands first, a reserve force, however, which should not be wasted by too early use. During the last autumn at the City Hospital, Dr. Stedman adopted the plan, which I continued, of withholding stimulants from all cases in which the pulse did not rise to 120, that is, in the majority of cases, unless there was some special indication for their use, — such as a weak first-sound of the heart, an irregular or dicrotic pulse. These cases did well, and, in fact, the death-rate this year was low, about eight or nine per cent. The epidemic, although extensive, was not severe.

Other drugs which have been found useful are, ergot in ataxic cases, with capillary stasis from a tendency to vaso-motor paralysis; the mineral acids; anodynes; tonics; salicylic acid and quinine, the last two chiefly for their antipyretic influence.

Carbolic acid and tincture of iodine, in doses of a minim each, repeated every two or three hours, have been said to produce remarkable effects from their antizymotic properties. This suggestion, also applicable to the treatment of diphtheria and all of the so-called "germ diseases," has met with some favor in Germany and England.

Before entering upon the fourth consideration, *the regulation of the temperature*, I will read a few extracts with regard to the prevailing death-rates at different places, and the decreased mortality wherever systematic antipyretic treatment has been followed in typhoid fever.

Referring to previous reports in the JOURNAL,<sup>1</sup> I find that Dr. Ernest Besnier's valuable statistics of the prevailing diseases in Paris, for ten years previous to 1877, give a death-rate of 21.31 per cent. in 16,000 cases of typhoid fever.

In the London fever hospitals in 1877 the average mortality was twenty per cent.

At Basle, under expectant methods, there were twenty-seven per cent. of deaths, and about the same ratio prevailed elsewhere in Europe.

In this country no statistics on a large scale have been prepared in any of the cities, but it is doubtful whether a sufficient number of cases from which to generalize would show a lower rate of mortality than fifteen per cent.

In England the number of deaths from typhoid fever annually is more than 8000, and this disease is always an important factor in raising our death-rate, especially to be deplored as the victims have rarely reached the prime of life.

Therefore it is a serious question whether this high rate of mortality cannot be reduced materially in this country, as it has been in other countries.

It is now twenty years or more since Dr. Brand published his first monograph on the systematic treatment of typhoid fever by cold baths, acting on the supposition that the prolonged high temperature was the source of all degenerative changes; attacking the disease through its principal symptom. The zeal of this enthusiastic physician and his remarkable results were not sufficient, however, to popularize such a troublesome mode of treatment, and in his second work, published in 1868, he recognizes the fact that if his methods had not been adopted by Professor Bartels, of Kiel, they would have come to an early end. Later, Jürgensen, Liebermeister, Traube, and other German

physicians of large opportunities took the matter up; after the war the same system was introduced successfully into the Lyons hospitals by medical officers who were forced to admit its merits after observing the practice of Dr. Brand on the French prisoners of war at Stettin; judging from the Croonian lectures of Dr. Cayley delivered in 1880, it has slowly gained ground in London; but in this vicinity, with the exception of a small proportion of the cases at the Boston City Hospital under the care of Drs. Edes, Stedman, Doe, and Draper, it does not appear to have been tried.

Of course in a long disease, with constant calls upon the endurance of the attendants, useless labor is to be condemned, and proper conservatism inculcated.

Professor Gairdner, of Glasgow, where the mortality in the fever hospitals appears to be unusually low under the expectant plan, had a prolonged controversy with Professor Liebermeister on this subject, which was reported in a former number of the JOURNAL.

In Professor Bamberger's wards in Vienna, in 1872, the results of antipyretic treatment were not striking, but in Berlin in the same winter Professor Traube thought that the mortality would be reduced to three per cent.

And, finally, Dr. Brand's last publication announces a death-rate of but 7.4 per cent. in a collection of 8000 cases treated according to his methods in different parts of Europe.

Statistics are to a certain extent unreliable, but I think to only a moderate degree in this case, and as long as we have for some time been in the habit of accepting everything else that is German, the systematic antipyretic treatment of fevers, with all the attendant trouble and expense, should at length command a trial in hospital practice at least.

It may be said, I think, that the type of fever in Boston is not usually very severe. During the month of October and part of November last, more than thirty cases came under my care at the City Hospital. Although their course was often tedious, with a very large proportion of relapses, two cases only were fatal. Several cases continued more than sixty days, and one case over one hundred days. Venous thrombosis affecting one or both legs was noticed in several instances. The relapses were not attributable to errors of diet, and bathing had not been resorted to except in the form of sprinkling or sponge baths.

In this connection the use of salicylate of soda *after* defervescence, as recommended by Professor Immermann, for the purpose of preventing relapses by disinfecting the system, is interesting.

The proper disposal of the stools is a matter of importance too often neglected.

Dr. Edes said that the lighter cases of typhoid, such as were the most of those which he had seen the change in his hospital service, needed but little treatment beyond ventilation, and some attention to diet. Quinia might be used as an antipyretic around the bed to hasten and make more complete the defervescence, but could hardly be considered essential. The cold sponging either with water or dilute alcohol contributed much to the comfort of the patient, and so far as it had any influence upon the temperature was in the right direction, but it could not be regarded as so efficient as some of the other methods of bathing.

In the severer cases he believed in the usefulness of antipyretic measures, especially the cold or gradually cooled bath. This is not supposed to shorten the dis-

<sup>1</sup> Vol. xxviii., page 407; vol. c., page 459.

ease, unless by diminishing the time of convalescence, but to render its whole course milder, especially if the treatment is begun early in the disease.

He referred to his own experience in three successive years in the City Hospital, though without claiming any special value for his own results excepting as agreeing with those derived from a larger number of cases.

Some of the German statistics which had been already referred to by Dr. Mason seemed to him valuable as showing the results in the change of methods of treatment in the same hospitals.

Even the table compiled by Bordier,<sup>1</sup> who is not a strenuous advocate of this treatment, show a decided advantage on the side of bathing.

The labor involved is one of the important objections to the treatment, but he had not encountered so much opposition from attendants as he expected, and could not help thinking that the trouble of bathing was, in part at least, compensated for by the greater freedom from involuntary discharges, the care of which, in severe cases, constitutes a large and disagreeable part of the labor of the nurse.

Quinine is occasionally useful and very materially diminishes the number of baths necessary to keep down the temperature. Its effect is usually felt for many hours after the dose is given. Digitalis appeared to him inefficient in small doses and dangerous in large.

DR. TARRELL said that the treatment of typhoid under his care in the wards of the Massachusetts General Hospital consisted in milk diet, sponge bathing with tepid water two or three times a day, or oftener if the temperature seemed to demand it, and abstinence from drugs. Beef tea was used as a stimulant in some cases but alcoholic stimulants were used comparatively rarely and usually not at all until the third week or later in the disease. The diarrhoea was restrained from becoming excessive by means of small opiates.

Dr. Tarrell was exceedingly skeptical as to the utility of any of the so-called antipyretic remedies employed for rapidly and violently reducing the temperature, and he was not in the habit of giving large doses of quinine nor of using the cold tub bath. His experience was of course limited, but the results of treatment by these methods thus far published in England and America did not appear to demonstrate their superiority to the milder treatment. He also called attention to the comparative rarity of the propagation of the disease by direct contagion, and mentioned the fact that no nurse or other person had contracted the disease from a typhoid patient in the Massachusetts General Hospital for the past six years. The only means of prevention used were extreme cleanliness and the placing carbolic acid in the bedpans before and after using, which could at best be but a slight disinfection of the excreta which were then emptied into the common sewer.

DR. C. E. STEDMAN said that he had reviewed for the forthcoming volume of the City Hospital Reports, 1032 cases of typhoid fever admitted in the last ten years; in the fifteen years since the opening of the Hospital 1181 cases have been treated. The fatality in the first five years was thirteen per cent.; in the last ten years seventeen per cent. This mortality is about the same as that reported by Murchison in the London Fever Hospital from 1848 to 1870. It has

been accounted for by the poor circumstances and constitutions of the patients, but the experience of the speaker confirmed the statement of Dr. Murchison that the fever was more fatal, in a course of years, in the higher than in the lower classes, and Dr. Stedman considered the high rate due to the fact, not only of so many moribund patients being received, but that the number was so large of patients admitted in the second and later weeks of the disease, not having had sufficient food. In one year the mortality was over twenty per cent., in another eight or nine per cent. In trying to tabulate the results of treatment he had been freshly impressed with the untrustworthiness of such statistics. As well as it could be figured, the highest mortality was found among the patients treated by large doses of alcohol, but these were exactly the worst cases recorded in the books. Again, there were nearly four hundred cases which were set down as having had "no treatment," meaning that rest and milk were the chief or only restorative measures adopted. Of these the very mildest cases, seven per cent. died, being patients moribund on entrance who were incapable of receiving treatment, or such as were doing well till a sudden reverse took place. Eleven per cent. of those who had antipyretic doses of quinine, etc., died, nearly all bad cases, twelve per cent. of patients treated mainly by sponge baths succumbed, mostly mild types of fever. The calomel method recorded seven per cent. of mortality, but there were few cases thus treated. Of eighty patients treated by tub baths twenty per cent. died, almost all bad cases. The naked figures unqualified by statement of the stage of the fever when admitted, or its severity, give little notion of the true standing of the facts. Dr. Stedman had faithfully used the antipyretic remedies, quinine, baths, etc., and found, like others, that such means reduced temperature in a marked degree; but the temperature almost always rose again, and he could not see that the course of the fever was at all shortened. It seemed to him that about six hundred of the cases above reported would have done well under expectant treatment and of the remainder very many were saved by timely and proper medical supervision with the best of nursing. Skill in the handling of fever is attained when the physician knows that the time has come to supplement rest, food, and nursing with the administration of drugs and stimuli. Dr. S. found the pulse was his best guide, and though knowing that patients with typhoid fever sometimes die with a slow pulse, had never himself yet lost a patient whose pulse did not range above 120. When the beats neared that number he began to feel anxious, and to stand ready to employ if need be the boldest stimulation. Records of temperature of 105° F. (in one 107° F.) had not alarmed him if the pulse kept down. Several charts showed continued high temperatures with slight morning remissions, and a pulse of 100 or 108; such cases had done well. It is to be noticed that we saw few patients who had not been freely purged before admission, and he had been led to believe that a mild cathartic was not unwholesome early in the disease. For diarrhoea, when there were more than three or four stools daily, he used Dr. Harley's pill of a grain of opium and a quarter of a grain of sulphate of copper or Dr. Pepper's pill of nitrate of silver and hyoscyanus. When stimulants did not moderate high delirium, chloral and bromide were serviceable, or sometimes the wet pack. For himself, were he limited

<sup>1</sup> Journal de Thérapeutique, vol. 3.

to one remedy and one drug, he would cheerfully rely on cold sponging and brandy.

Dr. MINOT had never employed cold baths in the treatment of typhoid fever, but he had tried the effect of sprinkling the patient with ice-water, aiding evaporation by fanning. In this way the temperature can be reduced several degrees in a short time, and the method is easy of application. He had, however, not found any great benefit from it in very grave cases. In two instances in which a high temperature was repeatedly lowered by the effusion, the patients died, but their condition was almost hopeless previously. The temperature can be reduced with much certainty by means of large doses of quinine, ten grains being given every fifteen minutes until the desired effect was obtained. Usually two or three doses are enough. He was accustomed to order stimulants freely in all cases with prostration, and he thought many patients were saved by them. He suggested a trial of the subcutaneous injection of sulphuric ether, as employed by Dr. L. E. Dupuy, of Paris.

Dr. LYMAN said that the practical points in treatment of typhoid had been so much discussed by others that he would allude to only one or two.

In the first place it was not a disease to be cured or cut short; a large proportion needed only nursing and watching, the physician to bear constantly in mind the old maxim of Cullen, "Obviate the tendency to death." It should be remembered always that it is the *heat* which kills, either directly or indirectly. True muscular degeneration, not simply muscular atrophy, it is which weakens the heart, and in a case which runs its normal course without complications it is this weakened heart which is, perhaps, more to be feared than anything else, a fact pointed out by Stokes as long ago as 1839. The difference between bodily heat and fever (quickened heart action as shown by the pulse, and the temperature of the blood as shown by the thermometer) should never be lost sight of. The necrobiotic action of heat upon the tissues, and the simple wasting from deficient nutrition are totally different things, the recognition of which is necessary in our attempts at treatment.

He would say nothing as to cold bathing, having no experience of it, as he had always felt that he could accomplish with cold sponging, cooling drinks, quinine, and alcohol the diminution of dangerous heat without the liability to chill or local congestions.

He was in the habit of beginning with stimulants early, and was governed as to their continuance by the effect upon the pulse, skin, and tongue. He thought it easier to forestall weakness of the heart than to remedy it when once established. As to quinine, he considered it our best and most reliable antiphlogistic, as an antipyretic its effect is more indirect, that is, by its property of lowering heat the tissue changes which cause fever are anticipated. This is the theory of excellent observers, and he was inclined to follow it. He wished also to remark upon the importance, in a prognostic point of view, of uniformity of both the pulse and the temperature, and especially the former, a steady pulse, for instance, of 120 being more favorable than a much lower but more irregular pulse.

Complications, of course, must be treated as such when they arise. Cerebral excitement, of course, counter-indicates quinine; a hard, full pulse, which, though not common, is sometimes found, would lead to caution in use of stimulants; exhausting diarrhoea

would induce extra caution in the diet, and require either an alkali or gentle anodyne; much tympany, the use of turpentine, etc. Every case requires treatment, but in the majority of cases in his experience that treatment would be patience, diet, good nursing, while the few would, from complications or otherwise, require from beginning to end all the therapeutic skill of the most accomplished practitioner.

Dr. MASON said, in reply to a remark of Dr. Tarbell regarding the infrequency with which hospital attendants contract typhoid, that he remembered two cases in nurses in one year at the Massachusetts General Hospital, and several cases at the City Hospital. The poison which conveys the disease either is transmitted through the excreta or it is *not*. If it is, then disinfection of the stools is important, and for this purpose a strong solution of carbolic acid (one to twenty), or, better, a caustic solution of one of the mineral acids, is required. The practical difficulty of carrying out such measures, and of disinfecting other emanations from the body, was recognized, and Dr. Mason stated that he had seen two cases in which he was satisfied that the disease had been conveyed from one person to another by other means than the stools, perhaps by the breath.<sup>1</sup>

Dr. REYNOLDS remarked that the point of the propagation of typhoid fever through the fecal discharges of patients is too important to be evaded or shuffled out of the way. It is conceivable that typhoid fever may have other ways of spreading itself. There is absolutely no question that the disease communicates itself by means of the dejections. The facts which incontestably prove this have become classic in the literature of the subject. These facts are so well known that it is almost an impertinence to rehearse them. Two very striking instances are familiar to every reader of Liebermeister's essay.

"A woman attacked in Ulm returned to her native village, in which no case of typhoid had existed for many years. The excrements of this person were thrown upon a dunghill. Several weeks later five workmen were employed to remove this dunghill. Four of these five were attacked with typhoid, the fifth with gastric fever and swelling of the spleen. The excrements of these patients were buried deep in the dunghill. Nine months afterward the dunghill was wholly taken away by two men. One of these had typhoid, and died of it.

"In Lausen there had not been a case of typhoid for fifty-eight years. An epidemic of one hundred and thirty cases occurred, seventeen per cent. of the whole population. Only those who drank of the running streams were victims. Those who used the wells escaped. In the month preceding this outbreak four cases of typhoid had developed in an outlying house, at some distance from Lausen. The excrements were thrown into a stream near the cottage. This stream communicated subterraneously with the streams that supplied Lausen."

The negative fact that nurses and others in close attendance upon fever patients do not contract the disease, provided due care is exercised in the disinfection of stools, in their instantaneous removal under

<sup>1</sup> On subsequent inquiry of Dr. Rowe, superintendent of the City Hospital, it was found that in two and three fourths years there had been four cases of typhoid among the attendants, three nurses and one ward tender, who had been on duty in the fever wards, where at one time last autumn there were sixty-nine patients with typhoid fever. He considered a solution of the substance sold under the name of "phenyle" a cheap and powerful disinfectant.

proper precautions, and in burying them under dry earth, where that is practicable, is of much weight as to the matter under discussion.

Certain features of the disease, and some points in regard to its management and its treatment by remedies have been much impressed upon me in an epidemic of forty or fifty cases, which occurred in the neighborhood of Boston during the past summer. A large proportion of these cases were under my personal care.

I am anxious to urge in regard to arresting the spread of typhoid that the mild and imperfectly characterized cases are those most likely to do mischief. A servant, "neither sick nor well," whom the household are hardly willing to consider ill, school-children suffering from the abortive form of the disease, these, and other like patients' deposit in the common privy excrements containing the poison, and later, if from any cause members of the family are in a susceptible condition, more than one life may be put in peril from attacks, of which the real cause escapes recognition.

Twelve or fifteen years ago the writer of an exhaustive article on typhoid, in the *British and Foreign Medico-Chirurgical Journal*, laid stress upon a surmise that there exist in typhoid fever two stages, one an initial period, without general septic poison, and a following condition mainly characterized by symptoms which he believed to be due to septic absorption. He declares that this latter class of symptoms rarely appear if at the commencement of the disease care be taken to secure sufficient unloading of the bowels, and if subsequently, by the continuance of mild laxatives and enemata, moderate daily dejections are obtained. I am inclined to admit at least a germ of truth in this statement.

The epidemic to which I have referred was essentially mild in type. It was treated under unusually favorable conditions as to season of the year, good local climate, and opportunity for careful nursing. Severe symptoms of various kinds were, however, in some cases present, giving ground for grave anxiety as to the issue. It seemed to me remarkable that in no one instance of those which I was permitted to watch was there intestinal hæmorrhage, diarrhœa, tympanites, or marked abdominal distress, and I could not help asking myself, whether pursuance of treatment like that just described might not have been in some degree responsible for this favorable result.

Not until we fairly admit the self-limited character of typhoid, the fact that the disease, once present, as inevitably runs its prescribed course as measles or scarlet fever do theirs, can we hope to understand it satisfactorily or to manage it wisely.

Those are golden words in Sir William Jenner's late lecture on the Treatment of Typhoid, in which he describes the aggravation of symptoms which constantly follows the every-day futile attempt to fight off a threatened attack, sometimes by feeding and stimulants, sometimes by violent muscular exercise, and again by drugs, or pictures the mischief which often results from an imagined necessity of returning to a distant home to be ill.

#### HUMAN ACTINOMYCOSIS.

Dr. FITZ presented a brief description of actinomycosis in man and cattle, derived chiefly from the recently published monograph on this subject by Ponlik, of Breslau.

In answer to questions by Drs. Putnam, Porter, and Warren, Dr. FITZ said that he was not aware of any cases which had occurred in this country, but that they may have been overlooked; he also said that the disease worked down under the angle of the jaw as a growth would do rather than by gravitation, and that where the disease was far advanced or was not interfered with early in its course it had proved fatal.

#### BOSTON MEDICO-PSYCHOLOGICAL SOCIETY.

WALTER CHANNING, M. D., SECRETARY.

THE Society held its annual meeting on the evening of January 5, 1882.

#### CHANGE OF BY-LAWS.

After considerable discussion, Article IV. of the By-Laws, which specifies that meetings shall be held monthly from October to June, was amended, so that in future there will be but three meetings a year. This change was made in order that the Society might have the better opportunity of advancing the work of the proposed Psychological Section of the Suffolk District Medical Society. Otherwise the Constitution remains unchanged and the Society will continue as before.

#### GENERAL PARALYSIS OF THE INSANE.

The paper of the evening was by Dr. ELISHA S. BOLLAND, first assistant physician of the Boston Lunatic Asylum, and was entitled *A Partial Review of Eighteen Cases of General Paralysis of the Insane*.<sup>1</sup>

In the discussion which followed, Dr. AYER said that the reader had found but few cases which were due to the abuse of alcohol, or venereal excess. His own experience had been the same, when he had had occasion a few years ago to look up a number of cases.

Dr. DENNY inquired whether the diffuse chronic inflammatory processes, such as had been described, together with atrophy and loss of substance, were not also so far circumscribed as to have been most apparent in the cortical tissue of the frontal lobes, the gyri centrales and fossæ sylvii. On receiving an affirmative answer he farther said that diffuse periencephalitic processes, limited chiefly to these parts, had been observed and noted by Schüle, Meynert, Gudden, Emminghaus, and others in general paralysis, and such had been the teaching of his own observations.

Dr. Schüle<sup>2</sup> regards this loss of substance and atrophy, with processes of sclerosis and degeneration in the spinal cord, as almost constant in this disease, and says that such changes are due to chronic inflammatory processes that chiefly affect the frontal lobes, the gyri centrales, and the convolutions about the fossa sylvii.

Professor Meynert considers general paralysis to be a diffuse degenerative process leading to atrophy, affecting by preference the cortical portions of the frontal and parietal lobes, with their meninges — a diffuse chronic periencephalitis, or a chronic interstitial inflammation.

Lays<sup>3</sup> defines the pathological process as an inter-

<sup>1</sup> Vide page 172 of this JOURNAL.

<sup>2</sup> Section-entzündung bei Geisteskranken, 1874, page 158.

<sup>3</sup> Traité Clinique et pratique des Maladies Mentales, 1881, page 627. Gaz. des Hôpitaux, No. 47, April 20, 1878.

stitial sclerous hyperplasia leading to the obliteration of nerve-tubes and cells, analogous, in many ways, to the lesions of *tabes dorsalis*. "This same hyperplasia of neuroglia produces the phenomena of *tabes dorsalis*, paralysis agitans, and disseminated sclerosis, differing only in their symptoms according to the localization of the morbid processes."

Voisin<sup>1</sup> is also of the opinion that the proliferation of neuroglia compresses and finally atrophies the active elements of the brain.

Mendel<sup>2</sup> states that Meynert's plasma-cells, or Deiter's cells, are multiplied in general paralysis, that is to say, as above that there is a proliferation of neuroglia in this disease.

Emminghaus<sup>3</sup> describes the pathology of a case of general paralysis as one of diffuse cortical disease of the frontal lobes and central convolutions.

Dr. Von Krafft-Ebing<sup>4</sup> refers the pathology to a vaso-motor paresis, induced by excesses, over-train, etc., which, through the vascular distribution of the carotid, locates chiefly in the frontal lobes; lymph stasis follows in the pia and brain substances with infiltrations of colloid and albuminous substances, etc., into the perivascular lymph spaces. Thus tissue changes occur leading to a proliferation of the connective tissue of the pia, vessels, and neuroglia, terminating in sclerosis and atrophy of nerve elements.

Professor Meynert,<sup>5</sup> in weighing the different portions of the brain to determine the relative proportion of atrophy or tissue change leading to loss of substance, states in an article on the subject of the weight of the individual portions of the brain, as quoted by Mendel, that the loss of weight in general paralysis is mostly confined to the hemisphere, affecting, as before stated, the frontal and parietal lobes by preference.

Professor Gudden, of Munich, thus divides the brain in weighing the separate parts, and his conclusions tend to corroborate the localization of atrophic processes in the anterior lobes, more especially in general paralysis.

Having separately detached the two lobes of the cerebellum, the cerebral ganglia are dissected out of the hemispheres, with the pons Varolii and medulla oblongata. Then, the hemispheres having been separated through the corpus callosum, the frontal lobes are divided from the rest of the brain by incisions through the sulcus centralis Rolando and each of these seven portions resulting are weighed and compared.

The details reported by the reader in regard to reflex phenomena are interesting and but comparatively few observations are published bearing on this subject in connection with general paralysis.

Dr. Jakob Weiss,<sup>6</sup> while clinical assistant to Professor Leidesdorf, published fifteen cases of myelitis paralytica, as he terms general paralysis, in which he uniformly found granular lymphoid bodies, etc., indicating a myelitic form of affection in the cord.

In all these cases the posterior lateral columns were the seat of disease, which he does not regard as a secondary descending process, but agrees with Westphal that the brain and the cord in general paralysis have

a similar predisposition toward this disease, that this simultaneously affects both with varying intensity.

The tendon-reflex phenomena were increased in five of the number, and choroid movements appeared in two, while in the remaining cases nothing in regard to this point is mentioned.

Dr. Claus,<sup>7</sup> in his admirable analysis of clinical and post-mortem evidence in nineteen cases of general paralysis, found in three cases where the degeneration affected the posterior columns as far down as into the lumbar cord that there was an absence of tendon-reflex phenomena.

In the succeeding four cases in which the posterior columns were involved to less degree as far as the first lumbar vertebrae there was a moderate knee phenomenon, and at times a foot phenomenon could be induced.

A third group of four cases comprised those in which there was simultaneous degeneration in the posterior and in the postero-lateral columns, and in which the knee phenomenon was quite marked, and at times the foot phenomenon also.

Finally a fourth group of four cases included the degeneration of the posterior lateral columns alone, wherein the knee phenomenon was always very strongly manifested, and in which the foot phenomenon was always intense, appearing sometimes in the form of clonus.

Thus the reflex phenomena vary with the location and intensity of the morbid process and in accordance, apparently, with the facts of anatomy.

Cases of progressive locomotor ataxia are occasionally met with in which it is very difficult to diagnose correctly between this form of disease and general paralysis, and cases are reported tending to show that progressive locomotor ataxia may terminate in general paralysis.

Such an instance came under my observation some ten years ago. A gentleman about fifty-five years of age returned from Europe, bringing with him a written diagnosis of progressive locomotor ataxia from Dr. Duchenne. The symptoms when, some time later, he was brought to an asylum were those of general paralysis, with which he died.

Dr. Fisher remarked that Dr. Boland had prepared a list of questions for use in examining cases of suspected general paralysis occurring at the City Lunatic Asylum. It was of great importance that the clinical record should be complete for comparison with the record of post-mortem appearances. The past year careful autopsies had been made by Dr. W. W. Gannett, pathologist to the hospital, assisted by the staff. Microscopic examinations were, in all cases, made of the brain and cord both in the fresh and prepared state. It was remarkable how much organic change was found, and in what variety in cases of general paralysis.

Dr. Fisher read the diagnoses of Dr. Gannett in four of the cases read by Dr. Boland as follows:—

(1.) General post-mortem staining of tissues. Slight chronic leptomeningitis. Hydrocephalus externus. General atrophy of brain with edema. Chronic ependymitis. Etat criblé of white matter and basal ganglia. Chronic endarteritis of vessels at base of brain. Double hydrothorax. Chronic adhesive pleurisy. General vesicular emphysema. Hypostatic congestion of lungs.

7 Ueber Erkrankungen des Rückenmarkes bei Dementia paralytica und ihr Verhalten zum Kline-Phänomen, etc. Allg. Zeit. für Psych., 2 Heft, 33 Band, 1881.

<sup>1</sup> *Traité de la Paralyse Générale des Aliénés*, page 432, 1879.

<sup>2</sup> *Die progressive Paralyse der Iren*, page 53, 1880.

<sup>3</sup> *Ein Fall von progressiver Paralyse*, von Dr. Emminghaus, *Irenfreund*, No. 12, 1879.

<sup>4</sup> *Lehrbuch des Psychiatrie*, 1879.

<sup>5</sup> *Das Gesamtgewicht und Theilgewicht des Gehirns*. *Vierteljahrs. für Psychiatrie*, 1867, ff. 2.

<sup>6</sup> *Psychiatrische Studien aus der Klinik des Prof. Leidesdorf*, 1877.

Limited atelectasis of lungs. Post-mortem softening of stomach. Fibro-myoma of stomach. Fatty infiltration of liver.

(2.) Decubitus. Edema of pia mater. Atrophy of gray matter of frontal convolutions. Pigmentation of ganglion cells in gray matter of convolutions and of basal ganglia. Recent pleurisy with effusion. Putrid bronchitis. Gangrene of lung. Senile atrophy of spleen and kidneys. Diphtheritic inflammation of the bladder. Suppurative prostatitis with calculi. Chronic endarteritis of coronary arteries.

(3.) Decubitus. Hyperostosis of skull. Chronic external pachymeningitis. Edema of pia. Atrophy of brain. Chronic internal hydrocephalus. Chronic ependymitis. Ossifying leptomeningitis of cord. Chronic circumscribed pericarditis. Brown atrophy of heart. Bronchitis. Intermural fibro-myoma of uterus. Brown atrophy of liver with fatty infiltration.

(4.) Chronic internal hæmorrhagic pachymeningitis. Chronic leptomeningitis. Edema of pia. Atrophy of brain. Chronic endarteritis of basal vessels. Chronic ependymitis. Miliary aneurisms. Chronic circumscribed pericarditis. Chronic adhesive pleurisy. Bronchitis. Chronic emphysema. Chronic interstitial nephritis. Pyelitis. Cystitis. Stricture of urethra. Lime infarctions of kidneys. Chronic endarteritis.

By careful comparison of the symptoms and lesions in a large number of accurately observed cases, some light may be thrown on cerebral localization and the pathology of general paralysis.

## Medical and Surgical Journal.

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### PUERPERAL FEVER AND INFERIOR ORGANISMS.

In May, 1875, being in London, it was our fortune to be present at one of the sessions of the Obstetrical Society when the memorable debate on puerperal fever was in progress. With interest freshly awakened by what was then heard from the lips of such men as Robert Barnes, the late Mr. Callender, and others, the reports of the subsequent sessions were followed. Much of the best talent in medicine and surgery of the United Kingdom was enlisted in the discussion, but at its close none of the questions formulated by Mr. Spencer Wells in opening the debate, nor those which came up during its progress appeared to have advanced much towards settlement. The *London Lancet* concluded that our facts were probably defective, that it might still be wise to wait for fresh material. It asked: "Will the final, solving, evidence come from the bedside or the laboratory? Hitherto the chemist pure has done little. Will the man who combines chemistry with a profound know-

ledge of histology and the changes wrought in the body by disease, aided by experimental inquiries, do more? There is greater hope in this direction. In the mean time the clinical physician will not be tempted out of his path by the golden promise of bacteria."

During the progress of two severe and protracted cases of puerperal pyæmia the past year, one of which recovered, the doubts and uncertainties involving the general subject were forced upon our attention anew. Since the debate above mentioned the rôle of the living germ in the processes of disease has been steadily assuming large proportions as one of the most fruitful questions of the day in the world of science. Its investigation has opened paths into regions among the most obscure, and the dwellers in darkness have begun to see great a light.

In the midst of such reflections the *Index Medicus* — and it is with pleasure that we pay tribute to its usefulness — suggested to our consideration a book, published in Paris in 1880, whose title rendered into English runs thus: —

"Puerperal Fever and Inferior Organisms; Pathogeny and Therapeutics of Infective Accidents Following Childbirth. By Dr. J. Amédée Doléris."<sup>1</sup>

Let us try to judge by brief examination of the book whether, peradventure, Dr. Doléris is the man whose advent the *Lancet* hoped for.

In 1874, the year just preceding the London debate, Dr. Doléris, as externe at the obstetrical clinique under Dépaül, was following attentively a certain number of puerperal patients, observing all the degrees and all the forms of the malady, and by the aid of rigorous control of the autopsies was recording remarks destined to be put to profit later. In 1879, as interne at the maternité of the Hôpital Cochin, under M. Lucas Championnière, he returned to the task which he had assigned himself. The first part of his labor had been devoted more especially to anatomico-pathological researches. The second portion, "stimulated by the brilliant success of the new treatment, of which M. Championnière is the patient and devoted apostle," took the direction of "seeking the material demonstration of the terms of the problem of which the solution seemed so certain." Faith had then come to him after doubt, and he was no longer incredulous when he sought to determine whether the marvelous effects of the Listerian method had their *raison d'être* in the suppression of the injurious organisms of the atmosphere.

Dr. Doléris relates how thereafter M. Pasteur, with whom he came into relations while practicing an autopsy on a patient of M. Hervieux at the Maternité, persuaded him to undertake the study of the organisms of puerperal fever, and offered him the support of his precious counsel in the long and difficult task.

The clinical and anatomico-pathological considerations of the work are based upon the observations of 1874 at the clinic, and upon those of 1879 at Cochin. The micro-biological study is deduced from the observa-

<sup>1</sup> La Fièvre Puerpérale et les Organismes Inférieurs, Pathogénie et Thérapeutique des Accidents Infectieux des Suites de Couches. Dr. J. Amédée Doléris. Paris: J. B. Baillière et fils, 1880. Pages 334.

tions at Cochín, and from isolated cases at La Charité, Lariboisière, and other hospitals, the study of which was made at the laboratory of M. Pasteur. The narrative of these results constitutes the original side of the work. In two short chapters is condensed an excellent critical review of the history of puerperal fever, and of the actual state of science concerning it.

Puerperal fever, or whatever one pleases to call the disease (the author sees no difficulty in employing the term), is, in the most complete acceptance of the word, an intoxication. This opinion is general, and reckons no adversaries. The most pronounced localizers have long renounced the consideration of the lesion alone in the malady. The lesion is for them only a necessary phenomenon. For them the question is limited to infection through the wound. The condition *sine qua non* of toxæmia is a raw surface analogous to, even identical with, a surgical wound.

"No wound, no infection," is a doctrine which leaves out of sight many incontestable facts, such as the transmission of infection to the foetus, infection before delivery, and contamination of individuals not in the puerperal state.

In France it is an opinion well established to-day that one newly delivered is in the same condition as one wounded, with this unfavorable circumstance, that the wound (uterine wound) is of especial susceptibility, and that it is but little accessible to the use of the customary dressings of a wound. Phlebitis and lymphangitis exist surgically and obstetrically by the same incitements. These facts are fully and repeatedly established. The question which dominates all is, What is the element whence the infection proceeds? A wound unprovided with a septic substance cannot be the origin of an intoxication. It is almost a pathological axiom that certain wounds bring septiciæmia while others remain without effect upon the organism; that there are wounds which become maladies, and others which remain merely wounds.

Puerperal infection borrows from the particular state of the newly delivered only the enfeeblement and diminished resistance to the morbid agents which parturition carries with it. Parturient women are wounded, and peculiarly wounded. Hemorrhage, the nature of the injury, nervous shock, the exhaustion due to labor joined to diminution of blood globules and special conditions connected with modifications of the blood, as well as with those of the tissues themselves, form the first group of predisposing general conditions. The nature of the wound, its deep situation, the existence of matters in process of decomposition or disintegration, decomposing blood-clots, retention of placental débris, the production of external wounds exposed to the contact of exterior germs or of interior liquids already containing such germs, deep contusions of soft tissues compromising their vitality or determining necrobiotic processes, the existence of numerous vascular meat open at the uterine surface, the energetic rôle of the absorbents which begins after confinement—such are the circumstances which constitute the second group of local predisposing causes. The infection is not always identical; our author accords a preponderating

influence to the ætiological difference, to the special variety of the germ. The morbid germ differs according to the different forms of the malady, and, what is more exact, according to the lesions of the malady. Thus pus always contains a determined form of organism; this is the micrococcus in pairs. It may contain other forms.

Passing over the living organisms in the atmosphere of the lying-in rooms, let us glance at the micro-organisms found in the genital organs and the lochia as presented in notes of twenty-one cases. These show that the examination of the lochia of women of almost equally good appearance revealed organisms in some cases and their absence in others. The presumption that those of the first category would fall ill was realized.

The natural protection of the vagina by the normal occlusion of its orifice becomes less secure in proportion to the dangers, that is, the organisms, are multiplied; and as soon as its portal is crossed its situation is exceptionally bad, as affording a *foyer* convenient for the development of germs to which air is fatal; and this without prejudice to certain other common organisms of putrefaction which may live in the air or out of it. The former increase the faster from the presence of the latter only because the latter take possession of the small quantity of oxygen from the tissues and liquids.

These are not advanced by the author as hypotheses, but as facts proven beyond doubt. Many organisms seen by the microscope in the lochia have no harmful action—the common bacteria, for example—although taking an active part in the decomposition of liquids. They flourish in the air and are harmful only as they clear the way for the septic bacteria. The micrococcus in couples, which Pasteur considers the agent of suppuration, is met with almost always. With this organism, as with some others, it is the quantity which determines the peril. Although the quality goes for much, yet one is more easily relieved of very harmful micro-organisms if present in very small numbers than of less injurious ones if they are very abundant.

Chaplets and bacteria sometimes accompany the micrococcus, *en point double*. There is another micro-organism whose resemblance to the micrococcus is great. Their sole difference is in volume. This micro-organism is triple or quadruple the size of the ordinary double point and is more brilliant. Like that it unites by twos, threes, and fours, rarely more. It never forms true chaplets. It has seldom been encountered except among women very ill, and sometimes at the autopsy in the liquid of the lymphatics and peritoneum. On one occasion it was contained in the blood and rapidly multiplied in the liquid of culture. Whatever be the variety, since we must not expect to base upon the form alone an element positively distinctive, it is the quantity especially which causes the danger. An exception is made in favor of a little vibron which often swarms in the first part of the genital canal, and is often found among women who do the best; after the sixth or seventh day.

The second question bearing on danger is the time of the presence of organisms. The second and third days are more serious; the sixth and seventh very much less so.

Third comes the question of their seat. The most dangerous, namely, those to which air is fatal, are to be sought in the deepest part of the genital canal.

(To be continued.)

#### CHANGES IN MEDICAL JOURNALS. THE JOURNAL OF OTOTOLOGY. THE JOURNAL OF NERVOUS AND MENTAL DISEASE.

THE publication of the *American Journal of Otology*, beginning with the first number of the fourth volume, has been transferred to Boston. The *American Journal of Otology* is issued quarterly, and was founded three years ago with the purpose of establishing in this country an independent journal devoted to the advancement of the knowledge of the branch of surgery which it represents, by providing a medium for the publication of original papers on subjects pertaining to physiological acoustics and aural surgery, and of reviews of papers on these subjects published elsewhere.

In addition to its departments of Original Communications and Reviews there is given with each number (quarterly) a Bibliographical Index, including the titles of all the most important books, theses, and papers on aural surgery published in journals or in the transactions of societies which have appeared during the preceding quarter, and also of such publications on the subject of acoustics as may have a special bearing upon practical otology.

A review of the original communications in the three volumes already published shows this *Journal* to have a practical value for the general practitioner, each number containing reports of cases embodying the clinical work of the editorial staff and of other contributors.

With the exception of the *Archives of Otology* the *Journal* is, we believe, the only scientific periodical in the English language devoted to the above subjects, and differs somewhat in its scope and character from the *Archives* in so far as that exchanges translations of articles with the German *Archiv für Ohrenheilkunde*. The editorial direction remains unchanged, Dr. Clarence J. Blake, of Boston, continuing at the head of the staff, which consists of able representatives in the principal cities of the country.

Whilst the *Journal of Otology* has changed its home without changing its editors, the *Journal of Nervous and Mental Disease*, on the other hand, has, we understand, changed its editorial direction somewhat without changing its home. Dr. J. S. Jewell has resigned the editorial management to Dr. W. J. Morton, though joining Drs. Seguin, Hammond, and others as an associate editor.

We wish both of our contemporaries a continuance of prosperity and usefulness under their present conditions.

#### THE VALUE OF STATISTICS AS TO INSANE ASYLUM MANAGEMENT.

IN this number of the *JOURNAL* is printed a letter from Dr. H. P. Wilbur, correcting some records relative to mechanical restraint in the insane asylums of Massachusetts which were published in an article on Chemical Restraint in the Management of the Insane, written by him for the December number of the *Archives of Medicine*. The correction of these errors shows the fair intention of the author, but it is evident to any one familiar with the subject that the whole table is utterly untrustworthy. Its inaccuracies, however, do not affect materially the accuracy of Dr. Wilbur's conclusion that the use of chemical restraint is not greater in Great Britain because of the non-use of mechanical restraint, and they would hardly deserve attention had not the editor of the *Archives* added the following postscript to the article:—

"The author of the above editorial article had intended not to name the various American asylums set down in his table, but had referred to them simply by numbers. I consider the subject one of such great importance to the medical profession, and to the public generally, that I have assumed the responsibility of reinserting those names. This being done, persons interested in the more humane and intelligent care of the insane will know where to look for remnants of barbarous measures, for over-drugging, and for excessive suicide."

This asserts that the table is valuable as a basis for comparison, whereas it is absolutely worthless for that purpose, because the term "occasion" has evidently been used by different superintendents to designate periods of time varying in duration from an hour to a month, and because the definitions of restraint and seclusion vary so much; correct conclusions from a comparison of the records are therefore simply impossible. This is strikingly shown by the fact that two hospitals in the same State, having about an equal number of patients, report respectively 48 and 2547 "occasions" of restraint, and yet the State official who makes the return says: "I am satisfied from a somewhat careful inquiry that, if any, there is no substantial difference in the amount of restraint practiced in our hospitals. The difference is in the manner of reporting." When the manner of reporting may cause a difference of fifty-fold the usefulness of facts for scientific purposes may be fairly questioned. A similar difference in the manner of reporting has evidently existed in other institutions, and it is also true that superintendents differ very decidedly in their opinions as to what constitutes "restraint" and "seclusion." The statistics of lunacy are such a fertile source of erroneous conclusions that it is well for one using them to satisfy himself thoroughly as to their accuracy.

—The *Medical Press and Circular* learns "with delight that an anti-vivisectionist who subscribes twenty pounds yearly towards carrying on the anti-scientific agitation has been fined for maltreating an unoffending animal in his possession."



## MEDICAL NOTES.

— Dr. Samuel Cabot has resigned his position as Surgeon to the Massachusetts General Hospital after an active and distinguished service of thirty years and three months. Dr. Cabot's resignation has been accepted by the Trustees, who at the same time expressed their appreciation of his services by appointing him Consulting Surgeon to the Hospital.

— The following sonnet, written for the occasion by Dr. Oliver Wendell Holmes, was read by Prof. H. P. Bowditch at the annual dinner of the Harvard Club, New York, February 21, 1882:—

Yes, home is sweet! and yet we needs must sigh,  
Restless until our longing souls have found  
Some realm beyond the fireside's narrow bound  
Where slipped ease and sleepy comfort lie,—  
Some fair ideal form that cannot die  
By age dismantled and by change uncrowned,  
Else life creeps circling in the self-same round  
And the low ceiling hides the lofty sky.  
Ah, then to thee our truant hearts return,  
Dear Mother, *Alma, Casta*,—spotless, kind!  
Thy sacred walls a larger home we find,  
And still for thee thy wandering children yearn  
While with undying fires thine altars burn  
Where all our holiest memories rest enshrined.

— Another case has been added to the few recorded in which the spread of typhoid fever has been prevented by a reliable system of water purification. In a report by the Surgeon-General of the tenth (Prussian) Army Corps, dated September 17, 1881, we read that a small epidemic of typhoid occurred twice in the military hospital at Emden (Hanover), first during the winter 1875-76, and again in 1877. The drinking water was contaminated by organic matter, and stated to have been the sole cause of the latter outbreak. In 1878 two of Bischof's spongy iron filters were obtained, and the Surgeon-General of the Corps reports that since their introduction no further epidemic of typhoid has taken place. The water, which previous to the use of the filters was flat and rather repugnant to the taste, has since been bright and palatable. The same results have been obtained in the military stations at Shoeburyness and Fort George. In the former, zymotic diseases, especially typhoid, were prevented, whilst very prevalent in the neighborhood. In the latter, they were arrested, as will be seen by comparing the nineteenth and twentieth Army Medical Reports. The same filters were ordered in 1878 by the Prussian Military Administration, during a severe epidemic of typhoid fever, for Fort Alexander at Coblenz. Since the introduction of the filters not a single further case of typhoid occurred up to the commencement of the present year, when, the well having in the interval been deepened, the filtration through spongy iron was discontinued. It is remarkable that shortly after this another epidemic of typhoid should have broken out.

— Sir Robert Christison, of Edinburgh, died January 27th in his eighty-fifth year. He studied toxicology with Orfila in Paris. On his return to Edinburgh

he was appointed professor of medical jurisprudence at the university in 1822, holding this chair for ten years, when he was made professor of materia medica, which position he held for forty-four years, till 1877. He presided over the meeting of the British Medical Association in Edinburgh in 1875. He was a member of the General Medical Council from 1858, the year of its establishment, until 1873. He was physician in ordinary to the queen in Scotland, and the author of the standard English work on poisons. At the time of his death he was vice-president of the British Medical Association.

— Deaths under chloroform are again recurring with distressing frequency in England, according to the *British Medical Journal*. An inquest was held at Malvern Wells on Saturday, on the body of Charles Nelmes, aged fifty-one, who died while under chloroform. It appeared that deceased had sustained a dislocation of the shoulder, and he waited upon Mr. Haynes, surgeon, who attempted to reduce it by ordinary means, but failed to do so. Mr. Haynes then decided to administer chloroform, but before doing so he examined deceased's heart, but could detect nothing which should prevent him from administering chloroform. He accordingly gave the deceased small doses. Soon afterwards deceased's legs became convulsed, and he held them, but death took place in a very short time. Dr. Pike and others said they should have acted precisely as Mr. Haynes had done. In cities and towns it was easy to get a medical man to assist in administering chloroform, but it was different in the country. The quantity administered was not excessive. Mr. Brown, surgeon, who made a post-mortem examination, said that deceased was in such a state of health that he might have died at any moment. The jury returned a verdict of "Died from natural causes, accelerated by chloroform judiciously and properly administered," but some of the jury deprecated the practice of the profession in putting persons under the influence of chloroform "single-handed." A case is also reported in the daily papers of Mr. T. Fenton, of Broughtly Ferry, near Dundee, who was about to undergo an operation for sympathetic ophthalmia. "Two medical gentlemen attended from Dundee, and Mr. Fenton was put under the influence of chloroform, but it had not been administered many minutes before he died." We should be glad to have medical details. We hear also of a third case of death under chloroform, said to have occurred at the Royal Free Hospital this week, of which, however, we have not yet received details or seen any published report.

— Drs. H. C. Wood and Formad desire to know of the existence of an epidemic of malignant diphtheria, in order that they may continue their research upon the nature of the diphtheritic poison. Dr. Formad will go to any locality within eight hundred miles of Philadelphia. Letters may be directed to the University of Pennsylvania.

— The *Japan Daily Mail*, of Yokohama, says: "Dr. Tanner will have 'to take a back seat,' as his countrymen would put it. His fast of forty days has

been completely put in the shade at Pahlhanpore, British India, where a religious mendicant of the Jain caste is reported to have just completed a ninety-one days' fast successfully. An eye-witness describes in a Surat paper the appearance of the man on the last day of the penance. The 'saint,' says the writer, "underwent a fast of eighty-six days last year, and has been more or less accustomed to this form of infliction. When seen on the ninety-first day of the recent fast, his abdomen had so much subsided as to form the shape of a pit; the veins were much swollen, and he seemed to speak only with great effort. He was seated on a blanket in a corner, and had near him the sour water of curdled milk, which he sometimes drank. He seemed, however, to be capable of physical exertion, and up to the last day procured the curdled milk-water for himself. He was all along engrossed in prayer, and held no communication with other men except on religious topics. The man has spent his life in strict asceticism, and has denied himself all food and luxury save what might be got from milk-water, bread, and yellow rice. His bedding consists of an ordinary blanket and nothing more. Many Jains undergo penances, in the shape of fasts and other self-infliction, but it is said that this man's efforts in this direction are unapproached by even his most devoted co-religionists, and he has drawn to himself a large following. He accepts, however, no presents and no fees.

### Disseclanp.

#### RESTRAINT IN MASSACHUSETTS INSANE ASYLUMS. A CORRECTION.

MR. EDITOR, — In an article on Chemical Restraint, in the December number of the *Archives of Medicine*, a mistake occurred in the statistics given of the insane asylums of Massachusetts, which I desire to correct in a Massachusetts medical journal.

To meet a statement often made in the United States that in the British asylums for the insane the necessity for restraint by mechanical appliances is obviated by the free use of stupefying drugs, I prepared some comparative tables, showing the relative use of mechanical restraint and the administration of soporifics and sedatives in the asylums of the two countries.

I here present in a corrected form the statistics of Massachusetts asylums for a month: —

| Name of Asylum. | No of patients Monthly occasions of restraint. | No. restrained. | Monthly occasions of seclusion. | No. secluded. | Average number to whom chloral was administered daily. | Average number to whom hyoscyamine or other narcotic was administered to any extent. |
|-----------------|--|-----------------|---------------------------------|---------------|--|--|
| Worcester . . . | 551  | 69              | 71                              | 22            | No record.   |  |
| Danvers . . .   | 643  | 138             | 161                             | 5             | 3  |  |
| Northampton . . | 371  | 232             | 218                             | 26            | None.  | None.  |
| Taunton . . .   | 574  | 29              | 7                               | 29            | None.  |  |

The report of the Taunton Asylum was somewhat indefinite; it read thus: —

"Under restraint, from September 1st to October 1st, of men 2.1 per cent.; of women, 5.1 per cent. In seclusion, during the same period, of men, 1.05 per cent.; of women, 1.4 per cent.;" which I have interpreted, in the table, as referring to the number of individuals restrained or secluded, and not to the occasions or duration of the periods of restraint or seclusion.

Yours truly, H. B. WILBUR, M. D.

#### INOCULATION OF TYPHOID. PROPHYLAXIS OF TUBERCULOUS DISEASES.<sup>1</sup>

MR. EDITOR, — In continuation of my remarks in a previous issue of the *JOURNAL*, I beg to state that, in my opinion, intestinal typhoid inoculation becomes of still greater value when considered in relation to the power it possesses of arresting and abolishing phthisis, the mortality from which is, in the long run, about three times greater than that of any other known affection.

So entirely do the processes of typhoid disease wear out and cast off exuvie on which tubercular phthisis might otherwise feed, that of all those in the circle of my acquaintance or of whom I have exact knowledge, who, having had typhoid fever, entirely recovered therefrom to the standard of good health, I do not know a single instance in which any one of them has thereafter become a victim to phthisis, except where the last dregs of an hereditary or acquired tuberculous diathesis were made to crop out, owing to some morbid condition of lung compressing its tissues, provoked, possibly, by hospital atmosphere, or bad food, and assisted, perhaps, by a concurrent attack of variola, rubella, or pulmonary abscesses from pyæmia or purulent infection. Without these antecedents, with very rare exceptions, they all enjoyed complete immunity from phthisis. The most solid form of pulmonary engorgement symptomatic of, caused by, and engrafted on, rheumatic fibro-bronchitis, is also a most inviting nest, where the mere remnant of a tuberculous diathesis is most likely to deposit cheesy matter in and throughout its condensed substance. Entertaining these views, one cannot help regarding typhoid disease as having much to do with the prophylaxis of tuberculous disease. It is curious to note, also, how incipient phthisis is arrested, and its plot-work broken up and dissipated, by the supervention of typhoid disease. It must be seen, therefore, that to people who have had typhoid fever, and have perfectly recovered from it, may be accorded what quarantine officers call a clean bill of health, so far as any liability to phthisis is concerned. Or, to explain more perfectly, and make the subject better understood, it may be said that typhoid fever and tubercular phthisis appear as though standing towards each other in the light of acute and chronic affections of the same order, and that the process of typhoid disease consumes and exhausts the inherited or acquired *matrices morbi*, which would otherwise go to the development and sustenance of tuberculosis. Therefore, however important typhine intestinal inoculation may be to prevent continued fever in after life, it is for individuals inheriting a tuberculous diathesis of far greater value as a guard against pulmonary consumption.

But for want of space many examples might be

<sup>1</sup> Continued from page 119.

given to show that typhoid fever is a true guard against phthisis, and the following cases are intended to show, to a certain extent, that typhoid disease is both a guard against and a remedy for incipient tuberculosis, whether in the lungs or elsewhere.

A young lady, aged seventeen, who had lost her mother from consumption, was pronounced by competent authorities to be suffering from the inherited malady, marked by cough, hectic, and loss of flesh and strength. At this juncture she was so fortunate as to contract typhoid fever, prevailing in the neighborhood at the time. She was ill for six weeks, and had a tedious convalescence, but after getting well found she had recovered from her lung trouble. Examining her some years subsequently, I could discover nothing but slightly prolonged expiration at the top of the left lung, more marked on the dorsal surface than in front.

Mr. H. W., now in the enjoyment of perfect health, and active at eighty-eight, lost five brothers and a sister from consumption. His immunity from that disease was no doubt due to his having had as a youth an attack of fever lasting six weeks, and pronounced by Drs. Brown and White, both Dublin University men, practicing medicine at that day in Baltimore, to be typhoid.

Forty-two years ago, S. B., a clerk, born of consumptive parents, and aged nineteen, had two nests of tubercle at the top of the left lung, one deposit being in the subclavicular region, while the other was beneath the superior dorsal surface, just above the spine of the scapula; over the latter was heard the click, death-knell of Baron Louis, characteristic of softening, and in front the crepitant r  le of milary tubercles. He had had one slight hemorrhage. There had been for a period night sweats, hectic, and some emaciation, all of which still continued. While in this condition he, fortunately, contracted typhoid fever, prevailing at the time in the locality. He was ill for thirty days, after which his convalescence, although steadily and uninterrupted, was protracted for months, for while recovering from the fever he also convalesced from the lung trouble, restoration from which latter, the course of his life and occupation remaining the same, could only be attributed to the changes wrought by typhoid disease. He afterwards enjoyed good health for about twenty-three years, at the end of which inexact period he died of rheumatism seated in the white fibrous tissues of the primary bronchi of the right lung, followed by intercurrent or symptomatic pneumonia, and rheumatic pericarditis. A post mortem showed at the points in the left lung, before described, a little tucking in of the pleura, beneath which was some catenaceous deposit surrounded by melanotic matter, relics which recovery from phthisis could alone have left there.

Where the lung trouble is grave typhoid fever may arrest for a time the progress of phthisis, but cannot, by restoring serious structural alterations, give lasting relief. In other words, it cannot cure what is incurable. It would not cure a lung having a large anfractuous cavity lined with a pyogenic membrane, nor one studded with a large amount of crude, tuberculous deposit, as in the following case.

A youth, student of medicine, in whose family there had been, on both sides, cases of phthisis, was found to have extensive crude tuberculous deposit in the upper and middle lobes of the right lung. At this juncture he contracted typhoid fever, which, marked by rose-

colored spots and sudamina, ran the usual course, during which time no softening or other apparent change in the tuberculous deposit took place. After his convalescence from the fever had been completed, and he had picked up his usual flesh, I was asked to see him at his father's country place in Maryland, and found that the cause of alarm was a profuse pulmonary hemorrhage, amounting to more than a quart. To keep the crude tubercles from maturing, ripening, and softening, the weather being very warm, I sent him off to Minnesota, where, during the following winter, he drove with the bishop of that State, when visiting his diocese, eighteen hundred miles, and the winter next succeeding he drove with this distinguished divine and great friend of the red men fourteen hundred miles. The following summer, during a very hot period the last of June, he returned to spend two weeks in Baltimore. It being nearly two years since he last came under my observation, I found the same crude tubercularization, and that no change had taken place except the occurrence of emphysema throughout the left lung, and considerable thickening in the walls of the heart. He had grown enormously stout, principally from fatty deposit. Had he remained in Minnesota I see no reason why he might not have lived until this time, but the heat-match having been applied to the tinder, softening commenced, and, in spite of his return to Minnesota, went rapidly on, causing his death in a few months.

I recall the cases of two boys, one a patient of Dr. Yeates, and the other of Dr. Van Bibber, of Baltimore, with well-marked tuberculous meningitis, characterized by the concave-bowed abdomen, *tache meningite*, etc., who happened, after this disease had set in, to contract typhoid fever, from which one recovered with absolute deafness, and the other with epilepsy which he still has, accompanied, at intervals, with homicidal mania, but except for the supervision of typhoid fever it may be questioned whether, even on these terms, their lives could have been saved.

Supposing that there was less phthisis in England and Wales after than before the greatest epidemic of typhoid that has happened since Dr. Armstrong's times, and which caused between the years 1869 and 1875 as many deaths as an invading army might have done, I wrote to the registrar-general,<sup>1</sup> who kindly sent me the following answers to my queries: "The deaths referred to phthisis in England and Wales were 52,270 in 1869; 54,281 in 1870; and 53,376 in 1871; they were 51,775 in 1876; 51,353 in 1877; and 52,856 in 1878. Having regard to the increase of population, the recorded mortality from phthisis was lower in the three years, 1876, 1877, 1878, than in the years 1869, 1870, 1871.<sup>2</sup> When I get the clarified returns from the particular districts in which typhoid fever was most prevalent, there is not a doubt that the figures with regard to the relative frequency of phthisis in these years will be still more marked.

#### FOLLICULAR DISEASE.

Having endeavored to show that occurrence of the phenomena grouped under the classic name of typhoid

<sup>1</sup> I regret not being able to refer to a priceless contribution to general medicine, contained in a paper read before the International Medical Congress, by Dr. Ernest Hart. It is now in the printer's hands, and will shortly appear. The volume will contain reference to seventy-one epidemics and epidemics that have happened in Great Britain, with carefully analyzed details and tabular statements relating to them.

<sup>2</sup> From W. Ogle, M. D., superintendent of Statistical Department.

fever, and numerous other synonyms, will, by abolishing the tuberculous diathesis, not only ward off and prevent phthisis, but arrest and shunt on to the track of convalescence incipient and progressing cases of this malady, it may not be out of place here to state that, in my belief, this great constitutional reformer, typhoid disease, cures also chronic inflammation and hyperplasia of the mucous follicles in whatever part of the inner lining membrane they may be seated. The diseases caused by this pathological condition of the mucous follicles, and named according to locality, facial, follicular disease — stomatitis, follicular pharyngitis, granular, or granulated sore throat, follicular gastritis, or dyspepsia, or follicular enteritis, follicular colitis, etc., I have been accustomed to regard as amongst the *opprobria medicinae*, since this morbid condition of the follicles exists in many cases from infancy to old age, and I have never seen the chronic form of them cured by therapeutic means of any sort, but have only seen them palliated, or for a time improved by the use of certain agents, notably by the mild sulphur waters. But by typhoid fever I have repeatedly found the enlarged mucous follicles, wherever situated, reduced to their normal size, and brought back to a healthy performance of their functions.

## REMARKS.

My desire in writing the preceding has been to suggest: —

(1.) The importance of intestinal inoculations with the object of inducing typhoid fever and thereby preventing a recurrence of this disease in after life and to prove that by this method alone, once successfully applied, the prophylaxis of continued fever, typhoid disease, is rendered complete, and that typhoid fever would indeed appear to be a more powerful alternative and deterrent than any other known means, repairing in many cases errors of constitution growing out of morbid consanguinity.

(2.) That the rôle of phenomena in typhoid fever once experienced annuls tubercular diathesis, and is the only trustworthy guarantee against phthisis.

(3.) That in mild incipient cases of phthisis the tuberculous diathesis is subdued, and the disease arrested by the supervenience of typhoid fever, and therefore, to induce the latter, intestinal typhene inoculation would appear in many cases to be the only remedy for consumption.

(4.) Since most members of many families suffer more or less all their lives with follicular diseases, typhoid infection or inoculation, as a means of radically restoring the mucous follicles everywhere to a healthy performance of their functions and thereby preventing or abolishing the diseases in question, would seem to be of the greatest importance.

Instead, therefore, of waiting, as I have done, a lifetime for rare coincidences where this supervening curative and vicarious disease arriving arrests or supplants the otherwise irremediable maladies, as well as for the concurrent ideas of others in regard to its prophylactic and therapeutic powers to germinate, would it not be well that physicians so situated as to be able to follow the investigation scientifically should, with contagion procured from the mildest cases to be found, institute a series of typhoid inoculations in the young for

<sup>1</sup> The significant names given to this disease by Andral because its seat is in the mucous follicles, and not in the free mucous membrane in which they are everywhere embedded.

comparative study? From the dealer in infected milk a hint may be taken as to the method of inoculation.

In stationary France, with prolific Germany on her border, population is getting to be an economic question, not less important to the future of the Gallic race than agriculture and manufactures, and as the lives of men are coming to be considered as valuable as those of sheep and silkworms, it is to be hoped that M. Pasteur, with his rare genius and extreme ingenuity, will take an interest in the work by cultivating in milk or chicken broth the inoculable contagia of typhoid fever, and it would be well if Dr. Creighton and Professor Eberth, of Zurich, would devote their time and talents to the same object, in order that the inoculable *materies morbi* of continued fever may be had in all places, at all times, and in the most proper and convenient form. Very truly yours,

T. H. BUCKLER, M. D.

PARIS, December, 1881.

### RUPTURE OF GALL-BLADDER (?) AND DISCHARGE OF BILE THROUGH THE LUNG.

MR. EDITOR. — Permit me to briefly report an interesting case which occurred recently in my practice.

February 2d, I was requested to see Samuel V. —, a young man of robust appearance, a laborer. Found him with a temperature of 103° F., pulse 128, and a very dark-colored skin. There was extreme tenderness in right hypogastrium, with considerable swelling, and dullness extending above the costal cartilages.

Deep percussion revealed the left border of the liver about five inches to the left of the median line. The gall bladder could also be felt greatly distended. The treatment was expectant.

These conditions were unchanged for the five following days, the stools being white and urine containing bile. There developed on the 7th a dry, hard cough, and on the 8th he began to expectorate large quantities of *bile*, as proved by the nitric acid and Pettenkoffer's tests. He was delirious nearly all the time, and evidently sinking very fast.

On the 10th the sputa were normal in color, and an injection brought away a healthy though rather dark passage from the bowels.

After this the convalescence was very rapid, and at present, 14th, he is about the house, though much enaciated.

Very truly yours,

A. W. PARSONS.

BRAINERD, MINNESOTA, February 14, 1882.

### TYPHOID AND MALARIAL FEVERS IN CONNECTICUT.

THE report of the Secretary of the State Board of Health of Connecticut for the month of December makes the following statements in regard to typhoid and malarial fevers: —

The increased frequency of typhoid fever, noticed recently, continued well into December, as seen by the deaths from that cause reported in the table. Typhoid fever is also reported from Plainfield and vicinity, a few cases fatal; also, from Watertown, none fatal, but prevalent during the fall; a few cases from Unionville, one fatal; also in Salisbury, Suffield, Naugatuck, and

several other places, but not usually of a severe type nor very frequent, five or six cases at the most in any one place.

Malarial fevers are reported as having invaded new territory to the eastward and northward. The cases in Providence, R. I., were mentioned last month, but since then I have learned of its existence in Thompson, the extreme northeastern town of the State bordering on both Massachusetts and Rhode Island. The mortality returns also report deaths from several towns in Windham County. What is extremely singular is its method of progress. For some time it has maintained about the same eastern boundary line, slowly advancing, but now it advances by leaps, as it were, and settles down in the centre and extreme limits of the hitherto uninvaded part of the State. This advance by leaps, *per saltum*, to be technical, rather militates

against the theories more commonly accepted, as there is nothing peculiar in the localities selected to induce the appearance or stay of malaria. The marsh miasm theory has indeed received some pretty hard thwacks lately. The open, mild winter has favored the existence and spread of malaria, which is often found upon some hill-top as well as in the valley. The invasion of the State threatens to be complete at no very distant period. There is one consolation. It is fading out in many of the older haunts to quite a considerable degree, the type is not so well defined, the intermittent and even periodic character grows fainter, and what is called the mongrel malarial fever becomes common. The re-appearance of typhoid fever is also in the same line. Malarial diseases are reported as prevailing extensively in Fairfield County and in some parts of Litchfield County.

## REPORTED MORTALITY FOR THE WEEK ENDING FEBRUARY 11, 1882.

| Cities.                           | Population by Census of 1880. | Reported Deaths in each. | Deaths under Five Years. | Percentage of Deaths from         |                |                       |                |                      |
|-----------------------------------|-------------------------------|--------------------------|--------------------------|-----------------------------------|----------------|-----------------------|----------------|----------------------|
|                                   |                               |                          |                          | The Principal "Zymotic" Diseases. | Lung Diseases. | Diphtheria and Croup. | Typhoid Fever. | Diarrhoeal Diseases. |
| New York.....                     | 1,206,590                     | 839                      | 406                      | 20.38                             | 16.68          | 7.86                  | .47            | .83                  |
| Philadelphia.....                 | 846,984                       | 443                      | 144                      | 16.49                             | 11.52          | 7.90                  | 2.48           | —                    |
| Brooklyn.....                     | 566,689                       | —                        | —                        | —                                 | —              | —                     | —              | —                    |
| Chicago.....                      | 503,304                       | 217                      | 112                      | 24.88                             | 18.89          | 6.45                  | 3.22           | .92                  |
| Boston.....                       | 362,535                       | 150                      | 36                       | 17.33                             | 16.60          | 8.00                  | 2.60           | 1.33                 |
| St. Louis.....                    | 350,522                       | 149                      | 60                       | 13.47                             | 18.12          | 2.68                  | 1.34           | 2.01                 |
| Baltimore.....                    | 332,190                       | 173                      | 63                       | 20.80                             | 14.92          | 11.56                 | 1.56           | 2.89                 |
| Cincinnati.....                   | 255,708                       | 117                      | 42                       | 24.78                             | 14.52          | 1.70                  | —              | —                    |
| New Orleans.....                  | 216,140                       | —                        | —                        | —                                 | —              | —                     | —              | —                    |
| District of Columbia.....         | 177,638                       | 92                       | 32                       | 6.52                              | 19.56          | 3.25                  | 1.08           | 1.08                 |
| Cleveland.....                    | 160,140                       | —                        | —                        | —                                 | —              | —                     | —              | —                    |
| Pittsburgh.....                   | 156,381                       | 107                      | 49                       | 39.31                             | 20.56          | 1.86                  | 1.86           | 1.86                 |
| Buffalo.....                      | 155,137                       | 78                       | 29                       | 21.79                             | 17.94          | 8.97                  | 5.12           | 2.56                 |
| Milwaukee.....                    | 115,578                       | 37                       | 15                       | 10.81                             | 21.42          | 2.70                  | —              | —                    |
| Providence.....                   | 104,857                       | 39                       | 11                       | 23.07                             | 10.25          | 2.56                  | —              | 2.56                 |
| New Haven.....                    | 62,882                        | 18                       | 0                        | 27.07                             | 16.66          | 16.66                 | —              | —                    |
| Charleston.....                   | 49,999                        | 39                       | 5                        | 10.25                             | 2.56           | —                     | 5.12           | —                    |
| Nashville.....                    | 47,461                        | 26                       | 7                        | 23.07                             | 7.69           | 3.84                  | 3.84           | 3.84                 |
| Lowell.....                       | 59,485                        | 27                       | 12                       | 11.11                             | 11.11          | —                     | 3.70           | —                    |
| Worcester.....                    | 58,295                        | 27                       | 12                       | 17.11                             | 11.11          | 7.40                  | —              | —                    |
| Cambridge.....                    | 52,740                        | 22                       | 3                        | —                                 | 22.72          | —                     | —              | —                    |
| Fall River.....                   | 49,006                        | 20                       | 6                        | —                                 | 10.00          | —                     | —              | —                    |
| Lawrence.....                     | 39,178                        | —                        | —                        | —                                 | —              | —                     | —              | —                    |
| Lynn.....                         | 38,284                        | 17                       | 5                        | 23.52                             | 5.88           | 5.88                  | 5.88           | —                    |
| Springfield.....                  | 33,340                        | 10                       | 1                        | —                                 | —              | —                     | —              | —                    |
| Salem.....                        | 27,598                        | —                        | —                        | —                                 | —              | —                     | —              | —                    |
| New Bedford.....                  | 26,875                        | 12                       | 5                        | 16.66                             | 8.33           | —                     | 8.33           | —                    |
| Somerville.....                   | 24,985                        | 13                       | 6                        | 46.15                             | 7.69           | —                     | —              | —                    |
| Holyoke.....                      | 21,851                        | 13                       | 6                        | 61.53                             | —              | 15.38                 | 7.69           | 7.69                 |
| Chelsea.....                      | 21,785                        | 5                        | 1                        | —                                 | —              | —                     | —              | —                    |
| Taunton.....                      | 21,213                        | 6                        | 1                        | —                                 | —              | —                     | —              | —                    |
| Gloucester.....                   | 19,329                        | 5                        | 3                        | —                                 | —              | —                     | —              | —                    |
| Haverhill.....                    | 18,475                        | 4                        | —                        | —                                 | 50.00          | —                     | —              | —                    |
| Newton.....                       | 16,995                        | 4                        | 3                        | 25.00                             | 25.00          | —                     | 25.00          | —                    |
| Newburyport.....                  | 13,537                        | 3                        | 1                        | —                                 | 66.66          | —                     | —              | —                    |
| Fitchburg.....                    | 12,405                        | 9                        | 1                        | —                                 | —              | —                     | —              | —                    |
| Twenty-five Massachusetts towns.. | 200,802                       | 61                       | 16                       | 11.47                             | 9.83           | 3.27                  | 1.63           | —                    |

Deaths reported 2782 (no reports from Brooklyn, New Orleans, and Cleveland): 1093 under five years of age; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 537, consumption 423, lung diseases 425, diphtheria and croup 182, scarlet fever 116, small-pox 114, measles 52, typhoid fever 46, diarrhoeal diseases 27, whooping-cough 24, erysipelas 21, puerperal fever 18, cerebro-spinal meningitis 16, malarial fevers 10, typhus fever one. From scarlet fever, New York 91, Philadelphia 11, Baltimore and Buffalo four each, Lynn two, St. Louis, Lowell, Worcester, and Somerville one each. From small-pox, Pittsburgh 27, Cincinnati 25, New York 21, Chicago 20, Phil-

adelphia 15, Adams two, Boston, St. Louis, Baltimore, and Holyoke one each. From measles, New York 46, Pittsburgh three, Chicago two, and Baltimore one. From whooping-cough, New York 12, Chicago and Pittsburgh three each, Boston, two, Baltimore, District of Columbia, Providence, and Somerville one each. From erysipelas, New York seven, Boston, St. Louis, and Baltimore two each, Philadelphia, Cincinnati, New Haven, Nashville, Lowell, Somerville, Holyoke, and Milford one each. From puerperal fever, Chicago, Boston, and Providence four each, New York, Pittsburgh, Milwaukee, Charleston, Nashville, and New Bedford one each. From cerebro-spinal meningitis, New York three, St. Louis, Milwaukee, and Worcester two each,

Cincinnati, Pittsburgh, Providence, New Haven, Nashville, New Bedford, and Waltham one each. From *malarial fevers*, St. Louis five, New York and Chicago two each, Charleston one. From *typhus fever*, New York one.

Seventy-nine cases of small-pox were reported in Pittsburgh, 79 in Cincinnati, 14 in Baltimore, six in Buffalo, four in Hol-yoke, and District of Columbia one; diphtheria 27 cases, scarlet fever 13, typhoid fever five, in Boston; scarlet fever 11, and diphtheria two, in Milwaukee.

In 42 cities and towns of Massachusetts, with a population of 1,051,937 (population of the State 1,783,086), the total death-rate for the week was 20.16, against 20.60 and 23.48 for the previous two weeks.

For the week ending January 21st, in 173 German cities and towns, with an estimated population of 8,097,396, the death-rate was 25.6. Deaths reported 3986: pulmonary consumption 564, acute diseases of the respiratory organs 395, diphtheria and croup 229, diarrheal diseases 115, scarlet fever 106, whooping-cough 73, measles and *rötheln* 44, typhoid fever 44, puerperal fever 24, small-pox (Dresden, Essen two, Coblenz, Erfen, Bockenheim) six, typhus fever (Königsberg, Thorn, Bromberg) three. The death-rates ranged from 16.7 in Kiel to 37.3 in Münster; Königsberg 29.1; Breslau 30.5; Munich 36.4; Dresden 23.6; Berlin 23.9; Leipzig 25.1; Hamburg 24.5; Han-over 19; Bremen 19.2; Cologne 27.8; Frankfurt 18.3.

In the 23 English towns, with an estimated population of 8,455,303, for the week ending January 28th, the death-rate was 24.8. Deaths reported 4018: acute diseases of the respiratory organs (London) 543, whooping-cough 254, measles 101, scarlet fever 82, diarrhoea 54, fever 54, small-pox (London 24), 29, diphtheria 23. The death-rates ranged from 17.5 in Derby to 28.9 in Birkenhead; Leeds 18.5; Sheffield 20.1; Bristol 22.1; Birmingham 23; Manchester 24.1; London 26.4; Liverpool 28.7. In Edinburgh 19.8; Glasgow 22.2; Dublin 36.1.

For the week ending January 21st, in the 21 chief towns of Switzerland, population 479,934, there were 49 deaths from acute diseases of respiratory organs, pulmonary consumption 40, diphtheria and croup 18, diarrheal diseases 13, whooping-cough nine, typhoid fever five, puerperal fever two, scarlet fever one, small-pox one. The death-rates were, Geneva 29.3; Zurich 38.3; Basle 24.4; Berne 39.1.

For the week ending January 28th in the Swiss towns there were 48 deaths from acute diseases of the respiratory organs, pulmonary consumption 28, diphtheria and croup 11, diarrheal diseases seven, whooping-cough five, puerperal fever five, measles three. The death-rates were, Geneva 28.6; Zurich 32.3; Basle 24.5; Berne 20.7.

The meteorological record for the week ending February 11th, in Boston, was as follows:—

| Date.            | Barom-eter. | Thermom-eter. |       |          |          | Relative Humidity. |            |             |       | Direction of Wind. |            |             | Velocity of Wind. |            |             | State of Weather. <sup>1</sup> |            |             | Rainfall.             |                   |
|------------------|-------------|---------------|-------|----------|----------|--------------------|------------|-------------|-------|--------------------|------------|-------------|-------------------|------------|-------------|--------------------------------|------------|-------------|-----------------------|-------------------|
|                  |             | Mean.         | Mean. | Maximum. | Minimum. | 7.23 A. M.         | 3.23 P. M. | 11.23 P. M. | Mean. | 7.23 A. M.         | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.        | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.                     | 3.23 P. M. | 11.23 P. M. | Duration, Hrs. & Min. | Amount in inches. |
| February, 1882.  |             |               |       |          |          |                    |            |             |       |                    |            |             |                   |            |             |                                |            |             |                       |                   |
| Sun., 5          | 29.544      | 17            | 24    | 9        | 100      | 73                 | 83         | 85          | NW    | NW                 | W          | 28          | 24                | 14         | S           | O                              | C          | —           | —                     |                   |
| Mon., 6          | 30.183      | 18            | 29    | 10       | 80       | 51                 | 67         | 66          | W     | W                  | W          | 8           | 18                | 7          | F           | C                              | C          | —           | —                     |                   |
| Tues., 7         | 30.225      | 26            | 33    | 11       | 76       | 72                 | 86         | 81          | W     | SE                 | E          | 3           | 12                | 6          | O           | O                              | C          | —           | —                     |                   |
| Wed., 8          | 29.979      | 35            | 43    | 26       | 88       | 39                 | 61         | 63          | SW    | W                  | W          | 8           | 14                | 8          | O           | C                              | C          | —           | —                     |                   |
| Thurs., 9        | 29.898      | 31            | 36    | 22       | 68       | 79                 | 100        | 82          | SW    | E                  | NE         | 3           | 4                 | 12         | F           | Slect.                         | Slect.     | —           | —                     |                   |
| Fri., 10         | 29.715      | 33            | 39    | 30       | 100      | 45                 | 68         | 71          | NW    | NW                 | NW         | 9           | 24                | 14         | S           | F                              | F          | —           | —                     |                   |
| Sat., 11         | 30.582      | 28            | 34    | 22       | 61       | 40                 | 54         | 53          | NW    | NW                 | SW         | 14          | 12                | 4          | C           | C                              | C          | —           | —                     |                   |
| Means, the week. | 30.018      | 27            |       |          |          |                    |            |             |       |                    |            |             |                   |            |             |                                |            | 42.15       | 2.23                  |                   |

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., snow; R., rain; T., threatening; X., clearing.

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM FEBRUARY 11, 1882, TO FEBRUARY 17, 1882.

CAMPBELL, JOHN, lieutenant-colonel and surgeon, medical director, Department of the South. Granted leave of absence for fifteen days from 13th inst. S. O. 17, Department of the South, February 11, 1882.

GAUDNER, WILLIAM H., captain and assistant surgeon. Assigned to duty as post surgeon at Fort Concho, Texas. S. O. 13, Department of Texas, February 6, 1882.

BARTHOLO, JOHN H., captain and assistant surgeon, Fort Lapwai, Idaho. Granted leave of absence for fifteen days. S. O. 12, Department of the Columbia, January 25, 1882.

MAYS, L. M., captain and assistant surgeon. The leave of absence granted him in S. O. 222, A. G. O., October 1, 1881, extended one month. S. O. 36, A. G. O., February 14, 1882.

COMINGS, E. T., captain and assistant surgeon. To be relieved from temporary duty at Columbus Barracks, Ohio, on receipt of order, and to report in person to commanding general, Department of the Missouri, for assignment to duty. S. O. 32, A. G. O., February 9, 1882.

BANISTER, JOHN M., first lieutenant and assistant surgeon, Fort Reno, Indian Territory. The leave of absence granted him paragraph 1, S. O. 18, Department of the Missouri, January 24, 1882, is extended one month. S. O. 16, Military Division of the Missouri, February 15, 1882.

Thursday of March, at eleven o'clock A. M. Paper by A. L. Norris, M. D.: The Placenta, its Development and its Diseases. HENRY M. FIELD, M. D., Secretary.

BOOKS AND PAMPHLETS RECEIVED.—Circulars of Information of the Bureau of Education. No. 5. 1881. Causes of Deafness among School Children and its Influences on Education, with Remarks on the Instruction of Pupils with Impaired Hearing and on Aural Hygiene in the Schools. By Samuel Sexton, M. D., Aural Surgeon to the New York Eye and Ear Infirmary.

An Experimental and Clinical Inquiry into the Etiology and Distinctive Prevalencies of Traumatic Fever. By B. A. Watson, M. D., New Jersey. Extracted from the Transactions of the American Medical Association, 1881.

Memoranda of Physiology. By Henry Ashby, M. D. (Lond.). Third Edition, thoroughly revised, with Additions and Corrections by an American Editor. New York: William Wood & Co. 1882.

Seventh Report of the Salem Hospital.

Sixteenth Report of the Board of Trustees of the Connecticut Hospital for the Insane. 1882.

The Fourth Annual Report of the Presbyterian Eye and Ear Charity Hospital, No. 77 East Baltimore Street, Baltimore, Maryland, for the Year ending December 1, 1881.

A Treatise on Human Physiology, designed for the Use of Students and Practitioners of Medicine. By John C. Dalton, M. D., Professor of Physiology and Hygiene in the College of Physicians and Surgeons, New York. Seventh Edition, with two hundred and fifty-two Illustrations. Philadelphia: Henry C. Lea's Son & Co. 1882.

GYNÆCOLOGICAL SOCIETY OF BOSTON.—The next regular meeting will be held at the Medical Library Rooms, on the first

## Original Articles.

PELVIC EFFUSIONS AND THE IMPORTANCE  
OF THEIR EARLY RECOGNITION, WITH  
REFERENCE TO TREATMENT. REPORT OF  
ELEVEN CASES.<sup>1</sup>

BY G. D. LYMAN, M. D.

A FEW months since I reported to the American Gynecological Society one hundred and forty-six cases of pelvic effusions, of which forty-one resulted in abscess. These cases occurred at the Boston City Hospital during the preceding five years. During the last quarterly term of service, beginning October 1, 1881, eleven additional cases came under my charge, of which two were of puerperal origin, two were clearly sanguineous effusions, hematoceles, resulting in abscess, and the remainder were effusions the exact character of which can be surmised only from the records of them given below, some probably hemorrhagic, but most of them either plastic exudations or simple serous effusions from pelvic cellulitis or peritonitis, for, as in many hospital cases, an exact positive differential diagnosis is often impossible, the antecedents obtainable, especially if they be at all chronic, being generally vague and indefinite, rendering it impracticable to ascertain whether a certain mass of pelvic effusion was of serous or sanguineous origin, unless by aspiration, or otherwise, the contents can be submitted to ocular examination.

As these cases were most of them in the wards at the same time, and comprised examples of acute recent effusion, both serous and sanguineous, older chronic exudations, and puerperal cases, a rare opportunity was afforded the students to learn the causes and progress, the diagnosis and treatment, of this common affection from its very inception, as well as its various results of rapid absorption when recognized and treated early, or, when not coming under treatment until a later period, of plastic exudation with slower absorption, or, finally, suppuration and evacuation artificially or by spontaneous rupture into the bladder, groin, etc.

These different varieties of pelvic effusion may all, of course, result in suppuration, and become true pelvic abscess, but with reference to both prognosis and treatment, it is practically important to have the diagnosis as accurate as possible in any given case; a simple serous effusion, for instance, even though large in amount, ought to, and in the majority of cases does, recover rapidly, leaving the pelvic organs in a healthy condition for future service. This very fact indeed, is, I believe, a fruitful source of error in diagnosis, many a case of pelvic trouble, with pain, dysuria, rectal tenesmus and metrorrhagia, being attributed to cystitis, dysentery, or metritis, and the urgent symptoms being relieved no farther directions or attention is given to the sequelæ, until they come under observation, perhaps long after, as the result of some irritation which might have been avoided had the true nature of the case been recognized. A sanguineous effusion is often, likewise, rapidly absorbed, but as a rule not so rapidly as the former, and under unfavorable conditions, which are not anticipated by correct diagnosis, they are even more liable to suppuration, the earliest advent of which should be diligently watched, and met with surgical interference.

Puerperal cellulitis, on the contrary, either as the direct result of injury or from septic absorption after labor, is always a more tedious and grave affair in its immediate consequences, and certainly not less so in the ultimate condition of the sufferer when the discharge has ceased, as shown by the displacement of organs, the firm adhesions of the pelvic tissues, inclosing here and there masses of exudation, which, under the obvious manifold conditions of irritation to which every woman's pelvis is liable, become the focus of renewed suppurative action. Indeed, it is questionable whether a woman ever recovers entirely from the effects of a bad pelvic abscess, until, at any rate, after the menopause.

It is quite too common to treat these cases as tending always to ultimate recovery, surgical interference being declared not only unnecessary, but even unwise. If by recovery is meant the cessation of suppuration, after a time,—almost always greatly protracted,—and the ability of the patient to resume in some measure her ordinary avocations, the statement may, perhaps, be accepted, but before pronouncing a patient well after one of these abscesses, it would be worth while to get her subsequent history for a few years. Every one who has had occasion to see much of these cases knows very well, not merely their liability to recurrence so long as any plastic exudation remains, as it almost invariably does in greater or less quantity for long periods, but the tedious history of months, often years, of pain, irritable bladder and rectum, painful coition, menorrhagia, metrorrhagia, and irremediable uterine displacements, to say nothing of the multiform reflex disturbances, which render existence almost a burden. Cases of spontaneous opening into the bladder or rectum often close with comparative comfort to the patient for long periods, only to reappear again under any unusual excitement. It is not in these cases so much a question of death,—although no mean percentage, especially of the puerperal variety, do result fatally,—but it is a question whether, as the result of early and accurate diagnosis, we may not much more often give such prompt relief as to preserve the normal relations and integrity of the parts, and so avoid this protracted discomfort and invalidism. We do not treat other affections, much less important, after this expectant method. It would seem quite as rational to leave a bad mammary abscess to burrow on for months without any regard to the ultimate integrity of the gland, the protracted suffering, or the constitutional exhaustion.

If the great frequency of pelvic peritonitis, cellulitis, and hematocele were more generally recognized, and an early and discriminating diagnosis obtained before they had reached the period when such diagnosis becomes impossible, a larger proportion would be cut short before the stage of suppuration, or, having reached that stage, the damaging results to the pelvic viscera could, by early evacuation, be anticipated.

In some of the cases given it will be seen that early recognition and treatment were followed by prompt recovery in the proper meaning of that term. In others with an older history, and with large plastic exudations tending evidently to mischief, treatment was effectual in averting suppuration, affording a marked contrast to still others where spontaneous openings had occurred more than once in a period of years, and which, if more promptly recognized, might possibly have been prevented.

<sup>1</sup> Read before the Boston Obstetrical Society.

I do not assert, of course, that every case is amenable to arrest by surgical interference, for often neither fluctuation nor any signs of suppuration are discoverable to the most vigilant observation, but it is none the less true that many more occur where it is impossible to doubt that opportunities for relief by aspiration are missed because not carefully sought for. I would even go farther, and urge that where any reasonable doubt even of suppuration exists, aspiration be resorted to, especially as it has often happened in cases of failure to reach pus that the irritation of the needle has stimulated absorptive action in the indurated mass.

The causes, location, pathology, and diagnosis of these various pelvic effusions have been so exhaustively treated since 1850 (before which time little was known with certainty), that I will not trespass to any extent upon your time by discussing them. Bernutz, Aran, Nélaton, Voisin, Scanzoni, Virchow, and others have written freely, some of them exhaustively. Many valuable contributions also have been made by English and American authors, which are familiar to all interested in the subject, and I will therefore content myself with a short summary of points generally recognized as most important to bear in mind, especially as to diagnosis and treatment.

The difference so much contended for between phlegmon or thrombus (outside the peritoneum) and hæmatocele (within the peritoneum) need be alluded to only so far as to state that the former, that is, the extra-peritoneal sanguineous effusions, generally obtain in puerperal cases, tending to external openings, as the groin, thigh, etc. — the latter, or intra-peritoneal, where suppuration follows, more often seek an outlet internally through the vagina, bladder, or rectum, or even, in rare cases, burst the adhesions above and escape into the abdominal peritoneum, menstruation playing a large part in their causation, though it is now well proved that blood may be extravasated at the catamenial periods into the cellular tissue beneath and external to the peritoneum, behind the uterus, or into the broad ligaments.

Pelvic peritonitis from defective or interrupted excretion is very common, hæmatocele from the same cause rare, so that too much stress is not to be laid in the diagnosis upon the fact of a coincidence between the catamenial period and the formation of the tumor. Bernutz<sup>1</sup> asserts that this would lead to error three times out of four, the reverse being true of "metrorrhagic hæmatoceles," as he calls them, where the flow from the uterus and the rapid formation of a tumor projecting into the abdomen above and the pelvis below, with the coincident symptoms of acute peritoneal irritation, are wholly unlike the slower formation of serous effusions and plastic exudation.

Hæmatoceles are rare in puerperal cases at term, pelvic peritonitis and cellulitis common, and usually terminating in suppuration.

In hæmatoceles the anæmia, the collapse, the rapid development, are usually characteristic as compared with the latter, the contrast modified by the rapidity with which the blood is poured out, that, for instance, from a ruptured tube or varix being of course more striking than the slower effusion from ovarian congestion or peritoneal hæmorrhagic exudation. Still, the diagnosis in those cases of pelvic peritonitis with effu-

sion coexisting with metrorrhagia, will necessarily cause confusion which only careful observation of the order of the symptoms will clear up, especially the inversion in the order of their occurrence in the two cases respectively, hæmatoceles from any cause being accompanied first by the effusion and pain, then a rapid development of the tumor, reaching, in extreme instances, to and beyond the umbilicus, thirdly, anæmia, possibly collapse, and lastly the development of febrile symptoms, while, on the contrary, in the effusions from peritonitis and cellulitis we have first the febrile symptoms, then a gradual and more limited effusion, generally but not always confined to the pelvis, an absence of anæmia and collapse, and lastly the ordinary signs at a later period, of suppuration, should such a termination not be averted.

The difficulty of obtaining the relative order of the symptoms in many hospital cases, arising from lack of intelligence or of memory in the patient, and especially where the disease is already of some duration, renders, as I have already said, accurate diagnosis frequently impossible. In this connection it should not be forgotten that the two affections may coexist. Bernutz gives such cases. Cases also occasionally arise where neither menstrual irregularities, pain, the rapid development, the vaginal touch, the extension above the pubes, etc., can be wholly relied on. Voisin (de L'Hæmatocele, page 180) gives the history of such a case in which Nélaton himself mistook a purulent collection from peritonitis for a hæmatocele. See, also, Bernutz on diagnosis of pelvic peritonitis and hæmatocele. (Vol. II.)

The results obtained from vaginal examination, also, are entirely unlike in the two cases. In hæmatocele the mass is reached often with difficulty, is more apt to be central, — yields at first a doughy, boggy feeling, and is often free from pain when touched, while in pelvic peritonitis, on the other hand, the vagina is hot, the swelling excessively sensitive, more lateral, dense and inelastic, and rarely rising above the pubes, being limited by the peritoneal adhesions resulting from the initial inflammation.

In hæmatocele menorrhagia is usual, especially in the earlier stages, and the tumor, after absorption commences, is said by Voisin<sup>2</sup> to decrease markedly with each monthly period; serous or plastic effusions, on the contrary, though metrorrhagia is very common in them, are neither influenced at first, or affected subsequently, by the monthly flow, which often recurs normally throughout.

I am quite aware that much of the foregoing is perfectly familiar to most of those present, but I have thought that in view of the recent discussion in this Society of the subject of puerperal pelvic abscess, these cases and the remarks suggested by them might be of sufficient interest to justify their presentation. I wish again to reiterate that, notwithstanding the objections made by some of the highest authorities, an early exploration of such effusions when suppuration is impending is, in my judgment, not only advisable when practicable, but is absolutely demanded for the ultimate well-being of the patient. I repeat that it is not so much a question of death as it is a question between partial recovery with all the organs in an abnormal condition, and entire restoration anatomically and functionally. The let-alone policy certainly would not be thought justifiable in parallel surgical affections,

<sup>1</sup> Clinique Médicale sur les Maladies des Femmes, Paris, 1860, 62, vol. ii., pp. 371 to 385.

<sup>2</sup> Voisin de L'Hæmatocele, Paris, 1860, page 164.



examples of which will readily enough suggest themselves.

**CASE I. Acute Effusion following Injury; Probably Sanguineous, with Secondary Local Peritonitis.** — J. P., thirty-three, married, entered hospital December 14th, never had children or miscarriages, menses always regular. Three weeks since, and one week after cessation of menses, she fell down stairs. This was followed by pain in standing or walking. A few days subsequently she had a rigor and has since had several chills, but neither vomiting or fever at the time. Defecation painful, micturition frequent, urine thick and reddish, anorexia, headache, insomnia, and slight bloody leucorrhœa since injury. Says the pain grows constantly worse. Vaginal examination shows a large effusion to the right of the uterus. Cervix not displaced, but uterus not movable. Under fomentations, rest, and opiates, she was made comfortable, and in two weeks (December 31st) she was nearly free from pain, the effusion rapidly diminishing, and the uterus more movable. No signs of suppuration.

January 15th. Nearly well of the pelvic trouble and remains in hospital for chronic pulmonary disease.

**NOTE.** The normal position of the cervix with such an effusion is noteworthy, and also the lateral position of the tumor. The reddish urine was probably from admixture with the vaginal discharge. From the early history dislocation of the uterus might have been anticipated but nothing of the kind was found.

**CASE II. Hematocoele; Rapid Absorption.** — S. W., age twenty, entered October 18th, married one year, never pregnant, menses always regular and free. Has been sick in bed two weeks. Without any known cause was attacked with sudden pain and flowing, one week after cessation of catamenia. The hæmorrhage continued copiously for a week, and then ceased, but the pain still continued, extending above the pubes — has pelvis tenesmus, increased by micturition, has chilly sensations but no positive chill, — has never had such an attack before.

October 18th. Vaginal examination shows the uterus to be fixed, the cervix wedged against the symphysis and a mass of effusion behind the uterus extending mostly to the right. Under treatment this rapidly absorbed and on the 31st a collar-like cellular infiltration, hard and free from pain and encircling the cervix, was all that remained.

November 2d. Was discharged at her own request with such cautions as to the slight induration remaining as seemed necessary.

**CASE III. Pelvic Peritonitis.** — C. H., twenty-two, married, entered November 3d, one child eleven months previously, menses always regular, no leucorrhœa, no miscarriages. Five months ago and six months after her labor, wet her feet while menstruating — had menorrhagia, pain in pelvis and down right leg with vomiting, abdominal tenderness, and leucorrhœa, but neither rigors nor dysuria — was confined to her bed for a week, after which was up and about but unable to work. Three weeks before entrance took to her bed again with a renewal of all the symptoms and an increase of the fever and pain. The last attack came on during a menstrual interval.

November 4th. Vaginal examination revealed an effusion in Douglas's pouch extending down the recto-vaginal septum with a deep sulcus between it and the cervix. The uterus fixed, some tenderness in the

right groin, but no hardness above the pubes. Uterus three inches deep, the sound passing to the right.

November 12th. Effusion much diminished and the pain has ceased.

November 13th. Patient sat up yesterday and today has had two rigors, continuous vomiting and severe epigastric pain.

November 16th. Universal tenderness, and micturition painful.

November 18th. Much improved, the pain has ceased, and the pulse and temperature are normal.

November 22d. Still improving, the effusion is absorbing rapidly, no tenderness, and uterus more movable.

December 6th. Effusion nearly gone. There remains a small ridge to the right of the cul-de-sac and on the left a dense, hard ridge extends from the side of the pelvis to the junction of the cervix and body.

December 10th. Indurations less marked, and the patient, feeling well, was discharged at her own request after being warned of the danger of relapse.

**NOTE.** If the first attack, six months after her labor, had been recognized the recurrence of the disease might have been averted by proper treatment. It was possibly connected with the puerperal antecedents, though the enlarged uterus may have been very well attributable to the long-continued pelvic congestion.

**CASE IV. Pelvic Peritonitis; Obscure History; Probably Sexual Excess.** — C. F., twenty-five, single, entered December 24th, had one child at sixteen, labor natural. Has been sick a month with pain in back and bowels, mostly on left side and down the left leg. No rigors, no dysuria, no abdominal enlargement, some tenderness on pressure; knows no cause.

December 26th. Vaginal examination reveals a lacerated cervix and a mass behind the uterus the size of a large egg, reaching up into the hollow of the sacrum. Under fomentations, vesication, and applications of iodine externally, she gradually convalesced; remained in hospital for convalescence until February 4th, when she was discharged well.

**CASE V. Pelvic Peritonitis, of Long Standing and Recurrent; Probably Induced Originally by Abortion.** — H. B., forty-five, a widow; entered December 14th, menses at sixteen, always regular but painful; had two children, and two abortions induced by herself "with an instrument given by a doctor." Last pregnancy sixteen years ago; had an attack like the present seven years ago, otherwise well until three weeks since, when, two weeks after catamenial period, she took to her bed with severe abdominal pain extending down the thighs, which came on suddenly after a hard day's work in washing; no dysuria, no vomiting, chilly sensations not amounting to rigor, constant flowing for past two weeks.

December 15th. Vaginal examination shows the mucous membrane of the posterior wall ridged and hypertrophied and extending back for two inches, resembling an enlarged urethra. Rectal examination shows no pouching of the rectum, cervix uteri pushed forward by a large mass in posterior cul-de-sac, fundus retroverted, sound entering two and one half inches. The uterus was gently curetted, removing clots and some portions of mucous membrane, and causing slight pain; iodine applied to cavity. The flowing continued slightly up to the 24th, the time for her regular period, when it ceased entirely, instead of increasing.

December 31st. No recurrence as yet of the menstrual period. She is much improved and the effusion is rapidly absorbing.

January 4th. Mass reduced to size of an English walnut. She remained for convalescence until February 4th, when she was discharged well.

CASE VI. *Pelvic Peritonitis, followed by Cellulitis and Chronic Cystitis.* — M. McC., thirty-one, single, entered August 17th, with history well marked, of peritonitis caused by cold at the menstrual period a year previously. Gave up work three months before entrance. Complaints of lumbar pain extending to thighs, vaginal heat and leucorrhœa and irritable bladder. The urine contains pus. Pressure above pubes causes pain.

October 8th. Vaginal examination shows a vaginal os uteri, the uterus freely movable and retroverted; remains of old cellulitis shown by several deep firm ridges stretching across the posterior cul-de-sac.

November 20th. Patient has decidedly improved during the six weeks since last date, under hot douches, counter-irritants, opiates, bladder injections, etc., but she is very nervous and irritable, complaining still at times of dysuria. The hard ridges in the cul-de-sac having become much softened, attempts to replace the fundus uteri were cautiously made, but she was unable to bear any form or size of pessary, or even cotton tampons, and after repeated trials they were discontinued, as they caused too much pain and general discomfort. She left January 9th, improved.

NOTE. A well-marked instance of chronic cystitis, uterine dislocation, neuralgic pain, and permanent injury to health from pelvic peritonitis, suffered to continue for a year without proper treatment.

CASE VII. *Hæmatocele; Pelvic Peritonitis and Cellulitis; Extensive Effusion, either Serous, Sanguinous, or both.* — L. C., aged twenty-seven, widow, entered August 4th; has had one child and two miscarriages; menses began at thirteen, always painful but regular; has been sick for two or three months, with steady pain in back and through the bowels; almost continuous metrorrhagia, sometimes offensive; constipation and headache; at entrance pulse was 124, temperature 100° F. A hard nodule was found on the anterior lip of the cervix, bleeding easily. For ten days after entrance had diarrhœa. She continued with constant pain in lower abdomen, the metrorrhagia apparently diminishing, until October 2d, when, upon examination, I found the cervix pointing forward and to the left; behind the uterus, separated from it by a deep sulcus, a large, hard mass of effusion extending from the left to the right side of the uterus (but mostly on the right), and rising into abdomen nearly to the umbilicus.

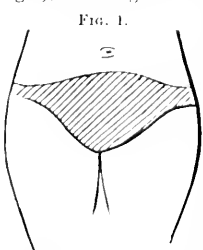


FIG. 1.  
The Amount of Induration as shown by Abdominal Palpation

(See diagram.) Uterus fixed, no fluctuation bimanually, nothing between uterus and bladder. Could bear but little pressure in supra-pubic region. She continued with more or less of pain, vomiting, and dysuria until the 20th, when, on vaginal examination, a diminution of the effusion on the left side was noted, and also of the supra-pubic enlargement.

November 22d. During the four or five weeks since last report has had some re-

lief from fomentations and douches and free use of opiates; has had chilly sensations, but no rigor; no other evidence of suppuration. Vaginal examination now shows some farther diminution in the posterior mass and a slight extension of the induration to the front of the cervix. No fluctuation or softening.

December 7th had a recurrence of vomiting and severe pain. Vaginal examination now shows the left side to be comparatively free.

December 15th. The house officer was called during the night, and found her over the foot of the bed in a doubtful condition of convulsion; this was considered to be hysterical, and due to the free use of opiates, which from this time were much diminished. Three days later (the 18th) a surprising diminution of the effusion was found, and by the 23d only one very small spot of hardness, on the right of the uterus, remained. Being free from pain, and able to sit up, was allowed to go home.

NOTE. The hardness, the lateral position in the pelvis in the early stages, of the larger part of the effusion, would indicate peritonitis, and especially the late occurrence of cellular induration anterior to the uterus; but the metrorrhagia, the abdominal extension of the effusion, and the ultimate rapidity of absorption are more characteristic of hæmorrhagic origin, though there was no marked anæmia. The rational supposition, it seems to me, is that the effusion was originally sanguineous, and that the inflammatory action was secondary.

CASE VIII. *Endo-Cervicitis and Chronic Cellulitis; Menorrhagia.* — L. C., twenty-eight, single, entered August 25th. Has been sick a year with dysmenorrhœa, menorrhagia, metrorrhagia, and dysuria. Examination revealed a hard, irregular mass in the posterior cul-de-sac, movable with uterus. Catamenia have been always irregular and painful, with a free flow lasting ten to fifteen days; has leucorrhœa, occasional headache, and vomiting, and has lost flesh; abdominal tenderness, aggravated by stooping or defæcation. Has never been pregnant.

October 2d. Vaginal examination reveals a small mass of induration, not tender, high up in Douglas's pouch, a general congestion of the cervix and upper part of the vagina, with the cervical mucous membrane, so far as visible, roughened and congested. Patient very nervous. The sound in the cervical cavity induced extreme pain.

November 1st. The effusion very much diminished. The sound still causes extreme pain.

November 12th. Menses came on and lasted but one day.

December 4th. Much improved. Now menstruating again, but less abundantly and with less pain than formerly. She continued improving under fomentations, douches, and scarifications of cervical canal until the 15th, when the effusion and the cervicitis had nearly disappeared, the fundus being slightly displaced by the adhesions latero-posteriorly.

December 19th. Well enough to be up and about, and was discharged at her own request.

CASE IX. *Pelvic Hæmatocele; Suppuration; Artificial Opening through Posterior Wall of Vagina; Sac ruptured by Iodine Injection; Recovery.* — H. O'C., thirty-two, married, entered December 18th. A clean, healthy-looking woman and mother of four children, the last four months old. Three months ago, during the first menses after her confinement, she was, without any traceable cause, suddenly seized with se-

vere cramp and pain extending through the pelvis and loins, followed immediately by a rigor. Two days later had severe vomiting, and subsequently repeated rigor, with excessive abdominal tenderness and painful defecation. Had no dysuria for first four weeks. Continuous menorrhagia until three weeks before entrance. Has never discovered any supra-public enlargement. Pulse 104; temperature 100.6° F. The cervix was found far forward and fixed; a large boggy, fluctuating mass, not sensitive, was found behind the uterus and pressing upon the posterior vaginal wall. A large trocar gave vent to one ounce of thick, bloody, offensive fluid, mixed with small coagula. Carbolic water was injected until it returned clear. The tumor was but slightly reduced. The following day she was perfectly comfortable, with a free, colored discharge.

December 20th. Again washed out.

December 22d. The opening was enlarged to an inch with a metrotome, and offensive coagula removed; daily injections ordered.

December 26th. The washings still bring away much offensive matter. The injections cause no pain, and she is in every way comfortable.

December 30th. Discharge much less offensive and nearly colorless. Depth of sac reduced to one and a half inches.

January 3d. Healthy pus only discharged. Tincture of iodine, one to two drachms, injected without pain.

January 11th. The discharge not diminishing, iodine was again injected, but was now followed instantly by great pain and collapse, feeble pulse, cold extremities, and sweating. The pain was most severe over the epigastrium, though she complained of burning throughout the abdomen. Stimulants, hot fomentations, and morphia subcutaneously soon gave relief, though she had three slight rigors during the day.

January 12th. Complains a little of her stomach and of a "bad strange taste" in her mouth, but slept fairly, and is perfectly comfortable. No fever.

January 17th. The orifice was stretched with sound to prevent closure. The discharge soon ceased almost entirely, no induration remaining, and she left, well, January 23d.

NOTE. In this case the opening was made just as suppuration was commencing. If left to itself it would probably have discharged into the rectum and been followed by a long and exhausting pelvic abscess, with cellulitis, plastic exudation, and the usual sequelae of displaced and adherent organs. This is the second instance in which I have known injections of the sac to be followed by symptoms of rupture into the abdominal peritoneum. In both iodine was used, late in the disease and after repeated previous washings with water, alone or carbolized. In neither instance did any serious result follow, though it must be confessed that the symptoms were sufficiently alarming at first to impress one with the necessity of extreme caution and gentleness in such cases.

CASE X. *Chronic Puerperal Pelvic Abscess following Labor Sixteen Years ago; repeated Acute Attacks, with Openings into Bladder and Vagina.*—F. H., forty-four, widow, entered September 6th. After delivery by instruments sixteen years ago she had "inflammation of the bowels," probably cellulitis. About every six months for the past thirteen years she has had attacks of rigors, with great pain in the pelvis,

and other symptoms of pelvic inflammation, lasting for ten days or more. She was in the hospital three years ago, her history at that time being one of both vaginal and bladder opening. Since that time has had no more "leucorrhœa," which had previously been abundant at times, and no more of these recurrent attacks until the present. The menopause occurred twelve months since.

October 2d. A dense band of cicatricial tissue is found stretching across the vagina in front of the cervix, but not obliterating the passage. Some inflammation and thickening of the vaginal vault, but no positive induration is discoverable, either by vaginal or rectal examination.

October 8th. A rigor occurred, followed by vomiting, abdominal pain, and irritable bladder, with a large quantity of pus in the urine. This acute suppurative process, with abundant discharge of pus from the bladder, continued for many weeks. The symptoms, however, all gradually subsided, and she left the hospital November 14th, much relieved, though the urine still contained some pus.

NOTE. This case is a good illustration of the miserable condition of many patients who are supposed to "recover" from pelvic abscess. Whether the vaginal cicatrices were significant of previous openings into the vagina, or whether they resulted from injury at the time of her labor and were the *point de départ* of cellulitis and abscess at that time, can only be conjectured. The "leucorrhœa" was possibly pus from an abscess opening formerly into the vagina.

CASE XI. *Recent Puerperal Pelvic Abscess, opened in the Groin; Bronchitis, etc.*—A. D., aged twenty-one, married, entered September 21st. Nothing unusual in her menstrual history; has been married two years; has had one miscarriage, and one month before entrance was delivered at full term, leaving her bed in two weeks feeling well. Directly on getting about, however, was attacked with vomiting, rigors, diarrhœa, dysuria, and abdominal pain. The vomiting still continues. Temperature 102° F.; pulse 120. The lochial discharge ceased a few days before entrance. Examination shows absolute rigidity and solidification of the pelvic roof, the uterus immovable, and the abdomen tender in the supra-public region. She soon began to reject all food and stimulants, and a small bed-sore appeared on the sacrum.

October 6th. The vomiting and great prostration have continued until date, and she has been nourished by enemata. To-day she is able to retain one teaspoonful only at a time.

October 8th. Abdomen softer, but still very tender.

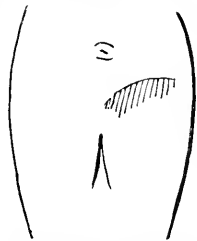
October 13th, a large slough half an inch thick and nearly two inches in diameter was removed, leaving the sacrum exposed and an extensive, deep, undermined ulcer, four to five inches in diameter. She has large aphthous patches on the tongue and cheeks, involuntary dejections, and retains nothing but small doses of beef extract. For two days has had severe inflammation of the throat, with aphonia.

October 10th. Though the abdomen was very tender, by gentle palpation the induration was traced above Poupart's ligament on the left side one third way to the umbilicus. (See diagram, Figure 2.)

October 15th. Able for the first time since October 1st to make a vaginal examination. A large mass was now found filling the left pelvis and extending above Poupart's ligament a third of the way to the

umbilicus, hard and resisting, and with no signs of fluctuation discoverable, but on the 17th a doubtful spot above Poupart's ligament was opened with the bistoury, and yielded a small amount of fetid pus. This opening was poulticed, all pressure being carefully avoided.

FIG. 2.



Situation and Extent of Effusion as shown by Abdominal Palpation October 10, 1881.

October 18th. More comfortable. Abscess discharging slowly. Has now cough, with abundant sonorous and sibilant râles. She, however, continued to improve for a week, when she had a relapse of vomiting, caused by improper food. From this time improvement was uninterrupted. After discharging freely the opening closed, and the sac not refilling, December 4th was able to sit up.

December 31st. Uterus was found to be movable, with very slight posterior adhesions, no remains of induration or swelling to be found, and the large sacral sac nearly closed. She was allowed to remain in the hospital for a time to regain her strength. When able to leave her bed she found herself with partial loss of both motion and sensation in the lower extremities, which it required nearly two months to recover from, probably from granular muscular degeneration after such protracted high temperature.

NOTE. The suddenness of the attack when apparently well and two weeks after a normal confinement would suggest a hemorrhagic origin, but whether hemorrhagic or septic the early pointing and evacuation doubtless saved her from extensive consolidation of the pelvic tissues, and probably from much future trouble, as there remains no discoverable induration by external or internal examination in the lateral regions of the pelvis. The uterus is freely movable, the posterior adhesions being too trifling to cause any interference.

#### REPORT OF THE COMMITTEE ON METEOROLOGY AND EPIDEMICS FOR THE YEAR 1880, IN PHILADELPHIA.<sup>1</sup>

BY RICHARD A. CLEEMANN, M. D.,  
Member of the Board of Health of Philadelphia.

*Temperature.*—The mean annual temperature of the year 1880, as calculated from the monthly means, was 54.6° F. (Table A), or 1.7° F. above the average for the nine years 1872-1880: the year was, then, taken as a whole, a warm one; indeed, during these nine years there was but one for which a higher mean temperature was recorded, 1878, when 54.7° F. was attained (Table B).

The first six months of the year, and September, each exceeded their respective averages of mean temperature during nine years. January, with the mean reading of the thermometer for the month at 41° F., went beyond its average as much as 8.7° F., and the mean of 39.1° F. for February was 6.1° F. above its average; so that the winter was wonderfully mild for

this climate. A greater warmth of the spring was not so marked, except at the close, the monthly means of temperature in the several months being for March 39.6° F., for April 52.4° F., and for May 68.8° F., or respectively .7° F., 3.3° F., and 6.9° F. above their averages. So high a degree of heat in May was very exceptional, the mean temperature of the month in no one of the previous eight years rising within 7° F. of this value. On the other hand, the months in the latter half of the year, with the exception of September, already mentioned, were each of lower temperature than usual, December being very cold. The fact that June, marking a mean of 73.8° F. exceeded its average 2.3° F., while July, recording 75.6° F., and August 72.8° F. were respectively 1° F. and 6° F. below their means, led to the summer being more equable than we are accustomed to find it. The fall, on the contrary, showed a greater variation in temperature between the months than is common, the 67.9° F. of mean temperature of September being 1.6° F. above its average, while the 55.1° F. of October and the 40.5° F. of November were respectively .9° F. and 2° F. below their means. The mean temperature of December, 28.6° F., is as much as 5.4° F. below its average for nine years, and is, with the exception of that for 1876, the lowest recorded for the month during that period.

The range of the thermometer during the year was through 101° F. of temperature; from 96° F. recorded in May to -5° F. noted in December. The month of May was distinguished by the widest variation in temperature, the thermometric range being through 60° F., and August by the narrowest, 34° F.; between these two the other months came in the following order: July with a range of 35° F., September of 41° F., June of 43° F., January of 44° F., October of 47° F., April of 52° F., February of 55° F., March, also, of 55° F., December of 57° F., and November of 59° F. This is nearly the usual sequence of the months as far as those of the summer and September are concerned, this season being the most equable of the year in Philadelphia; the absence of extremely cold weather in January, however, has given it an uncommonly high place in the list, while the warm spring has done a like thing for April; on the other hand, the premature approach of summer in May carried the range of this month much beyond its usual extent, and the early winter had a similar effect upon November. No frost was observed in the fall until the 3d of November.

*Pressure.*—The mean reading of the barometer for 1880 was 30.092 inches, which is .039 of an inch above the average for nine years, and the highest annual mean recorded during that period. In each of the months, with the exception of September and December, the mean monthly pressure was higher than the average, varying from an excess of .004 of an inch in July, to as much as .153 of an inch in November. The highest means are found, as a rule, in the winter months, and the lowest in the summer; but there was an exception this year as regards December, for notwithstanding the unusually low temperature of the month its mean barometric pressure was but 30.048 inches, exceeding only the respective means of April, June, and July.

The range of the barometer was through 1.612 inches, from 29.163 inches, the lowest point reached in February, to 30.775 inches, the highest recorded in

<sup>1</sup> From advance sheets. Read December 7, 1881.

November. The former month was distinguished by the greatest barometric range, 1.474 inches, and July by the least, .854 of an inch. In general, the cold months were less equable as regards pressure than the warm ones.

**Rainfall.**—Only 33.58 inches of rain were recorded in 1880, or 8.36 inches less than the average precipitation during nine years; this is the least annual rainfall recorded in the Table which covers that period. The whole number of days on which rain or snow fell was 122, the average for eight years being 133. The lack in precipitation was divided, in unequal portions, among all the months save three, March, July, and December; the latter exceeded their averages, March very slightly, December 1.37 inches, and July as much as 2.52 inches, its rainfall of 7.74 inches being the highest recorded for any of the months. The least precipitation belonged to the exceptionally hot May, only .54 of an inch; from this value the months advanced as follows: September 1.10 inches, January 1.51 inches, June 1.67 inches, October 1.74 inches, November 1.75 inches, February and April each 2.43 inches, March 3.43 inches, December 4.05 inches, August 5.09 inches, and July, as noted above, 7.74 inches. The usual sequence of the months in this respect, and the average rainfall of each are as follows: May, September, and February each 2.52 inches, December 2.68 inches, January 2.93 inches, October 2.94 inches, March 3.31 inches, June 3.32 inches, September 3.39 inches, April 3.63 inches, November 3.78 inches, July 5.22 inches, and August 5.45 inches. Comparing the two sequences it will be seen that February, March, September, and December are the farthest removed from their accustomed positions, changes due chiefly to a diminished rainfall in the autumn, and an increased precipitation in December; the last month, indeed, was visited by several heavy snowstorms, one being especially severe. It will be observed, further, if the months be combined into their respective seasons, that the spring, like the fall, was comparatively dry, while the summer was about as wet as usual.

**Humidity.**—The mean annual humidity for 1880 is expressed as 66.8°, saturation = 100°; this is a little less than the average for seven years, 67.2°. The month of highest mean humidity was January, its 75° being as much as 2.2° beyond its average, and that of lowest, April, with a mean humidity of 57.1°, or 2.5° below its average. Between these two the months came in the following order: December with a mean humidity of 74.3°, August of 70.2°, February of 68.4°, November of 67.9°, October of 67.5°, March of 67.3°, September of 67°, July of 65.2°, June of 62.6°, May of 59°. The greatest deviations from the accustomed values, besides those of January and April just mentioned, were found in June, September, and December, the first two months falling below their averages in degrees of humidity respectively 2.8° and 2.7°, and the latter going 1.9° beyond its mean.

**Winds.**—As usual in other years the prevailing direction of the wind was, in 1880, southwesterly. In September, November, and December, however, the wind blew chiefly from the northwest, and in February from that quarter and due west equally. In June the winds were, for the most part, from due west, while during January and March northeast winds preponderated. In the latter month the wind blew with high velocity; in April there was a strong gale on the 30th day of the month.

**Electricity.**—Lightning was observed March 27th, and heavy thunder-storms were noted on the 4th and 7th days of April; also during May and July. In June, lightning was frequent; in August there were two auroras, on the 12th and 13th respectively, coinciding with hot and oppressive weather.

#### EPIDEMICS.

The number of deaths returned by the Registration Office of the Board of Health of Philadelphia for the year 1880<sup>1</sup> was larger than that for any year since 1876. The whole number was 17,711, exclusive of the still-born (870), and those deaths recorded as from "premature births" (231). The mortality is greater by 2240 deaths than that of the previous year, and gives an annual death-rate for Philadelphia, with its population of 846,980 souls (U. S. census), of 20.91 deaths to each thousand of inhabitants living, or 2.26 deaths per thousand inhabitants more than in 1879; the latter year, however, as I showed in my last report,<sup>2</sup> was the healthiest to be found in the records of the Health Office since the registration of deaths had been efficiently carried out in this city. The rate of 1880, comparatively high though it may be, is still below the average death-rate for the previous ten years (1870-1879), which I have calculated on the basis of the United States census of 1870 and that for 1880, assuming the increase of the population during the decade to have been in equal increments for each succeeding year, to be 21.65 deaths to each thousand inhabitants living. The mortality is, also, as it is wont to be, below, and in some instances, much below, that in the several American and foreign cities for 1880, the death-rates of which are as follows: New York 26.31 deaths per thousand inhabitants, Brooklyn 23.33, Boston 23.7, Baltimore 24.32, London 22.2, Paris 23.0, Berlin 23.9, Vienna 27.2, Amsterdam 27.2, Copenhagen 25.0, Stockholm 28.8, St. Petersburg 46.1, Madrid 40.1, Rome 32.0.<sup>3</sup>

In my report for 1879 I said that the low mortality of that year might have been anticipated from its meteorological conditions; in 1880, however, the climatic elements did not give a like favorable augury. The mildness of the early months, it is true, promised fewer deaths from diseases of the respiratory organs, but the early advent of hot weather in May, and its continuance into September, by adding to the length of the summer, the most unhealthy season of our year, gave grounds for apprehension that such reduction would be more than counterbalanced by the summer mortality, while the excessive cold of December foretold for that month more deaths from those causes which are most destructive in winter.

Of the 17,711 deaths reported, 9075 were of males, and the lesser number, 8636, of females. They were divided among the several ages as follows: under one year of age 4003, or 22.6 per cent. of the total mortality; between one and two years 1285, or 7.26 per cent.; between two and five years 1306, or 7.37 per cent.; between five and ten years 671, or 3.79 per cent.; between ten and fifteen years 322, or 1.82 per cent.; between fifteen and twenty years 503, or 2.84 per cent.; between twenty and thirty years 1834, or

<sup>1</sup> Fifty-three weeks have been counted in 1880; from the week ending January 3, 1880, to that ending January 1, 1881, inclusive.

<sup>2</sup> *Trans. Coll. Phys. Phila.*, 3d Series, vol. v.

<sup>3</sup> The death-rates of the foreign cities are taken from the annual summary of births, deaths, and causes of death in London, etc., 1880. London, 1881.

10.36 per cent.; between thirty and forty years 1657, or 9.36 per cent.; between forty and fifty years 1474, or 8.32 per cent.; between fifty and sixty years 1356, or 7.66 per cent.; between sixty and seventy years 1360, or 7.67 per cent.; between seventy and eighty years 1174, or 6.65 per cent.; and beyond eighty years 766, or 4.32 per cent. The percentages above mark, as usual, a greater mortality in the first years of life; as many as 37.23 per cent. of the whole number of deaths occurring in children under five years of age. In the previous exceptionally healthy year the proportion was 36.99 per cent., a percentage not very much less, so that the greater mortality of 1880 did not fall exclusively upon the very young.

In the classification of the deaths according to their causes (Table C), 3,810 of the whole number 17,711, or 21.51 per cent., are found in the class of Zymotic Diseases; 4,226, or 23.86 per cent., in that of Constitutional Diseases; 7,191, or 40.60 per cent., in that of Local Diseases; 1,794, or 10.13 per cent., in that of Developmental Diseases; and 673, or 3.80 per cent., in that of Violent Deaths; while 17, or one tenth of 1 per cent., are under the caption Causes not Specified, which last is made to include those cases in which the causes of death were too ill-defined to admit of proper classification. The percentage of the total mortality belonging to deaths from zymotic diseases in the previous year was 18.53, or about 2 per cent. of the mortality of 1880 less than in the latter year; on the other hand, while constitutional diseases caused 24.85 per cent., of the whole number of deaths in 1879, this class of maladies were in 1880 responsible for 1 per cent. less of the total mortality, though, on account of the large increase in the number of deaths from all causes in 1880, their actual mortality exceeded that from the same diseases in 1879; the proportion of deaths in 1879 from local diseases, 41.51 per cent., and that from developmental diseases, 11.58 per cent., are in each instance greater than fell to these classes in 1880, though, as with constitutional diseases, the real number of deaths from these diseases was larger in 1880 than in 1879; the percentage of mortality due to violent deaths in the earlier year, 3.46 per cent., was somewhat less than that calculated for the same class in 1880.

When we compare the actual number of deaths from zymotic diseases in the two years we find the excess in 1880 to be 943, or about one third of the mortality in 1879. This increase was due especially to the prevalence of small-pox; measles also caused some deaths, and the mortality from typhoid fever was markedly aggravated; there were also more deaths from cholera infantum; on the other hand, scarlatina diminished the number of its victims, while diphtheria, croup, and whooping-cough each claimed for itself about the same number of deaths in the two years.

The reappearance of *small-pox* among the causes of death at the close of the year 1879, was followed by a mortality of 421 in 1880. The whole number of cases of the disease reported to the Health Office during the year being 1832<sup>1</sup> it would follow that the mortality was one death in 4.32 cases. There were, however, undoubtedly many light cases of variolous disease which failed to reach the Health Office, and even some severe ones, since it is not very difficult to hide a case when death does not occur, so that it is

probable that the disease was not so fatal as it appears. According to the returns, the ratio of the deaths to cases varied very much in the several wards, for while there were twelve cases reported in the Ninth Ward with no deaths, eleven in the Thirteenth, also without a death, and seventeen cases with but one death in the Thirtieth, there was in the Seventeenth and Twenty-eighth Wards one death to about every four cases reported.

With the exception of the Ninth and Thirteenth Wards, already mentioned, there were deaths from small-pox in each of the wards of the city (Table E); but the Twelfth, Twenty-seventh, and Thirtieth had each only one death from the disease, and the Eighth, Eleventh, and Twenty-first each only two. The most deaths were reported from the Twenty-eighth Ward, 119; but these included the deaths in the Municipal Hospital for Contagious Diseases, to which cases of small-pox from all parts of the city were taken; excluding these, 79 in number, the deaths really belonging to the ward are, however, as many as 40. In the Second Ward 46 persons died from the disease, in the Fourth 34, in the Thirty-first 31, in the Nineteenth 27, in the First 21, in the Twenty-fifth 20, the Third 14, and the Seventh 11. Each of the remaining wards had 10 or a less number of deaths. If we group the wards together we will find that in the southern section of the city — all that part below South Street, and east of Broad Street, comprising the First, Second, Third, and Fourth Wards — there were, in a population of 108,707 souls, deaths from small-pox to the number of 115, or a death-rate from the disease of 10.5 to the 10,000 inhabitants; all these deaths took place in and after the month of August. In another group of wards in the northeastern quarter of the city, comprising the ward in which small-pox first appeared in the previous year, namely, the Twenty-fifth, the Nineteenth, the Thirty-first, and the Twenty-eighth, excluding the deaths at the Small-pox Hospital, there were 118 deaths among a population of 145,741, or a death-rate of 8.10 per each 10,000; in this district the deaths were distributed throughout the whole year, though the summer was nearly exempt. These two groups of wards are the same in which the small-pox raged most fiercely in the great epidemic of 1871-72, and again in the lesser one of 1876. Between these two districts stretches the part of the city where the population becomes densest, the greatest movement of business is to be found, and the wealthier classes have their homes (the Fifth, Sixth, Seventh, Eighth, Ninth, Tenth, Eleventh, Twelfth, Thirteenth, Fourteenth, Fifteenth, Sixteenth, Seventeenth, Eighteenth, Twentieth, and Twenty-ninth Wards); here, in a population of 380,934, there were but 85 deaths, or 2.2 to each 10,000 of inhabitants.

It may seem at first sight singular that the disease passed comparatively harmlessly over the latter region to establish itself in the southern wards with more virulence than it displayed in its birthplace, but no doubt the explanation is to be found in the greater attention paid to vaccination and cleanliness in the richer quarter of the town. In the outer circle of wards, Twenty-first (Manayunk), Twenty-second (Germantown), Twenty-third (Frankford and Bridesburg), Twenty-fourth and Twenty-seventh (West Philadelphia), Twenty-sixth and Thirtieth, the aggregate population of which is 165,206 souls, there were but 27 deaths, or 1.6 to each 10,000 of inhabitants.

<sup>1</sup> Health Office's Annual Report, etc., 1880, page 172. Philadelphia, 1881.

The distance of these districts from the focus of the disease suggests itself as the cause of their comparative exemption.

Of the deaths from small-pox, 36 were recorded for the first quarter of the year, 21 for the second, 50 for the third, and as many as 317 for the last quarter; the figures show the insidious advance of the disease, not many deaths during the first three months, then a decline in the number in the second quarter, during which the lowest monthly mortality, four, was reached; in the third quarter a rise to a number of deaths almost equal to that recorded for the whole first half of the year, and finally in the last quarter a mortality nearly three times as great as that returned for all the preceding quarters of the year, the closing month, December, claiming the maximum monthly mortality, 189. A tendency in small-pox to a diminished mortality or disappearance in the summer, and to a beginning or increase in the number of cases in the later months of the year has been shown in Philadelphia during and since the severe epidemic of 1871-1872; before that event registration was not full enough to have data to elucidate these points. In the epidemic mentioned the deaths from the disease began to increase in the early autumn; there was a marked rise in the mortality during the first week in October, after which the progress of the disease was very rapid; the winter gave a high mortality, but by the time the summer came the scourge had nearly disappeared, and there was no rekindling of the dying flame in that fall or the succeeding winter, the disease entirely vanishing from the causes of death in the following summer. Subsequently there was very little small-pox in Philadelphia till the fall of 1875, when a sharp increase in the number of its deaths took place, followed by a small epidemic in 1876, which diminished, however, in mortality in the summer, to increase a little in the fall of that year, and finally to disappear entirely in the summer of 1877; after which the mortuary lists were free from small-pox until the reappearance of the disease in the fall of 1879. Briefly to recapitulate, we have the great epidemic of 1871-1872, beginning in the fall of 1871, the much smaller one of 1876 beginning in the autumn of 1875, again a new appearance of the disease in the last months of 1879, and a large increase in its mortality during the autumn of 1880, after the deaths had diminished to a very few during the summer of that year. The Registrar-General of England, in his "Annual Summary"<sup>1</sup> for 1880, calls attention to a like seasonal distribution of the deaths from small-pox in London, the observations extending over five years; but such distribution has not been generally noted in other places. It is perhaps to be accounted for in the same way that we explain the greater prevalence of typhus in winter, by the greater deficiency of ventilation in houses, and the keeping within doors at that season; conditions favorable to the accumulation and reception of the poison of the disease.

Speaking in my report for 1879 of small-pox, I detailed the measures of isolation, vaccination, revaccination, and purification of surroundings instituted by the health authorities of the city to oppose the march of the disease, and there can be no doubt that these were effective in staying its ravages; but these authorities were armed with no law to compel obedience to their mandates, and in a few months even the money

appropriated to carry them out was exhausted. Then their hands were to a certain extent tied — not entirely, for vaccination and the removal of nuisances still went on, but only by the good-will of the vaccine physicians, and as regards the purification of places by more indirect methods of the health officer. Finally, after vexatious delays, more money was secured for vaccination, and the work went on more briskly. It would take, indeed, what seems to legislators an immense amount of money for such a purpose to stamp out small-pox in so large a city as Philadelphia. According to Curschman<sup>2</sup> the duration of immunity from the disease under exposure after vaccination may be stated at from eight to ten or twelve years. If we put it at ten years there would then be required in our population of, in round numbers, 850,000 inhabitants, a yearly average of 85,000 vaccinations and revaccinations to keep the city protected; that is, one tenth of the whole population would need to have the operation performed upon it each year. This would cost the city, if it were responsible for the whole expense of vaccination, at the rate now paid in Philadelphia for public vaccination, about \$10,000 yearly — really a very insignificant sum when the enormous benefit to be derived is considered, but immense, as I have said, in the estimation of our legislators. Of course, in reality, a very large number of persons are vaccinated or revaccinated at their own expense; how many there is no means of accurately estimating, but I should think that the city ought to be prepared to vaccinate or revaccinate at least 10,000 persons yearly, for although nothing like that proportion of persons accept gratuitous medical relief, a very large number who are willing to pay a physician when they are sick will not incur the expense of vaccination to prevent a sickness which they hope may never come upon them. In fact, there were performed in Philadelphia during the ten years preceding 1880, in round numbers, 130,000 successful operations;<sup>3</sup> while, if my estimates are plausible, there should have been about 400,000, or as many as 270,000 more. Adding to the last number the average yearly estimate of 85,000 to be vaccinated, Philadelphia found herself at the beginning of 1880 with about 350,000 persons to vaccinate, in order to be thoroughly protected from small-pox. These figures are not presumed to be more than approximately correct, yet they are, perhaps, close enough to the truth to show what a wide field in the direction of vaccination lay before the Health Board when confronted by the epidemic. The number of operations really paid for by the Board in 1880 (and for such only is compensation given) was but 28,415, so that it was hardly to be expected that the end of the year would witness the abolition of the epidemic. The unprotected persons were, however, scattered throughout the whole community, and this absence of aggregation is perhaps the reason why the devastation from the disease was not greater. Those persons especially received the care of the vaccine physician who, from contiguity to the sick, were most likely to be attacked by variola. Incomplete as I have shown were the means adopted to eradicate the disease, yet, in a letter which I wrote as correspondent to the Bulletin of the National Board of Health, I claimed a certain measure of success for them in instancing in

<sup>2</sup> Encyclopedia of the Practice of Medicine, Ziemssen, vol. ii., p. 406, Am. Edition, New York, William Wood & Co., 1875.

<sup>3</sup> Records of Health Office.

<sup>1</sup> Ibid., pp. x., xi.

comparison the course of the disease in the neighboring city of Camden, where even so much was not done. Small-pox was imported into Camden from Philadelphia in February, 1880, and caused there, as I was informed by Dr. James Wroth, of that city, in the course of one year 131 deaths among a population of 41,638 inhabitants; the same proportion of deaths in Philadelphia would have given 2665 for that city instead of the 424 deaths recorded. The fact, however, is not to be lost sight of that epidemics are always liable to be more severe in small than large cities, probably from other causes than the want of sanitary protection.

The comparatively large number of deaths from measles, 108, the largest in any year since 1874, represents a great multitude of cases of the disease, since the affection is so rarely fatal, even with its complications. It is so contagious a malady that when it appears in a community it runs among the children like wildfire; given its occurrence in a family of the poorer classes, who use much in common, it will not only attack, with very rare exceptions, all the children under the same roof, but spread to the next house, and so on, till in a very short time it has searched out every child in the neighborhood not protected by a previous attack of the disease.

Deaths from measles were reported from each one of the city wards but four (the Sixth, Ninth, Twenty-first, and Twenty-seventh), so that the zymotic was very widely diffused, as follows naturally from its very contagious nature. The aggregate of deaths caused by it were, however, comparatively so few, that when divided among the twenty-seven invaded wards, the numbers for each are too insignificant to admit of profitable comparison of the respective mortality of these small divisions of the municipality. If, however, groups of wards be taken together as single districts, those, for instance, defined above in discussing the distribution of the deaths from small-pox, it will be seen that the better-placed "old city proper" had no fewer deaths than those other parts of the city which were the principal sufferers as regards small-pox. The mortality from measles was five in January, 20 in February, 38 in March, 29 in April, nine in May, and four in June, when the epidemic may be said to have come to an end, though there were three deaths subsequently, namely, one in October and two in December. It will be noted that the deaths had a small beginning in January, growing more numerous quite rapidly till the maximum was reached in March, the month distinguished beyond all others in this climate for fatal affections of the air passages, and that they reached zero in the summer, the season when the same diseases have their lowest death-rate. Evidently those were the complications which heightened the mortality in this otherwise trivial disease.

There were fewer deaths from *scarlatina* in 1880 than in any year since 1872; indeed, including the latter year, there have been only four years since 1861 (at which time our records begin to be reliable) in which a lower death-rate from this fever was observed. Nevertheless, in the rural wards, to the north of the central city, the Twenty-first (Mammyunk), Twenty-second (Germantown), and twenty-third (Frankford and Bridesburg), the mortality from the disease was greater than during the previous year; in the last ward the deaths increased from six in 1869 to as many as 26, the latter giving a rate of about 10

deaths to every 10,000 inhabitants living. Tracing briefly in my report for 1879 the cause of *scarlatina* in previous years, I forecast this diminution of mortality in 1880, but also deemed an increase in the number of the deaths from *scarlatina* probable at the close of that year.<sup>1</sup> We shall see by referring to the monthly mortality that the latter actually took place (Table E): January 17 deaths, February 28, March 11, April 17, May 32, June 39, July 11, August 20, September 17, October 16, November 32, and December 50.

We find that *diphtheria* caused 323 deaths in 1880, just two more than the number reported for 1879; its distribution through the city was not much different from that noted in the latter year, though the outlying Twenty-second and Twenty-third Wards each counted more deaths from the zymotic; in the former (Germantown) there were 33 deaths where there had been 17 in the previous year, giving a death-rate of about 10 to the 10,000 inhabitants in 1880, and in the latter ward 20 deaths instead of 10, or a death-rate increased to 7.5 to the 10,000 inhabitants; but these figures are considerably above those which express the mortality from *diphtheria* throughout the whole city, which I have calculated to be 3.4 deaths to the unit of 10,000 inhabitants. The seasonal distribution of the disease was the usual one, more deaths in the cold, less in the warm, weather; 97 deaths in the first quarter of the year, 72 in the second, 41 in the third, and 101 in the last quarter. The approach to equality in the number of deaths in the years 1880 and 1879 is characteristic of the rather sluggish course of *diphtheria* in Philadelphia, as it changes for better or for worse; this much-dreaded disease has never taken the severe hold upon this community to which the records of some other cities bear witness.

As with *diphtheria*, the 503 deaths from *croup*, set down for 1880, approximate quite closely in number to the 291 from the same cause in the previous year. These deaths were scattered over the whole city, but the wards forming a group in the northeastern section of the city (Sixteenth, Seventeenth, Eighteenth, Nineteenth, Twentieth, and Thirty-first) and two wards in the southern part of the city (Second and Twenty-sixth) were the greatest sufferers, the mortality in these districts being from 5 to 8 to each 10,000 inhabitants, while in the remaining wards of the city the death-rate did not exceed from 1 to 4 deaths in an equal number of people. Of the rural wards, the Twenty-second (Germantown) and Twenty-third (Frankford and Bridesburg) had only from 1 to 2 deaths in each 10,000 inhabitants, but the Twenty-first (Mammyunk) had as many as 4 deaths in that number. There is nothing unusual in this distribution of the disease; the central sections of the city are wont to be less severely attacked by *croup* and some other of the zymotic diseases than the northeastern and southern districts, while the outlying wards vary as regards its prevalence, being sometimes classed with the more unfortunate districts, and again being in company with the less afflicted central wards of the city.

The deaths from *croup* were divided among the quarters of the year in a proportion strikingly similar to that recorded for *diphtheria*, there being in the first quarter 107 deaths, in the second 62, in the third 42,

<sup>1</sup> Report of Meteorology and Epidemics for 1879. Transactions Coll. Phys. Phila., 3d Series, vol. v., pp. 92-93.



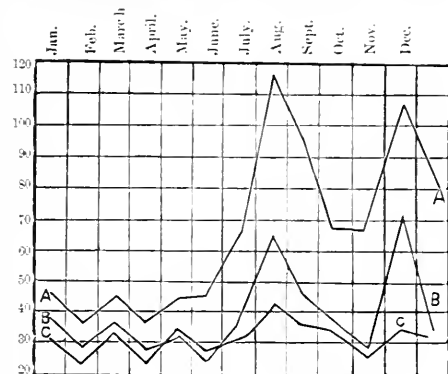
and in the fourth quarter 91. The two diseases are so similar, if they be not identical, that the same case would be returned by one physician as diphtheria, and by another as croup; so that if they are really different diseases, their true relative proportion is hopelessly confused in the records.

The mortality from *typhoid fever*, which had been decreasing annually since 1876, in which year it will be remembered the deaths were double the yearly average, now in 1880 advanced to 125, an increase over the mortality of the previous year of 151 deaths, or forty-four per cent. The death-rate, 5.8 deaths to each 10,000 inhabitants living, is, however, but very little more than the average mortality from typhoid fever during the ten years preceding 1876.<sup>1</sup> This increase in the mortality from typhoid fever in 1880 extended over nearly the whole city, since there were only five wards, the Eighth, Ninth, Tenth, Twelfth, and Twenty-sixth, in which there were fewer deaths from the fever than in the preceding year; and only two, the Eleventh and Twenty-third, in which the mortality was the same in the two years. The central wards, comprising the old "city proper" (Fifth, Sixth, Seventh, Eighth, Ninth, Tenth Wards), were, generally speaking, the least severely visited by the disease; here, in a population of 112,848 souls, there were 41 deaths, or a ratio of 3.9 to the 10,000 inhabitants, while in the territory to the northeast (Eleventh, Twelfth, Thirteenth, Fourteenth, Sixteenth, Seventeenth, Eighteenth, Nineteenth, Thirty-first and Twenty-fifth Wards), including the old districts of Kensington and Richmond, there were, in a population of 290,733, as many as 202 deaths, or a ratio of 6.9. In the southern section of the city (First, Second, Third, Fourth, Twenty-sixth and Thirtieth Wards) the ratio was but a little less favorable than the latter, being 5.9 deaths to each 10,000 inhabitants among 172,945 people. West Philadelphia (Twenty-fourth and Twenty-seventh Wards) was nearly as bad as this, having a ratio of 5.2 deaths to the 10,000 with its 69,341 inhabitants. The Fifteenth, Twenty-ninth, and Twenty-eighth Wards in the northwest had death-rates from the fever respectively of 4.8, 6.1, and 3.1 to the same unit, while the outlying rural wards, Twenty-first (Manayunk), and Twenty-second (Germantown), had each rates of 6.6, and the Twenty-third (Frankford and Bridesburg) 6; the last ward has had this comparatively large share of mortality from typhoid fever for several years past.

The apportionment of the deaths from typhoid fever throughout the year followed the distribution which I have so often pointed out for them. The mortality in the several months was as follows: January 39, February 29, March 35, April 27, May 31, June 24, July 40, August 65, September 46, October 38, November 29, December 72. A maximum occurred in August, and another in December, the latter appearing to have the most value, as happened really the previous year. I say appearing, because if we consult Table D we will see that the month of December has been made to embrace five weeks, while that of August contains but four, so that the excess in the former month is not a real one. I have repeated a diagram, which I drew for my report for 1876, containing a curve representing the monthly variations in the number of deaths from typhoid fever in that year, with another

depicting the average monthly variations for the previous ten years, and I have added to them a third line to show the mortality from the fever in the several months of 1880. A truly remarkable similarity appears between all the curves, bearing witness to the

*Curves Representing the Monthly Mortality of Typhoid Fever during 1876 and 1880, and the Average Monthly Mortality of the same for Ten Years 1869-1878.*



A. Mortality curve for 1876. B. Curve for 1880. C. Curve of averages.

constancy of "the periodical distribution" of the zymotic, and suggesting that this should always be taken into consideration when estimating the efficacy of any particular measures which may have seemed in some special instances to have successfully prevailed against the disease. The mild winter and the early and prolonged summer doubtless played an important part in bringing about the increase in the number of deaths from typhoid fever during the latter half of the year, as I attempted to show in my report for 1876 was the case under similar climatic conditions in that year.

There were reported a few deaths from *typhus fever* in Philadelphia in 1880, according to the death-list, 23; and that some of these, at least, followed true typhus is vouched for by physicians well qualified to decide. The deaths were scattered, however, through several months (Table D), and were not numerous enough to excite apprehension of a serious epidemic.

The preponderance in the number of deaths from constitutional diseases in 1880, already alluded to, is in most part due to a greater mortality from tubercular diseases, and especially from *phthisis pulmonalis*. The deaths from *tabes mesenterica* bear a marked relation to climatic heat, but the connection of consumption with temperature is not so apparent; if in Table D the fact be kept in view that some of the months are made to include five weeks, while the others contain only four, the mortality from the latter disease will be found to have been divided not very unevenly through the year. Yet a certain connection will be observed between cold and an increased death-rate among the several months, but then there will appear a paradox in the fact, that in a year so exceptionally genial as we have seen 1880 to have been, the mortality from consumption exceeded that of the previous and some other years (Table C). The explanation, of course, is that there are other factors in determin-

<sup>1</sup> Rep. on Met. and Epidem., Trans. Coll. Phys. Phila., 3d Series, vol. iv., page 63.

ing this rate more potent than degrees of temperature; a truism, by the way, which should lead us to the practical inference that too much is not to be expected from a change of climate as regards the effects of the climate, *per se*, towards the cure of a case of consumption. Experience shows that though from year to year we may have such a variation in the mortality from phthisis as has occurred between 1880 and the previous year, yet there are not those wide differences that are found in the death-rates of zymotic diseases. Hence, even if it should be proved true that fell consumption is allied to these in having for its cause some microscopic germ, it would seem that this poison is more constant in its degrees of virulence than those which occasion periodical epidemics of other diseases. We might reasonably explain the difference in the annual death-rates, since excesses of climate fail us, by changes in the modes of life — business pursuits, mental strain. It would appear then not unlikely that the revival of business, which began in the autumn of 1879, by creating new anxieties and giving incentive to overwork, was responsible for some additional deaths from phthisis pulmonalis.

The difference in the mortality from local diseases, the 7191 deaths in this class exceeding the number in the previous year by 769, seems to have been due in great measure to the disturbing influence of the early accession of summer heat. It belongs chiefly to the diseases of the nervous system, and, among these, especially to *cephalitis* and *convulsions*, terms often used by those who write death-certificates to express the causes of death in infants during the hot weather. The mortality from *sunstroke*, in the same class, is seen to be increased from three in the previous year to 37 in 1880, and of these as many as 23 to have occurred before the month of July (Table D), a very exceptionally early period for the climax of this disorder.

I presume, as with phthisis, the renewed activity in business will account for the larger number of deaths in 1880 classed under violent deaths: the risk of accidents is greater in the turmoil of busy life.

[The Tables referred to will be found in the Report.]

#### FOUR CASES OF NERVE STRETCHING FOR AFFECTIONS OF THE SPINAL CORD IN THE CLINIC OF PROFESSOR TIERSCH, LEIPZIG. NO BENEFICIAL RESULT.

REPORTED BY GEORGE L. WALTON, M. D.

THESE cases occurred in the clinic of Professor Tiersch in the St. Jacobs Hospital, at Leipzig, and will be interesting to add to the statistics of this operation.

In three of the cases the operation was performed at the earnest desire of the patients.

In no one of the four was the slightest permanent improvement discovered, though in three a slight transient improvement appeared in certain symptoms.

CASE I. R., a varnisher, thirty-five years old, has spastic spinal paralysis, the symptoms of which began about six years ago after an attack of typhoid fever. Since that time has complained of numbness, weakness, and dragging in the legs, together with girdling pains around the abdomen.

*Status before the operation.* Patient is a middle-sized, well-nourished man. Internal organs normal. From the first to the twelfth dorsal vertebra is a sco-

liosis with its convexity to the right; below, a compensating scoliosis with its convexity to the left.

No kyphosis. Vertebrae nowhere tender to pressure.

The upper extremities are normal, and without exaggerated reflexes. Lower extremities not atrophied, but movements are weak, especially in the left. Patient can, however, move both limbs slowly. Quick movements are impossible on account of contractions. No ataxia. Sensibility not affected. Tendon reflexes in left leg considerably, and in right slightly exaggerated.

*Foot phenomenon present.* The gait is purely spastic.

Both sciatic nerves were stretched as follows: Patient was chloroformed and laid on the belly. The region of the incision was shaved and carbolyzed. An incision was made ten centimetres in length from the lower edge of the gluteus maximus downwards. The nerve was laid free, taken out with the finger and stretched centrally and peripherally. The stretching was done so forcibly that the patient was lifted by the buttocks from the table. A drainage tube was inserted and the wound sewed with silk. Carbolyzed bandage.

After the operation the foot phenomenon had disappeared on both sides, and the patella reflex was much lessened. Patient could move the feet well.

First day after the operation. Patient complained of burning in the wound and pricking in the heels.

Second day. Pain has disappeared, also the reflexes in lower extremities. On attempting to walk the patient does not drag the legs as before, but raises the feet and sets them down on the whole sole. He says he moves with greater ease than before the operation.

Third day. The stitches somewhat reddened. Drainage tubes and half the stitches removed.

Fifth day. The remaining stitches removed as well as the antiseptic dressing. Plaster applied. The gait has now resumed its former character.

Sixth day. Wound on the right leg somewhat spread. Plaster. Complaints of dragging pains in limbs.

Thirteenth day. Patella reflex again present; in the left leg, stronger than normal. Dragging pains continue in the left leg, and he complains of painful spots.

Fourteenth day. Both wounds entirely healed. Patient is out of bed and goes about.

According to the opinion of the attending surgeons as well as that of the medical side the condition of the patient is exactly the same as before the operation.

CASE II. E. H., twenty-eight years old, postmaster. Disease of the lumbar region of the cord. Patient says he has been generally well and has had no venereal disease. At the age of nineteen had cutaneous ulcers which came spontaneously.

For about four years he has had "rheumatic" pains, very severe at night, seemingly felt in the bones of the leg.

The pains have not affected his gait, and until four weeks ago he could walk well in the dark and with closed eyes. He is married and has two children, one four, and the other one year old.

One year ago he had an inflammation of the left testicle which ended in atrophy.

About four weeks ago he began to notice a difficulty in getting about, and at this time was obliged to use a cane, which had not previously been necessary.

At the end of a week he could no longer use his

legs, and at the same time lost control over urine and feces. The bladder had to be emptied by the catheter. Two weeks later there was a slight improvement; the bladder and rectum were again under control of the patient, and the urine previously cloudy became clearer. In the last few days he has been able to move his toes a little.

Status before the operation. Head and trunk normal. Axillary and cubital glands somewhat swelled.

Lower extremities. On the skin of the shin are several flat, partially pigmented, not retracted, silver white scars. Edge of tibia is somewhat rough. Right lower extremity completely paralyzed. Of the left, can move the toes. Sensibility decidedly lessened, especially on plantar surface of toes. Complete absence of tendon and skin reflexes.

Urine passed spontaneously, slightly cloudy. Slight constipation. Patient remained in the hospital eighteen days, during which there was a slight improvement in motion, followed by a return to the former state of paralysis, with an increase in the reflexes.

The pupils were at this time unaffected by light, but contracted with the effort of accommodation.

The sciatic nerves were now stretched at the wish of the patient. The details of the operation were the same as in the previous case.

First day after operation general condition bad, micturition difficult. Bandage changed on the third day, and the stitches removed. On the sixth day the antiseptic dressing was discontinued. Eleventh day, complete motor paralysis of lower extremities; sensibility somewhat improved, that to pain has returned; skin reflexes in slight degree present; tendon reflex fails entirely; sphincter ani paretic; catarrh of bladder better, some dripping of urine. Twenty-second day after the operation, wounds healed excepting the points of drainage; condition of the patient not in the least improved by the operation.

CASE III. F. R., coachman, forty-nine years old, *tabes dorsalis*. No history of syphilis; no genital discharges.

Twenty years ago began to suffer from lancinating pains in the lower extremities. For thirteen years had no further symptoms. During the past seven years the pains have been more severe, and patient has noticed a weakness in the legs, and an irregularity in his gait, especially in the dark. Sphincters have been paralyzed; has had girdle pains around the abdomen, and frequent pollutions. The last coitus, seven years ago, was normal. Within the past three years the sphincter paralysis has disappeared. The lancinating pains have attacked the region of the sacrum, both arms, and face. The pupils are alike, of middle size, and contract on accommodation, but not to light; ataxic movements in arms; sensibility to touch and pain normal; in lower extremities pressure sense lost, pain sense present, but delayed; temperature sense lessened; sense of position good; patella reflex wanting on both sides; marked ataxic movements of lower extremities; no incontinence, but patient has to press hard in micturating.

At the request of the patient the sciatic nerves were stretched. The left wound was treated with powdered iodoform, and sewed without drainage. The right was treated with antiseptic precautions and a fine drainage tube was inserted.

This patient had considerable fever after the operation, and pain in the wounds, which healed slowly,

especially the left one. This at the end of six weeks presented a large, deep cavity with flabby, shining granulations. At this time the wound on the right side was nearly healed.

The sensibility seems to have improved slightly after the operation as well as the tabetic symptoms, which were, however, at the end of four months at their former standpoint. The tendon reflex was possibly temporarily improved, but if so it disappeared again.

During the patient's stay in the hospital the lancinating and constricting pains recurred at intervals.

CASE IV. This was a typical case of *tabes dorsalis*, not very advanced, in a man of middle age. The disease was probably of syphilitic origin. The principal symptoms were girdling and lancinating pains, slight ataxia, diminished pressure and muscle sense. Tendon reflexes failed; the pupils reacted sluggishly to light; no paralysis of bladder or rectum. The lancinating pains, which were of unusual severity, constituted the most troublesome symptom.

Various methods of treatment, including a thorough course of mercurial innunction, having been tried without result, the patient requested that the nerves should be stretched. The operation was performed under Lister. The wounds healed very slowly, and the patient was much reduced.

For a short time after the operation there seemed to be a slight return of sensation in the feet, and through this an improvement in the ataxia. The improvement was, however, temporary, and when the patient was discharged his condition was in no respect better than when he entered the hospital.

It is particularly worthy of note that the pains in this, as well as in the other case of *tabes*, were not in the slightest degree lessened in frequency or intensity by the operation.

## Hospital Practice and Clinical Memoranda.

A CASE OF RETAINED PLACENTA; PROTRACTED CONVALESCENCE; REPEATED CHILLS AND FEVER ALTERNATING WITH DAYS OF COMFORT WITH NORMAL TEMPERATURE.<sup>1</sup>

BY W. W. WELLINGTON, M. D.

On April 13th I attended Mrs. II. in her first confinement; she was in labor eight hours; natural, with the exception that the placenta was retained by an irregular contraction of womb, making it necessary to pass the hand through the contracted portion in order to deliver it. It was necessary also to pass the hand into the womb twice in order to remove conglua and to secure contraction. After labor, the patient was comfortable, bright, took nourishment, and had no after pains.

April 14th, A. M. Slept well last night, and bright this morning. At noon had a severe chill, followed by heat and sweating, and accompanied by headache, pulse 130; temperature 105° F.; no abdominal tenderness or swelling; womb well contracted; a quart or more of urine drawn by catheter. At evening pulse 100; temperature 103° F.

April 15th, A. M. Pulse 120; temperature 102.5° F.

<sup>1</sup> Read before the Obstetrical Society of Boston, November 12, 1881.

Only complaint was of weariness, and a feeling as though she had been pounded. The night had been restless; she was thirsty; no abdominal pain, tenderness, or swelling; can move in bed easily; tongue moist; there was no albumen in the urine, and the quantity secreted was normal; drinks milk freely; not much flowing; lochia slightly offensive. In evening, pulse 106; temperature 104° F.

April 16th, A. M. Symptoms all relieved; pulse 96; temperature 101.5° F.; had a good night; less pain in head; no pain or soreness in abdomen; lochia slightly offensive. P. M. Another chill, not very severe; pulse 100; temperature 105° F. Abdomen a little tender and swollen; bad feeling in the head; breasts full, with a fair secretion of milk; two spontaneous dejections.

April 17th. Pulse 92; temperature 102.3°; had a good night; better every way; breasts full; a small spot of tenderness in the abdomen. (Its exact position is not stated in my notes.) Lochia less offensive.

April 18th. Very comfortable. 19th. Comfortable; pulse 88; temperature 99° F. 20th. Pulse 90; temperature 99° F.; frequent desire to urinate.

April 21st. (Ninth day.) Chill at midnight. In morning, pulse 120; temperature 105° F.; severe headache; heavy and somewhat stupid; no appetite; thirst; secretion of milk nearly arrested; no abdominal tenderness. In evening, temperature 103° F.; feeling better generally.

April 22d. Pulse 96; temperature 98.5° F.; bad symptoms have passed off; slight dysuria.

April 23d. At morning visit, all right; in evening fever, but no chill; pulse 112; temperature 104° F. worried in mind and unable to sleep; vaginal examination reveals nothing; os uteri closed; no tenderness about womb; lochia slight; no offensive odor.

April 24th. (Twelfth day.) At morning visit, pulse 100; temperature 103° F. feeling better, but had not slept well. In evening, pulse and temperature normal; sitting up in bed and eating her supper, consisting of bread and milk. Says she feels "first rate."

April 25th. Pulse and temperature normal; feels well.

April 27th. (Fifteenth day.) Last evening, had a fever turn of considerable severity without a chill; this was attended with headache, pain in back, and sleeplessness, and was followed by perspiration lasting all night. At one time both arms and hands were rigid for a few minutes, suggesting convulsions; breasts became soft, and milk thin and watery. This morning, pulse 104; temperature 101.5° F.; a tender spot in left iliac region; sleepy and stupid. P. M. Had slept well all day and was feeling better.

April 28th. Pulse 96; temperature 100.4° F. Feeling well; milk has returned; has slept well; can move in bed without pain; headache and abdominal tenderness have departed.

April 29th. Pulse 90; temperature 100.2° F.; comfortable.

April 30th. Pulse 90; temperature 99.8° F.; comfortable.

May 1st, A. M. Pulse 90; temperature 99.8° F.; with exception of pulse and temperature seems perfectly well.

April 26th. Pulse and temperature normal; feels well.

May 2d. Pulse 80; temperature 100° F. Yesterday, P. M., had a nervous hysterical turn, lasting a

couple of hours, during which the head was hot, and there was much mental worryment. To-day, professes to feel well and really seems so. Lochia slight and a little offensive.

May 3d. Pulse 96; temperature 100° F.; comfortable.

May 4th. Pulse 90; temperature 100° F. Slight fever turn yesterday P. M.; comfortable to-day.

May 6th. Pulse 96; temperature 100.4° F. A small clot passed from vagina, with some offensive discharge; reports herself as perfectly well. Sits up two hours at a time.

May 7th. (Twenty-fourth day.) Yesterday, after "sitting upon her feet" in bed (a peculiarity of hers) had a pain in right leg, which has continued. This evening leg is painful and swollen; cannot lift it up; tenderness in groin, along inside of thigh, and in calf of leg. No chill; pulse 100; temperature 102° F.; no pain; appetite fair.

The inflammation of the leg continued for a few days, and on the 16th of May (the thirty-third day after her confinement) I made my last visit. The lady has been well ever since.

The changes from grave to gay were in this case sudden, numerous, and irregular. The first chill occurred within twenty-four hours of the end of the labor. The febrile symptoms (temperature 105° F.) passed off in two days. Immediately another chill (temperature 105° F.) and the bad symptoms departing the next day. The third chill, four days after (temperature 105° F.), the fever subsiding the next day. On the day following, fever without chills (temperature 104° F.), subsiding the next day. Three days after, fever without chill (temperature 101.5° F.), subsiding the next day. Four days after, the nervous or hysterical turn; relieved the next day. Four days after, the phlebitis of the leg, continuing ten days. The uterus was after labor supposed to be thoroughly emptied, and during the whole time there was no abdominal inflammation of any considerable amount.

## Reports of Societies.

### PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. W. SWAN, M. D., SECRETARY.

At the meeting of November 12, 1881, DR. HALL CURTIS read a paper on Tumor Formations in Acute Pelvic Inflammation, which will be published hereafter.

### THE CHIN ON THE PUBES AFTER VERSION; CRANIOTOMY.

DR. FORSTER read the following case:—

The following is briefly reported as being of interest, as the operation performed is one which the general practitioner is seldom called upon to undertake.

Last Wednesday evening I was summoned to meet two of my professional friends and bring my cranioclast, or instruments for craniotomy. I answered the summons taking with me my Smellie's scissors, fork, etc.

I found a colored woman in bed in her second pregnancy, labor having begun twenty-four hours previously. The antero-posterior diameter was very much diminished. Efforts at delivery with forceps having failed version had been performed and the child delivered with the exception of the head, which

was left with the chin resting on the pubes. The child was dead when seen by me. All efforts to bring the occiput to the front having failed, I borrowed from Dr. R. his trephine and Braun's cranioclast, and the attendant with the former opened the cranium, and with the aid of the latter the woman was rapidly delivered. The delivery was accomplished at 10.15. The patient succumbed at 11.20 from shock and exhaustion.

The interest lies in the version, which, if properly performed, should have brought the occiput to the front.

Dr. RICHARDSON said that within the last three years he had four times performed craniotomy under similar circumstances, for men of repute in the profession, and that this was his reason for referring to a subject which has been generally supposed to be universally understood. It was necessary, he remarked, in performing version to bear in mind the whole of the operation. In the cases referred to the operators had not kept steadily in view the necessity of combining rotation with traction in order ultimately to bring the occiput to the front. The chin consequently became hooked over the pubes and the more firmly and decidedly the greater the traction then made. Under these circumstances Dr. Richardson said it was often impossible to disengage the chin, whether by rotation of the body or pushing up the head, or both combined, as the head would invariably return to its fixed position as soon as traction was again made, unless a completed rotation was effected. This latter it was very difficult to perform.

Dr. FORSTER stated that he had tried rotation, but the neck was so distended that torsion of the body could not be conveyed to the head.

Dr. Forster remarked that the lock of the cranioclast was so near the fenestrum of the blades that in this case when first applied they did not sufficiently grasp the skull but pulled away a portion. When applied properly the lock is entirely out of sight, and consequently there is the danger (as in this case) of having them in sight when locking as with forceps, thinking the relative distances are the same, and thus failing to obtain a proper hold on the head.

Dr. INGALLS observed that within a very few years several cases had been reported to the Society, of a position of the head after version similar to that described by Dr. Forster; one of these by Dr. Fifield, another by Dr. C. E. Stedman. In these instances, the woman having been placed on her side with the upper knee held far apart from the other, a towel was wrapped about the infant, whose back was then turned up along the back of the mother, making a plane of the child's abdominal walls, from chin to pubes, delivery safely following. Dr. Ingalls stated that he had himself safely delivered, within the past two years, two children, when after delivery of the lower extremities the remainder, excepting the head, had pushed into the world with unusual rapidity, and so had failed to get the necessary rotation.

Dr. RICHARDSON remarked that in all the cases he had reported the efforts at delivery of the head had been continued four or five hours before he saw the patients, and that in all cases the child was dead. There was no objection, therefore, to the consideration of craniotomy.

Dr. HOBGDON said he agreed with Dr. Richardson that it was extremely difficult if not impossible to deliver without craniotomy in this position. In his own experience of the process of version there seemed to be

a natural tendency in the head to come into the proper relations to the pelvic canal.

Dr. C. E. STEDMAN said that he had performed the operation at times when it seemed as if the child's face would slew round to the front in spite of his efforts to the contrary. He considered the position after turning to be the best for the performance of craniotomy, the occiput being pierced in this case.

Dr. RICHARDSON observed that from the moment of the beginning of traction on the feet, one should keep in mind the rotation, and that it was better to start early with the idea that the spine of the child should be kept forward.

Dr. SINCLAIR remarked that he considered it best to have a due regard all the time to the position of the head when it comes into the pelvis; and to this end to keep the body in an oblique position, with a tendency to turn to one side or the other.

PRIMIPARA; RETAINED PLACENTA DELIVERED BY HAND, WHICH WAS PASSED THREE TIMES INTO THE UTERUS, ONCE FOR DELIVERY OF PLACENTA, AND TWICE FOR REMOVAL OF CLOTS; PROTRACTED CONVALESCENCE, WITH REPEATED CHILLS AND FEVER ALTERNATING WITH DAYS OF COMFORT WITH NORMAL TEMPERATURE.

Dr. WELLINGTON read the case. See page 205.

Dr. Wellington further remarked, in answer to questions, that sweating occurred but once; that no malarial influence was known; that the patient took quinine largely and made a perfect recovery. He had entertained a supposition that a piece of membrane might have been left up in the contracted portion of the womb (as described in the written account) and that this might have exercised a remittent septic influence. He did not think hysteria a marked element in the case.

Dr. RICHARDSON thought it a good case for uterine injections.

Dr. SINCLAIR questioned if some moral influence had occasioned the symptoms, as in a case of his own.

Dr. INGALLS referred to the fact of the clot coming away while the woman was sitting up, and thought the symptoms might have been due to a small portion of clot or membrane or placenta retained.

Dr. ABBOT suggested that in that case there would probably have been some pain.

#### ABNORMAL MENSTRUATION, ETC.

Dr. RICHARDSON briefly mentioned two cases then at the Lying-in Hospital.

I. The case of a young lady waiting to be confined with her second child. She had a marginal attachment of the placenta, with hemorrhages. When not pregnant she had menstruated every two weeks since the age of fourteen; when pregnant every four weeks. The same peculiarity was observed during her first pregnancy.

II. Dr. Richardson had recently extracted the right central and lateral lower incisors of a child twelve days old. These teeth had become quite loose and were troublesome in nursing.

Dr. SINCLAIR said he had never heard of such a case of menstruation excepting as reported by Dr. Montgomery.

Dr. FORSTER remarked that he had observed a case of a lady who menstruated every four weeks during pregnancy and then gave birth to twins.

DR. RICHARDSON suggested that as the placenta was easily reached in this second pregnancy, in the case he just reported, the bleeding probably came from the lowermost point of attachment. The duration of the flow had been four or five days.

DR. WELLINGTON reported the case of a woman under his care, primipara, who was confined in the midst of an attack of pneumonia. She had had chills, and high temperature, and other symptoms of pneumonia, for three days, when labor came on. At the end of twelve hours, the head being low in the pelvis, and the pains subsiding, the child was delivered by forceps. The woman did not appear to suffer from the labor, but went on with the pneumonia and died upon the tenth day of that disease. There was no secretion of milk.

DR. SINCLAIR gave the account of a patient seventeen years of age whose pulse during menstruation was sixty or less, while in the intervals it was at the normal rate of from seventy-two to seventy-six. She kept about during the catamenia, which occurred rather too frequently but not too freely.

DR. FORSTER called attention to the article *phenyle* as an antiseptic, etc., effectual when used in the proportion of a teaspoonful to a quart of water, and very cheap. It was described as having a strong tarry smell. He had recently used it daily in a case of a sloughing fibroid successfully where a five per cent. solution of carbolic acid and thymol one to two thousand, had failed to overcome the offensive odor.

Using it after confinement all odor from the lochia was destroyed and patients had expressed themselves much pleased with it.

DR. NICHOLS, of Cambridge, mentioned the fact that stains in cloths, from permanganate of potash, could be instantly removed by a weak solution of sulphurous acid. The articles should afterwards be thoroughly washed in clean water to prevent injury to the fabric.

DR. RICHARDSON said that a one per cent. solution of chloral hydrate (De Paul's method) worked perfectly well as a uterine or vaginal injection for disinfection, continued till the fluid comes away perfectly clear.

### Recent Literature.

*Diseases of Women, including their Pathology, Causation, Symptoms, Diagnosis, and Treatment. A Manual for Students and Practitioners.* By ARTHUR W. EDIS, M. D., Lond., F. R. C. P. Philadelphia: Henry C. Lea's Son & Co. 1882.

It is a pleasure to read a book so thoroughly good as this one. It does not, perhaps, deserve so high a rank in respect to originality and research as others which might be named, but it thoroughly justifies the modest claim it makes of being "a manual for students and practitioners." The special qualities which are conspicuous are thoroughness in covering the whole ground, clearness of description, and conciseness of statement. It naturally follows that to write a book combining all these good points requires sound judgment in the selection of material. To know how to say enough on any one subject to give a clear idea of it, and at the same time to avoid useless discussion on points of interest it may be, but of little practical moment, is not always the gift of those who write books. Our author has excelled in this respect.

Another marked feature of the book is the attention paid to the details of many minor surgical operations and procedures, as, for instance, the use of tents, application of leeches, and use of hot-water injections. These are among the more common methods of treatment, and yet very little is said about them in many of the text-books. Dr. Edis lays down very definitely the indications for their use, and explains in detail the little points to be observed, at the same time not forgetting to point out the limitations of their employment, and the dangers of their abuse.

Where the general standard is so high it is almost superfluous to single out individual chapters for special comment, but there are one or two which, by their presence in a book by an English author, indicate a marked advance in this field. The chapter on Lacerations of the Cervix is exceedingly good. It gives the pathology of the lesion, the rules for preparatory treatment, and the various steps of the operation very clearly and precisely. The author has evidently a very decided opinion of the value of the operation, for he says, "Considering the good which it accomplishes it is remarkably free from risk, and when performed with care is, perhaps, the most successful one in uterine surgery."

He also describes the perineal body minutely, and recognizes its great importance in sustaining the uterus, and the necessity for its repair when ruptured. In the preface he claims to have treated the diagnosis of abdominal tumors "most exhaustively," and he certainly goes far towards carrying out his promise. The various forms of ovarian tumors are carefully differentiated, and then these in turn from the other abdominal tumors. Every possible condition which might be confounded with an ovarian tumor is considered, and we have careful rules laid down for distinguishing an ovarian cyst from obesity with tympanites, phantom tumors, ascites, parovarian cysts, hydatis, renal cysts, pregnancy, molar pregnancy, fibroids, and fibro-cysts of the uterus, encysted dropsy of the peritoneum, and a large number of other conditions.

Where so much is excellent, it seems almost invidious to point out the minor defects, but there are certain points which we wish had been touched upon. Very little is said as to the treatment of adhesions, and the most effective and at the same time safe method, namely, by systematic packing the vagina, is not alluded to.

So, too, with regard to pessaries. In general his rules for their use are very good, but we miss definite rules for measuring the vagina for pessaries, which are so necessary in one who would use them successfully. He advocates rather more freedom in the use of intra-uterine stems than seems safe.

In speaking of uterine hemorrhage he says that plugging the vagina in such cases is "unscientific and objectionable," but it seems to us that a method so safe and sure is on the contrary both scientific and free from objections. It is to be presumed that our author has not personally experienced the benefit of such a measure, or has imperfectly applied it.

On the whole, the book is one to be warmly recommended, especially to students and general practitioners, who need a concise but complete résumé of the whole subject. Specialists, too, will find many useful hints in its pages.

It is published in very good style, the type clear, and the illustrations for the most part very satisfactory.

**Medical and Surgical Journal.**

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No. 4 PARK STREET, BOSTON, MASS.

**A METROPOLITAN SYSTEM OF DRAINAGE FOR BOSTON AND NEIGHBORING TOWNS.**

In his inaugural address to the Massachusetts legislature of 1881, Governor Long called attention to the increasing pollution of the Charles and Mystic basins, and suggested that some competent authority have power to arrange, or, at least, to report upon, a comprehensive system for draining the entire area embraced within a semicircle with a radius of ten miles from the State House at Boston.

This portion of the governor's address was referred to an appropriate committee, which, after much deliberation, introduced a resolve subsequently adopted by the legislature, authorizing the governor and council to investigate the whole question by means of a commission of experts, and report to the legislature of 1882.

A commission consisting of E. S. Chesbrough, C. E., Dr. H. P. Walcott, Dr. C. F. Folsom, of the National Board of Health, Hon. A. W. Boardman, formerly president of the Boston Board of Health, and Dr. Azel Ames, Jr., was at once appointed.

The commission has made its report, and with apparent unanimity advises the construction of a system of sewers for the relief of the Charles and Mystic rivers by intercepting the sewage of Boston, Brookline, Newton, Waltham, Watertown, Belmont, Arlington, Cambridge, Medford, Winchester, Woburn, Stoneham, Melrose, Malden, Everett, Chelsea, Revere, Winthrop, with a possible extension on one side to Dedham or Natick, and on the other to Lynn, and using for this purpose, so far as may be necessary, the nearly completed Moon Island sewer.

In place of the point of discharge for a north side sewer indicated by the Boston Commission of 1875, at Shirley Gut, a suggestion is here made, that the southwestern end of Deer Island would, for many reasons, be more desirable.

The growing attractions of this north shore as a place of summer resort, and the probable improvements at Point Shirley would both suffer from the erection of the works necessary for a discharge at this point, while Deer Island is the exclusive property of Boston, and offers an outlet into the most favorable current in the harbor, Broad Sound.

Upon the method of assessing the costs of construction, estimated at nine million dollars, excluding what has been already spent upon Moon Island sewer, there was evidently no substantial agreement in the minds of the experts. A table was presented of vari-

ous schemes of apportionment, which need only to be examined to be at once rejected.

The draft of an act to establish a metropolitan health district accompanies the report. As this act is to create the machinery for constructing and maintaining this system of sewers, we give a brief analysis of it. The towns and cities above named are made a corporation for the purpose of constructing and carrying on a system of intercepting sewers in the Charles and Mystic river basins, with such powers as are possessed by counties.

The work of this corporation is to be done by five commissioners appointed by governor and council, to whom also all plans must be submitted for approval.

The necessary funds are to be obtained in the same way as money is raised by counties. The corporation is not to interfere with drainage systems of towns except so far as to provide a proper outlet into the intercepting sewer, and is to have power to enforce such connections.

A useful chart is given upon which is laid out the line of the projected sewers.

This report has been the subject of two hearings at the State House before the Committee on Public Health; the towns included in the list were represented, and, with the exception of the five smallest, while opposed to the immediate adoption of the somewhat formidable act submitted by the experts, were all in favor of a continued examination of the subject with a view to the preparation of exact plans and definite estimates of cost.

The usual disposition to secure such legislation as would leave the State to pay the bill was met very ably by the State treasurer, who stated that the whole expense of the proposed sewer was covered by the amount of taxes collected from these cities and towns in one year, and that a district containing more than half of the whole valuation of the commonwealth, and more than a third of its inhabitants, needed no assistance from the State treasury.

With the peculiar situation of Boston, at the confluence of the Charles and Mystic rivers, certain to receive on the large area of neighboring flats all the foul matters held in suspension by the waters of two rivers becoming day by day more foul, some concerted action of the kind sketched in this act seems absolutely necessary, and fortunately for her, equally necessary for every town higher up on the two rivers. Cambridge may be indifferent to the filth which she believes is so discharged that it cannot return to her own shores, but is quite certain to protest against the fouling of the Charles by the Abattoir at Brighton or by the sewage of Newton.

Newton will look up the stream to watch Waltham and other towns, which, in turn, will care more for the purity of the stream above their limits than below them; and there is no point on the river where some strong local interests may not be secured to protect the stream. The very serious injury reflected upon Medford, last season, by the horrible condition of the lower Mystic basin, is even a stronger argument for thorough work in the Mystic valley.

The hearing brought out from the representative of the town of Woburn a capital statement of the difficulties in the way of securing proper drainage for his town, and a cordial offer to cooperate in any just plan for the relief of the valley.

The hearings as a whole were characterized by an honest recognition of existing defects, and an apparent willingness to undertake any well approved and equitable methods of relief.

#### PUERPERAL FEVER AND INFERIOR ORGANISMS.<sup>1</sup>

DISCUSSING the paths of entrance and of diffusion of the infection-germs of puerperal fever into the economy and its anatomical lesions, Dr. Doléris takes up (1) the wound, (2) the blood-course with its dependencies, (3) the lymph-course and the whole serous system. Under the first head local alterations connected with the infection are considered: for example, the so-called diphtheritic form which has a special origin, namely, the destruction of the anatomical elements by micro-organisms and the penetration of the germs through the Fallopiian tubes to the peritonæum.

(2.) The circulatory system. When a coagulum is formed beyond the physiological limit of the uterus, it is from a tendency to coagulation due to predisposition or to local lesions, atheroma or varices, — which explains thrombosis preceding phlebitis, — or it arises from alteration of the endothelium, analogous to endocarditis, due to colonies of micrococci fixed upon or in the walls of the vessel, which explains phlebitis preceding coagulation. The law of development of these organisms is the condition of absolute or relative repose. They do not multiply in the blood in movement, oftener they seem to perish there. If nothing favors the formation of the coagulum in the veins there is nothing but the hæmatic lesion. Thence come those profound dyscrasias, those anæmias which may be called pernicious by the same title as many others where the patients are prostrated a very long time. The principal result, then, of the introduction of micro-organisms into the blood, where their number is not excessive, is the special cachexia. In the special conditions already enumerated the result is thrombosis, phlebitis, endocarditis, emboli.

To the embolus succeeds the infarctus. In the putrid infarctus septic bacteria are found associated with micro-organisms in points or in chaplets. The purulent infarctus contains only micrococci or chaplets. The hæmatic lesion is of extreme importance since it sometimes bears all the cost of the malady, even death. Septicæmia may be characterized only by inappreciable lesions, but an alteration of the blood, evident, easy to discover, always exists. Nevertheless there is a slow septicæmia, a pyæmia, if you please (the author has no better word to stand for the old idea), very different from the first. That kills, this rarely terminates by death when it is not complicated by phlebitis or appreciable lymphangitis. The first will appear in severe epidemics, the second is frequent at

all times, and attacks many delivered in hospitals, whose disease evolves slowly after they leave, and often terminates, but with variable delays, by local and late accidents. It might be said that there was a thorn in the uterus, however small, which served as a feeding centre to the blood dyscrasia. True septicæmia, that which crushes almost from the outset of the disease, is characterized by the appearance of living organisms in the blood only at the last periods of life — sometimes even after death alone. The organism of this variety is of multiple form. It is made up of elements, elongated, slender, and having motion, which swarm in the tissues, the lymphatics, and peritonæum before death. To the blood they are admitted but tardily. These septic bacteria may take still other forms. The hæmatic lesions consist in an extreme alteration of the globules. The author thinks the lymphatics are the primary source of the septic bacteria, and that in those cases where severe septicæmia supervenes in the course of a less grave form, these bacteria begin to load the blood only when that element has become so deprived of oxygen by the action of other organisms as to enable them to flourish in it. In an extended form of septicæmia the blood always contains micro-organisms. In this form, which is the ordinary suppurative variety, the dyscrasic alteration of the blood is slow, and is effected by the presence of a special organism which may be considered specific; it is the micrococcus most perfectly represented by the chaplet of grains. In phlebitis with thrombus the presence of chaplets is not the rule.

Primarily the micrococci all penetrate from the lymphatics into the blood, and if they find the necessary conditions united in the veins they may determine suppurative phlebitis, but this is rare. Commonly the micro-organisms pass gradually into the blood without causing any other lesion than a more or less profound alteration of the globules. This slow alteration, if isolated from inflammatory lesions of the serous system, might be cured by appropriate means. The ordinary form is attended by these lesions which are foreign to the vascular system. Without these lesions the characteristics of this form are anæmia, the special dyscrasia and pyæmia, the blood globules enormously diminished in number, almost decolorized, and the leucocytes greatly augmented.

The nature of the organism differs in the different cases. When the lymphatic lesion coexists and develops progressively (the ordinary suppurative form) the culture of the micrococcus of the blood gives birth almost constantly to long chaplets of grains, just like those contained in the lymphatics, and sometimes to cylindrical bacteria. When the hæmatic lesion exists alone culture gives only micrococci in colonies, irregular groups or couples, but their organization, modified, perhaps, by sojourn in the blood, does not reach the stage of chaplets, which is a form already highly organized. When the hæmatic lesion is accompanied by phlebitis and infarctus the almost constant form is the point in couples, which is produced by cultivation in enormous quantities. The chaplet comes later if at all.

<sup>1</sup> Continued from page 186.



(3.) Under this head the entrance and diffusion of the germs by the lymphatic system to the serous membrane (joints, peritoneum, pleura, pericardium, cerebral meninges), to the glands, cellular tissue, skin, etc., are set forth, and it is asserted that, experimentally, the morbid germs are everywhere and always found, for example, in cases of post-puerperal, phlyctenoid erysipelas, in abscess, and in ecthyma.

It results from the *ensemble* of facts that lymphatic infection is first in point of time; that it gains the vascular system secondarily by the thoracic canal oftener than by other peripheral ways on account of the presence of glands as an obstacle; that it may reappear at points removed from the primary focus by reason of the connection of serous networks and blood capillaries.

Dr. Doléris follows Pasteur and divides the germs of infection into two grand categories:—

- (1.) Septic cylindrical bacteria (rapid septicæmia.)
- (2.) Micrococcus in form of chaplets (attenuated septicæmia).

Micrococcus in couples (suppuration). Micrococcus in points.

A considerable portion of the volume is devoted to records of cases of the different forms of puerperal fever aforesaid, details of autopsies, microscopic examinations of the fluids, and of the liquids of cultivation of the germs, and to the results of the inoculation of these germs upon various animals. The author seems to desire to hold himself rigidly to the demonstration of his facts, and to be wary of drawing conclusions not fully justified by these facts; recognizing that on many points much more elaborate investigations are yet required.

Taking up the subject of infection he discards the classification of auto-genetic and hetero-genetic infection, infection being always hetero-genetic. He would divide the modes of transmission into two classes:—

- (1.) Contagion by way of the uterine lesion; (2) and much more rare, contagion by other routes.

We cannot follow the author through his examination of the various means by which the disease is conveyed to the patient, accoucheurs, nurses, infants, instruments, sponges, cloths, etc. Among conditions affecting the air he specifies (1) the neighborhood of surgical wards of hospitals; (2) the existence of an epidemic characterized by affections whose nature, without being well elucidated, is generally considered to have numerous affinities with septicæmia. Such are erysipelas, lymphangitis from wounds, diphtheritic complications, septic cutaneous efflorescences, as ecthyma, etc. He discusses at some length the best known of these, namely, erysipelas. From certain facts he feels justified in concluding, not an absolute demonstration of the identity of erysipelas and puerperal fever, but that certain manifestations of erysipelas are only exterior lesions of local or general septicæmia with a tendency to extend along the course of the superficial lymphatics. The cause of these is the presence of a recognized septic organism proved to be capable of producing experimental disorders by inoculation.

Scarlatina is next considered in the same way; and

after separating the large proportion of scarlatinoid manifestations irregular and false, sometimes associated with puerperal fever, an absolute reserve is maintained concerning the relations of the two diseases until we shall be better informed upon the nature of scarlatina itself. Separation of the infant from the sick mother is advised. Receptivity and non-receptivity are discussed and illustrated; likewise the manner in which epidemics are created; and finally in the pathogeny of the work, infection by a route other than the lesion. In circumstances of excessive infection of the air Dr. Doléris considers it a positive fact that infection may proceed through the uterine mucous membrane during menstruation, through the digestive canal, and through the lungs. Observed facts lead him to believe that all that separates the suppurative form of puerperal fever, localized in the serous membranes, from cerebro-spinal meningitis or purulent fever, is the existence of the lesion in the former and its absence in the latter.

**THERAPEUTICS.**—The larger part of the twenty-six pages given to treatment has reference to prophylaxis. The author argues the superior advantages of hospitals under modern antiseptic regulations; and is sarcastic towards those who distrust carbolic acid, and who will use anything else in preference, asserting that a one-per-cent. solution is fatal to germ life, and that it is the best antiseptic in use. The three elements of rational antiseptic practice are stated to be:—

- (1.) Injection before delivery; (2.) Injection after delivery; (3.) Compress to remain over the vulva.

When factor of the lochia appears the questions arise: Is there a lesion? Is there retention of portions of placenta or membrane? Is there putrid decomposition of the lochia under the influence of the introduction of germs? In all these cases intra-uterine injections are required. If there be an exterior wound, antiseptic dressings. He does not believe that Zweifel or Bischoff have applied this method with sufficiently sustained severity. The multiplication of organisms and the decomposition of lochia should be rendered impossible.

He prefers the method of Fritsch, of Halle, three injections daily of two or three per cent. solutions of carbolic acid, rather than the more concentrated solutions and the uselessly repeated washings of Schücking or even the pulverizations of Spiegelberg, which are avoided by disinfection of hands and instruments, and especially by the compress during labor. Slowness, moderate force of the current, and the introduction of the tube into the uterus are three indispensable conditions of lavement practiced immediately after delivery. He urges immediate disinfection without waiting for the ordinary signs of decomposition of lochia. If delayed injections later are more difficult and dangerous, but not the less necessary if accidents of infection ensue, since they alone promise a real result. The sound with double current is the one recommended.

For internal treatment, since an attempt to eliminate the poison by the intestinal canal is forbidden,

he thinks the dominant indications are to prevent all abnormal movement of the abdominal viscera, and to hinder pelvic congestion. One per cent. carbolic lavements per rectum fulfill these indications. He would make exclusive use of such after delivery.

In view of the remarkable statistics of the Hôpital Cochin, Dr. Doléris mentions the methods always used by M. Champignonnière:—

- (1.) Antisepsis by carbolic acid solution.
- (2.) Sulphate of quinia, .80 to 2 grm., in the twenty-four hours.
- (3.) Salicylic acid, when particularly indicated, in ordinary doses.

- (4.) Blisters on the appearance of trouble.

In thirteen pages of appendix the methods of the writer's experiments are described.

We have extended the foregoing abstract to a length which leaves no space for remarks. It has seemed necessary to set forth somewhat fully the author's own researches and opinions upon micro-organisms at the expense of the total neglect of his interesting criticisms upon the work and views of others.

#### STILL ANOTHER ASYLUM CONFLAGRATION.

We clip the following from the *Boston Daily Advertiser* of February 22d:—

NEW YORK, February 21, 1882.—The Kings County Insane Asylum, a large structure of four stories, at Flatbush, L. I., was discovered to be on fire about six o'clock this morning. An alarm was promptly given and the Brooklyn fire department responded. During the fire some of the lunatics became greatly excited, and it was with difficulty they could be kept under control. A number of the more harmless were allowed to wander at will around the grounds. On the fifth floor there were twenty-six dangerous patients, and on the floor below forty-three patients in the same condition. Those who were helpless were carried on the backs of the nurses and attendants to the floor in the west wing. A man named Scoville perished in the flames, and an old paralytic was either suffocated by the smoke or died from fright. An attendant who became excited at the sight of the flames unlocked a gate on the north side of the building, and about a dozen inmates escaped. In two hours the flames were under control. The fourth and fifth floors of the east wing of the building were completely consumed, and the first, second, and third floors thoroughly drenched with water. The appliances for extinguishing fire at the asylum are entirely inadequate. There were 833 insane patients in the building, 333 of whom were in the east wing when the fire broke out. From the statements of the doctors and attendants it appears that the employees were more alarmed and excited than the other inmates, who behaved admirably. The loss on the building is estimated at \$30,000, on which there was no insurance. The burned building will be rebuilt immediately.

We regret to be so soon called on to chronicle another asylum fire, but we fear we shall have the same melancholy duty to perform on more than one future occasion. It does not seem to be in the nature of man, where fire is concerned, to take time by the forelock and thereby avert a terrible calamity.

The money loss was not large in the fire described above, and only two poor miserable lives were sacrificed, though the fatalities may have been greater, as a large number escaped; but one shudders to think how great the loss might have been had the fire broken out in a lower story, or had there been a fresh wind blowing. With demoralized attendants and a

building overcrowded with helpless inmates, the mortality under these circumstances would of necessity have been large.

Once more we beg insane asylum trustees to promptly organize a fire corps among the employees, not only for the purpose of doing efficient work in case of a fire, but also, by good discipline, to overcome the sudden paralysis of fear. At the same time let the stand-pipes, hose, water connections inside and out, and the fire extinguishers be looked to, to make sure that they are in good condition and ready for immediate use. These precautions require but little time, or money, yet they may save immense loss.

#### A CORRECTION FROM MR. KEITH.

We have received from Mr. Keith, of Edinburgh, some lines to the effect that statements contained in a letter published in the *JOURNAL* of January 12th, under the title of *The Meaning of Keith's Abandonment of Listerism*, do him very great injustice. Having much respect for Mr. Keith's remarkable and well-earned reputation as an ovariologist, we regret having given publicity to any statements which have caused him annoyance, especially as we are now informed they are not founded in fact.

We were assured of our correspondent's good faith, who in his turn thought himself assured of the correctness of his information. We hope before long to publish a detailed correction from Mr. Keith himself of any misstatements which may have unfortunately appeared in our columns. His attitude toward Listerism made a marked impression in the discussion at the Medical Congress in London last summer, and was noticed in the *JOURNAL* at that time in a letter from Professor Greene.

#### MEDICAL NOTES.

—Some of the newspapers in Philadelphia are much distressed by the recent grant of land by the city government to the University of Pennsylvania, which they term the university land grab.

—Dr. J. H. Raymond, who has been connected with the Health Department of Brooklyn for several years, has been appointed Health Commissioner of that city by Mayor Low. He was an efficient Sanitary Superintendent, and his appointment to his present office is considered an excellent one by those acquainted with the duties and difficulties of the position.

—The *Philadelphia Medical and Surgical Reporter* devotes an editorial to the danger of administering an anæsthetic without witnesses, and relates a case from the West in which a young lady was granted fifty thousand dollars damages against an old practitioner who had been the family attendant for three generations. On one of her visits he informed her that an operation was necessary, and induced her to take some anæsthetic. Subsequently, not improving, she consulted another physician, who told her

that she was pregnant. In due time a child was born. The lady made no effort at concealment, but in a short time brought an action for damages against her old doctor. He publicly denied the charge, but refused to go into court and do so under oath. After a few minutes' deliberation only, the jury brought in a verdict against the doctor, assessing the damages at fifty thousand dollars.

—A lecture was to be delivered on February 25th at the Town Hall, Kensington, London, on The Dress of the Period, under the auspices of the National Health Society. The lecture was intended to deal with the absurdities of modern clothing, and with the physical injury often caused by following the dictates of fashion.

#### PHILADELPHIA.

—It is proposed by several prominent fellows of the College of Physicians to establish a Nurse Registry Bureau at the College, on the plan of that conducted by the Boston Medical Library Association. It is expected that it will commence operations about the first of April.

—The Commencement Day at the University of Pennsylvania will be about March 13th, as usual; at Jefferson College, on account of the lengthening of the course, the Commencement will not be held until March 30th.

—At the Presbyterian Hospital Dr. Chas. H. Bennett conducts a course on Diseases of the Ear during the spring.

—A grand Charity Ball was given at the Academy of Music on Tuesday, February 7th, the receipts of which will be divided between the Hospital of the University of Pennsylvania, Jefferson College Hospital, and the Wells Eye Hospital. It is said that the net receipts were in the neighborhood of twelve thousand dollars.

The Annual Address before the Academy of Surgery was delivered by Prof. D. Hayes Agnew on Monday evening, February 6th, in the lecture room of the College of Physicians; his subject was A Sketch of the Life and Writings of Baron Larrey. The regular meetings of the Academy are held on the first Monday evening of each month, and are well attended.

—The Seaside House for Invalid Women at Atlantic City, New Jersey, that has for several years been doing good work during the summer season, has just been thoroughly prepared for occupancy during the winter and spring months. It now offers most comfortable accommodations for women of moderate means who need the rest and reinvigorating influence of a residence at the sea-shore. The institution is one of Philadelphia's charities, and its board of managers is composed of well known ladies and gentlemen of this city. Dr. Wm. H. Bennett of Philadelphia is the attending physician during the summer, and Dr. Boardman Reed, of Atlantic City, during the fall, winter, and spring. Any invalid woman of good character can be admitted into the institution, and have either a room to herself or a single bed in a room with another; in the latter case the charge is five dollars per week; when a patient has a room to herself it is from

eight to ten dollars per week, this including board, nursing, medicines, and medical attendance; it is to be paid in advance to the lady in charge. Tickets to the seashore are furnished at a reduced rate on application to Dr. W. H. Bennett of Philadelphia.

—At the Pennsylvania Hospital the Dispensary Department, established some five or six years ago, is now in a very active state. Instruction in minor surgery has been carried on for several years in connection therewith by Dr. Chas. I. Hunter and Dr. Wm. Ashbridge. Drs. Geo. C. Harlan and Chas. H. McIlvaine, in order to utilize the material in attendance, have opened a course of practical instruction in Ophthalmoscopy and Refraction and in the Treatment of Diseases of the Eye and Ear, to be given only to graduates in medicine.

—Dr. L. S. Pilcher of Brooklyn having accepted an invitation by the directors of the Philadelphia County Medical Society to read a paper on the 8th of March, it is expected that a social meeting of the Society will be held after the meeting, to give him a reception.

#### Dischlam.

#### AN ANOMALOUS CASE. — WAS IT VARIOLOID?

MR. EDITOR, — The following case puzzled me somewhat, and may interest the readers of the JOURNAL: —

C. D. J., student, aged eighteen. Previous health good. Says he has always had heart disease. On examination, a well marked aortic regurgitant murmur was detected, with pulsating carotids. Acne on face. Says he had measles four years ago.

Was vaccinated January 24th, and again February 1st, with negative result.

February 2d attended a ball where were people from several towns. After dancing walked a little way to the supper hall in slippers and without an overcoat. Was as well as usual until February 5th, then had a headache and general malaria. On the next day, February 6th, complained of backache, and thinks he had fever. On the 7th felt chilly all day, but no real chill; at night took a "sweat;" no appetite.

The next day, the 8th, these symptoms were increased. I saw him for the first time on the following day, Thursday, the 9th. He then complained of severe pain in the back and loins, which was the most emphasized symptom. His eyes pained him, and were red and injected; he had also abdominal pain. Temperature, 103° F.; pulse, 60.

There was also an erythema, resembling that of ru-beola, on his wrists, back of his hands, and abdomen. At my evening visit the temperature was somewhat over 103° F. Friday, the 10th, temperature 101.4° F. in the morning; 103.4° F. in the afternoon; pulse, 60; respiration, 32 to 36. The eruption was now well marked, extending over the whole body, particularly abundant on the abdomen, back, lateral surfaces of trunk, feet, and hands, with a few spots on the face, scalp, eye-brows, and nose. He complained also of sore spots under the tongue and on the inner surface of the cheeks and lips. On examination of the latter small whitish round spots were seen, with reddened areola; fauces red and congested; backache very se-

vere; also headache, but not a marked symptom; abdominal pain; eyes inflamed; moderate photophobia; tongue with thin white coat, red at edges and tip with projecting papillae; mouth dry. Said he had epistaxis last night; no catarrh.

Saturday, the 11th, temperature,  $102^{\circ}$ , A. M.;  $103^{\circ}$ , P. M.; pulse, 68; respiration, 28. Backache not so severe; other symptoms much the same. Complained of his right knee being swollen and painful. On examination there was puffiness and possibly some effusion. Was called in the night on account of severe epistaxis.

Sunday, the 12th, temperature,  $100.5^{\circ}$ , A. M.;  $101^{\circ}$ , P. M.; pulse, 60; respiration, 28. No change in the eruption; slight itching on the face; other symptoms much improved, except his eyes; continued photophobia; no complaint from his knee; two slight attacks of epistaxis during the day.

Monday, the 13th, temperature normal; pulse, 52; respiration, 28; eruption fading; feels very comfortable; spots in his mouth disappearing.

Tuesday, the 14th, temperature normal; pulse, 48; respiration, 24; eruption rapidly disappearing; no pain or discomfort.

Wednesday, the 15th, temperature normal; pulse, 50; respiration, 28; convalescent; eruption hardly visible; tongue cleaning.

The next day he went home. He came to see me on his return, the 20th of February, and reported himself as well as usual, with the exception of some weakness of the eyes. I have also learned that a young lady who attended the ball, and also visited the house where the young man was sick, had a similar eruption, though not so extensive or well marked, for a day or two, with no constitutional symptoms.

The case seemed to me a peculiar one, resembling, in many of its symptoms, varioloid: the intense backache, eruption of the mucous membrane of the mouth, photophobia, the swelling of the knee, and in many of the other general symptoms. On the other hand, the only means of exposure seemed to be at the ball, February 2d, which gives but four days for incubation. Then, also, the character of the eruption, a simple erythema, and its rapid disappearance. A practical point in it is, Should it have been reported at the time of the appearance of the eruption as a doubtful case of varioloid, and quarantine enjoined? Very truly yours,

EDWARD O. OTIS, M. D.

EXETER, N. H.

#### CONSUMPTION IN NEW ORLEANS.

DR. J. B. ELLIOT, of the University of Louisiana, recently read an interesting paper before the New Orleans Auxiliary Sanitary Association, upon the prevalence of consumption in New Orleans in connection with the excessive amount of soil moisture which prevails there.

He points out that among the chief causes of the mortality of that city, consumption not only ranks first of all, but that it nearly doubles, as a cause of death, either yellow fever, malarial fever, or diarrhoeal diseases. The total number of deaths in New Orleans, from all causes, for the years 1869 to 1879 inclusive, were 73,796; deaths from consumption, 8,493; from yellow fever, 4,935; from diarrhoeal diseases, 4,813; from malarial fever, 4,521. It has been asserted that this excessive mortality from consumption is caused by

persons who have contracted the disease in the North, and come to New Orleans during the winter. This has been shown to be incorrect by Dr. Chaillé, who argued that if this was the true explanation the deaths from consumption during the colder months should greatly exceed the deaths during the six warmer months.

Now the statistics show that the number of deaths from consumption during the six colder months, for the eleven years, were 4,055; of deaths during the six warmer months, 4,438; showing that the excess of deaths from consumption in New Orleans occurred during the six warmer months.

He says: "We must accept the conclusion that consumption is by far the most formidable cause of death which we have to deal with in New Orleans. In the light of the researches of Drs. Bowditch and Buchanan, we have not far to go to discover the conditions which produce it.

"If soil moisture and consumption are related as cause and effect, then we would expect to find, as we do find, that that disease is the curse of our city, and that its excessive occurrence is due chiefly to the fact that the water level in the soil is coincident with the surface of the soil.

"The remedy for such a condition is plain. We are a community suffering from topographical conditions that we must use our common sense to conquer. Common sense tells us that, as we cannot — for many years at least — sink the water to a lower level in the soil, we must lift our habitations to a higher level above the soil. The proper methods for accomplishing this have already been pointed out and insisted upon by the sanitary authorities of our city, and we may feel reasonably assured that they will be enforced in all buildings hereafter erected. But in those buildings already in existence, where the evils of water under the lower floors, and wet lots below the street level, exist, we can only hope for a correction of the fatal conditions by teaching our fellow-citizens to insist upon their correction before they rent or lease. When property-holders learn that the value of their possessions will depend upon the absence of these conditions, then we may hope for their speedy removal." — *Sanitary Engineer*.

DR. JOSHUA TUCKER.

At the monthly meeting of the American Academy of Dental Science, held in Boston, January 4, 1882, the following resolutions were unanimously adopted: —

*Resolved*, That the American Academy of Dental Science has received with sincere sorrow the intelligence of the death of our late beloved friend and associate, Dr. Joshua Tucker, of Boston, an honorary member and former president of this Society. He departed this life November 7, 1881, aged eighty-one years and three months.

*Resolved*, That in the decease of Dr. Tucker this Academy has been called to mourn the loss of one of its most valued members, one whose ability, integrity, genial manner, and kindness of heart endeared him to all whose privilege it was to be associated with him.

By his death another distinguished name is added to the list of those early pioneers in dental science who have finished their earthly labors and passed on to the land of rest and immortality, and whose memory the profession will ever delight to honor and cherish.

*Resolved*, That this Academy will never forget the deep interest and untiring devotion which our late friend invariably brought to the performance of his duties during his long and successful professional life, embracing a period of more than fifty years. Dr. Tucker was one of the first in this country to take a high stand in the practice of his profession, which he always maintained; and throughout his whole career his actions

were characterized by an enlightened sense of the responsibilities which rested upon him, both in his relations with the profession and with those who were placed under his care and treatment, thus proving his constant desire to be faithful to the trust reposed in him. This patients as well as the profession will hold him in grateful remembrance.

*Resolved*, That our sympathies and condolence are extended to his widow and other relatives in their bereavement, and we would also rejoice with them that he was permitted to live to

such an advanced age, and that he has left so beautiful a record of a long and useful life.

*Resolved*, That these resolutions be entered upon the records of the Academy, and that the secretary be instructed to transmit a copy of the same to the widow of the deceased; also to the dental and medical journals for publication.

GEORGE T. MOFFATT,  
JACOB L. WILLIAMS,  
EDWARD S. HARRIS, } Committee.

# REPORTED MORTALITY FOR THE WEEK ENDING FEBRUARY 18, 1882.

| Cities.                   | Population by Census of 1880. | Reported Deaths in each. | Deaths under Five Years. | Percentage of Deaths from         |                |                       |                |            |
|---------------------------|-------------------------------|--------------------------|--------------------------|-----------------------------------|----------------|-----------------------|----------------|------------|
|                           |                               |                          |                          | The Principal "Zymotic" Diseases. | Lung Diseases. | Diphtheria and Croup. | Scarlet Fever. | Small-Pox. |
| New York.....             | 1,206,590                     | 892                      | 421                      | 32.17                             | 17.03          | 6.27                  | 13.00          | 1.90       |
| Philadelphia.....         | 846,984                       | —                        | —                        | —                                 | —              | —                     | —              | —          |
| Brooklyn.....             | 566,689                       | 279                      | 128                      | 28.35                             | 17.91          | 11.82                 | 10.74          | .35        |
| Chicago.....              | 503,304                       | 239                      | 111                      | 30.96                             | 17.57          | 6.69                  | 2.09           | 10.46      |
| Boston.....               | 362,535                       | 140                      | 38                       | 16.43                             | 13.57          | 10.00                 | 1.42           | —          |
| St. Louis.....            | 350,522                       | 141                      | 58                       | 14.20                             | 14.20          | 4.25                  | 4.96           | —          |
| Baltimore.....            | 332,190                       | 173                      | 69                       | 15.60                             | 15.60          | 3.46                  | 4.04           | —          |
| Cincinnati.....           | 255,708                       | 110                      | 40                       | 37.27                             | 14.54          | —                     | 2.72           | 28.17      |
| New Orleans.....          | 216,140                       | —                        | —                        | —                                 | —              | —                     | —              | —          |
| District of Columbia..... | 177,638                       | 77                       | 34                       | 14.28                             | 23.37          | 5.19                  | 1.29           | —          |
| Cleveland.....            | 160,140                       | —                        | —                        | —                                 | —              | —                     | —              | —          |
| Pittsburgh.....           | 156,381                       | 89                       | 36                       | 44.94                             | 17.97          | 2.24                  | 4.49           | 24.71      |
| Buffalo.....              | 155,137                       | 81                       | 33                       | 40.74                             | 14.81          | 7.40                  | 14.80          | —          |
| Milwaukee.....            | 115,578                       | 53                       | 21                       | 18.86                             | 7.54           | 1.88                  | 1.88           | 1.88       |
| Providence.....           | 104,857                       | 40                       | 9                        | 7.50                              | 7.50           | 2.50                  | —              | —          |
| New Haven.....            | 62,882                        | 19                       | 6                        | 15.78                             | 15.78          | —                     | —              | —          |
| Charleston.....           | 49,999                        | 22                       | 7                        | —                                 | 4.54           | —                     | —              | —          |
| Nashville.....            | 45,461                        | 12                       | 3                        | 41.66                             | 16.66          | 16.66                 | —              | —          |
| Lowell.....               | 59,485                        | 22                       | 7                        | 22.72                             | 4.54           | 9.09                  | —              | —          |
| Worcester.....            | 58,295                        | 17                       | 8                        | 17.64                             | 29.41          | —                     | —              | —          |
| Cambridge.....            | 52,740                        | 25                       | 10                       | 8.00                              | 16.00          | 4.00                  | 4.00           | —          |
| Fall River.....           | 49,006                        | 24                       | 10                       | 12.47                             | 12.47          | 4.15                  | —              | —          |
| Lawrence.....             | 39,178                        | 6                        | 3                        | 33.33                             | —              | 33.33                 | —              | —          |
| Lynn.....                 | 38,284                        | 16                       | 2                        | 12.50                             | 12.50          | 12.50                 | —              | —          |
| Springfield.....          | 33,340                        | 14                       | 4                        | 35.71                             | —              | —                     | 7.14           | —          |
| Salem.....                | 27,598                        | 14                       | 2                        | 14.28                             | —              | 7.14                  | —              | —          |
| New Bedford.....          | 26,875                        | 14                       | 2                        | 14.28                             | —              | 7.14                  | —              | —          |
| Somerville.....           | 24,985                        | —                        | —                        | —                                 | —              | —                     | —              | —          |
| Holyoke.....              | 21,851                        | 11                       | 4                        | 27.27                             | 18.18          | —                     | —              | 9.09       |
| Chelsea.....              | 21,785                        | 9                        | 1                        | 22.22                             | 22.22          | 22.22                 | —              | —          |
| Taunton.....              | 21,213                        | 4                        | 1                        | 25.00                             | —              | —                     | —              | —          |
| Gloucester.....           | 19,329                        | 4                        | 1                        | —                                 | —              | —                     | —              | —          |
| Haverhill.....            | 18,475                        | 4                        | —                        | —                                 | 25.00          | —                     | —              | —          |
| Newton.....               | 16,995                        | 8                        | 4                        | 50.00                             | —              | —                     | 12.50          | —          |
| Brockton.....             | 13,608                        | 3                        | 1                        | —                                 | 33.33          | —                     | —              | —          |
| Newburyport.....          | 13,537                        | 10                       | 4                        | —                                 | —              | —                     | —              | —          |
| Fitchburg.....            | 12,405                        | 3                        | 2                        | —                                 | —              | —                     | —              | —          |
| Malden.....               | 12,017                        | 2                        | —                        | —                                 | 50.00          | —                     | —              | —          |
| Cincinnati.....           | 176,454                       | 64                       | 10                       | 7.81                              | 14.06          | 3.12                  | —              | 3.12       |

Deaths reported 2641 (no reports from Philadelphia, New Orleans, and Cleveland): 1090 under five years of age; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and fevers) 691, consumption 356, lung diseases 413, scarlet fever 186, diphtheria and croup 172, small-pox 100, typhoid fever 56, measles 51, diarrheal diseases 36, whooping-cough 27, cerebro-spinal meningitis 18, erysipelas 18, puerperal fever 17, malarial fevers 14, typhus fever one. From typhoid fever, Chicago 12, Buffalo eight, New York and Baltimore five each, Cincinnati and District of Columbia four each, Pittsburgh three, Boston, St. Louis, Milwaukee, Holyoke, and Newton two each, Brooklyn, New Haven, Nashville, Salem, and New Bedford one each. From measles, New York 37, Chicago six, Brooklyn three, Buffalo and New Haven two each, Taunton one. From diarrheal diseases, New York 17, Brooklyn and Baltimore three each, St. Louis, District of Columbia, Pittsburgh, and Providence two each, Chicago, Buffalo, Nashville, Lowell, and Newton one each. From whooping-cough, New York 14, Brooklyn and Chicago two each, Boston, Buffalo, Worcester, and Fall River one each. From cerebro-spinal meningitis, New York 10, Buffalo two, Milwaukee, Nashville, Worcester, Fall River, Springfield, and Spencer one each. From erysipelas, New York six, Brooklyn

four, St. Louis and Springfield two each, Chicago, Boston, Cincinnati, and Buffalo one each. From puerperal fever, Milwaukee four, Boston three, Brooklyn, Chicago, Cincinnati, and Lowell two each, Pittsburgh and Worcester one each. From malarial fevers, New York eight, Chicago four, St. Louis and Springfield one each. From typhus fever, New York one.

Seventy-four cases of small-pox were reported in Cincinnati, Pittsburgh 72, Baltimore 10, Brooklyn nine, Holyoke four, Pittsfield three, Boston two, District of Columbia two, and Milwaukee two; diphtheria 38 cases, scarlet fever 10, typhoid fever seven in Boston; scarlet fever 15, and diphtheria nine, in Milwaukee.

In 43 cities and towns of Massachusetts, with a population of 1,095,005 (population of the State 1,783,086), the total death-rate for the week was 19.85 against 20.16, and 20.60 for the previous two weeks.

For the week ending January 28th, in 173 German cities and towns, with an estimated population of 8,304,484, the death-rate was 26.2. Deaths reported 4190; under five 1932; pulmonary consumption 592, acute diseases of the respiratory organs 440, diphtheria and croup 237, diarrheal diseases 149, scarlet fever 92, whooping-cough 74, typhoid fever 46, measles and röteln 44, puerperal fever 19, small-pox (Königsberg, Hamburg, Solingen) three, typhus fever (Thorn, Berlin) two

The death-rates ranged from 16.9 in Cassel to 43.8 in Essen; Königsberg 25.1; Breslau 31.1; Munich 33.7; Dresden 24.8; Berlin 23.7; Leipzig 24.4; Hamburg 29.9; Hanover 22.9; Bremen 21; Cologne 29.1; Frankfurt 23.8; Strasburg 28.1.

In the 28 English towns, with an estimated population of 8,455,308, for the week ending February 4th, the death-rate was 24.9. Deaths reported 4042: acute diseases of the respiratory organs (London) 647, whooping-cough 273, measles 92, scarlet fever 91, fever 49, diarrhoea 39, diphtheria 34, small-pox (London 13) 17. The death-rates ranged from 8.4 in Halifax to 32.2 in Plymouth; Bristol 16.4; Sheffield 21.4; Manchester

21.9; Birmingham 22.2; Leeds 26.1; London 27.1; Liverpool 28. In Edinburgh 19.3; Glasgow 22.4; Dublin 37.6.

For the week ending February 4th in the Swiss towns there were 50 deaths from pulmonary consumption, acute diseases of the respiratory organs 40, diphtheria and croup 17, whooping-cough 10, diarrhoeal diseases 13, typhoid fever five, puerperal fever four. The death-rates were, Geneva 33.1; Zurich 31.3; Basle 22; Berne 34.5.

The meteorological record for the week ending February 18th, in Boston, was as follows:—

| Date.            | Barom-eter. | Thermom-eter. |          |          |            | Relative Humidity. |             |       |            | Direction of Wind. |             |            | Velocity of Wind. |             |            | State of Weather. <sup>1</sup> |             |                       | Rainfall.         |  |
|------------------|-------------|---------------|----------|----------|------------|--------------------|-------------|-------|------------|--------------------|-------------|------------|-------------------|-------------|------------|--------------------------------|-------------|-----------------------|-------------------|--|
| February, 1882.  | Mean.       | Mean.         | Maximum. | Minimum. | 7.23 A. M. | 3.23 P. M.         | 11.23 P. M. | Mean. | 7.23 A. M. | 3.23 P. M.         | 11.23 P. M. | 7.23 A. M. | 3.23 P. M.        | 11.23 P. M. | 7.23 A. M. | 3.23 P. M.                     | 11.23 P. M. | Duration, Hrs. & Min. | Amount in inches. |  |
| Sun., 12         | 30.451      | 39            | 50       | 24       | 77         | 56                 | 74          | 69    | S          | SW                 | SW          | 8          | 12                | 14          | F          | F                              | O           | —                     | —                 |  |
| Mon., 13         | 30.010      | 48            | 54       | 42       | 83         | 72                 | 91          | 82    | SW         | SW                 | SW          | 14         | 16                | 10          | O          | O                              | O           | —                     | —                 |  |
| Tues., 14        | 30.106      | 45            | 51       | 35       | 73         | 35                 | 61          | 56    | W          | W                  | W           | 6          | 11                | 7           | O          | C                              | C           | —                     | —                 |  |
| Wed., 15         | 30.191      | 46            | 60       | 33       | 53         | 29                 | 60          | 47    | W          | SW                 | SW          | 9          | 11                | 11          | F          | C                              | C           | —                     | —                 |  |
| Thurs., 16       | 30.129      | 46            | 60       | 38       | 82         | 61                 | 88          | 77    | SW         | S                  | S           | 9          | 8                 | 12          | C          | O                              | R           | —                     | —                 |  |
| Fri., 17         | 30.039      | 36            | 51       | 18       | 93         | 56                 | 56          | 68    | W          | NW                 | NW          | 9          | 23                | 22          | O          | C                              | C           | —                     | —                 |  |
| Sat., 18         | 30.725      | 15            | 23       | 8        | 58         | 43                 | 61          | 54    | NW         | NW                 | NW          | 17         | 9                 | 10          | C          | C                              | C           | —                     | —                 |  |
| Means, the week. | 30.236      | 39            |          |          |            |                    |             |       |            |                    |             |            |                   |             |            |                                |             | 11.50                 | .41               |  |

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., snow; R., rain; T., threatening; X., clearing.

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM FEBRUARY 18, 1882, TO FEBRUARY 24, 1882.

FINLEY, J. A., captain and assistant surgeon, Fort Adams, R. I. Granted leave of absence for one month. S. O., Department of the East, February 20, 1882.

RAYMOND, H. L., first lieutenant and assistant surgeon. Relieved from duty at the Presidio of San Francisco, and assigned to duty at Alcatraz Island, Cal. S. O., 28, Military Division of the Pacific and Department of California, February 15, 1882.

THE SECTION FOR CLINICAL MEDICINE AND PATHOLOGY OF THE SUFFOLK DISTRICT MEDICAL SOCIETY will meet at 19 Boylston Place, on Saturday, March 4th, at 7.45 P. M. The following papers will be presented: Dr. F. Minot, A Case of Chorea treated by Arsenic. Dr. F. C. Shattuck, Unintentional Aspiration of the Liver. Dr. T. M. Rotch, A Case of Intussusception, with Specimen. Dr. G. M. Garland, The Pleuritic Stitch. ALBERT N. BLODGETT, Secretary.

BOSTON SOCIETY FOR MEDICAL OBSERVATION.—A regular meeting of the Society will be held on Monday evening, March 6th, at eight o'clock, at the Medical Library, 19 Boylston Place. Reader, Dr. Webber. M. H. RICHARDSON, Secretary.

CORRECTION.—The residence of Dr. W. H. Baldwin, page 176 of the JOURNAL (February 23), should be Alabama, and not South Carolina.

BOOKS AND PAMPHLETS RECEIVED.—An Index of Surgery, being a Concise Classification of the Main Facts and Theories of Surgery. For the Use of Students and others. By C. B. Knley, F. R. C. S., Senior Assistant Surgeon to the West London Hospital, etc. New York: Birmingham & Co. 1882.

Preliminary Observations on the Pathology of Sea Sickness. (Reprinted from The Lancet.) By J. A. Irwin, M. A. Cantab., M. D. Dublin. Philadelphia: P. Blakiston, Son & Co. 1881.

Removal of a Cyst of the Pancreas weighing twenty and one half pounds. Dr. N. Bozeman.

Transactions of the American Ophthalmological Society. Seventeenth Annual Meeting, Newport, 1881. New York: Published by the Society. 1881.

Vaccination. Advice on the Necessity of Vaccination; the Value of Vaccination; the Tests of Successful Vaccination; How often Revaccination should be Done; the Quality of Vaccine; the Best Way to Use Vaccine; How to Prevent and Exterminate Small-Pox, etc. Issued gratuitously by the North Carolina Board of Health.

Contributions to Orthopaedic Surgery. By Charles F. Stillman, M. D., of New York. A New System of Surgical Mechanics. Reprinted from Transactions of the American Medical Association for 1881.

Marriage and Parentage and the Sanitary and Physiological Laws for the Production of Children of Finer Health and Greater Ability. By a Physician and Sanitarian. New York: M. L. Holbrook & Co. 1882.

Human Osteology, comprising a Description of the Bones, with Delineations of the Attachments of the Muscles, the General and Microscopic Structure of Bone and its Development. By Luther Holden, assisted by James Shuter, F. R. C. S., Assistant Surgeon to the Royal Free Hospital. With numerous Illustrations. Sixth Edition. Philadelphia: Presley Blakiston. 1882.

Illustrations of Dissections in a Series of Original Colored Plates, the Size of Life, representing the Dissection of the Human Body. By George Viner Ellis, Professor of Anatomy in University College, London, and G. H. Ford, Esq. The Drawings are from Nature by Mr. Ford, from Dissections by Professor Ellis. Reduced on a Uniform Scale and reproduced in facsimile expressly for Wood's Library of Standard Medical Authors. Vol. II. Second Edition. New York: William Wood & Co. 1882.

Recherches cliniques et anatomico-pathologiques sur les Affections cutanées d'Origine nerveuse. Avec 4 Planches en chromolithographie et plusieurs figures intercalées dans le texte. Par Henri Leloir. Paris: Aux Bureaux du Progrès Médical. 1882.

Annual Reports of the Officers and Managers of the New Jersey State Lunatic Asylum at Trenton for the Year ending October 31, 1881.

Fourth Annual Report of the Connecticut State Board of Health for the Fiscal Year ending November 30, 1881, with the Registration Report, 1880, relating to Births, Marriages, and Deaths. Printed by order of the Legislature.

The Transactions of the American Medical Association, instituted 1847. Vol. XXXII.

## Original Articles.

## THE DIAGNOSIS OF POTT'S DISEASE OF THE SPINE BEFORE THE STAGE OF DEFORMITY.

BY V. P. GIBNEY, A. M., M. D.,

*Of the Hospital for the Ruptured and Crippled, New York.*

ONE hundred and ninety-six cases of Pott's disease of the spine came under treatment in the out door department of the hospital during the year ending December 31, 1881, and of this number only fourteen came without any angular deformity. Six of this number were cases wherein the cervical region was alone involved, the remaining eight being equally distributed between the dorsal and, the lumbar regions. We have, then, one hundred and eighty-two new cases of angular deformity from this disease in a single year.

This is my apology for the paper, and the present seems a fitting time to talk plainly and to urge upon the general practitioner, be he physician or surgeon, be he specialist or not, the vast importance of making a diagnosis early and before the mother or the nurse calls attention to the significant knuckle. It requires no professional skill to diagnose the disease then. The drift of teaching, I fear, within the past seven years, has been rather toward treatment than toward diagnosis. The cry has been for therapeutics, and the cry has been heard.

Many a case of rickets and of simple antero-posterior curvature from anemia has been encased in plaster-of-Paris from lack of proper diagnosis, and yet caution forbids us condemning the practice. If the treatment will prevent deformity it is better to err on the safe side. It is an outrage on Science, however, to report such simple cases as Pott's disease and as cured by this or that plan of treatment.

A friend, whose teachings I value very highly, is reported to me as declaring in his lectures that the physician who cannot diagnose vertebral caries before the stage of deformity has no right to practice medicine. That professor is not an orthopaedic surgeon either. I am not as yet prepared to adopt that speech as my own. There is much teaching on this subject that is actually vicious, but some signs formerly laid down as pathognomonic are not any longer urged as of any practical importance. I speak more particularly of tenderness on pressure over or percussion of the spinous processes. Nothing is to be gained by this procedure and a persistence in it often irritates the little patient to such an extent that a good examination is rendered practically impossible.

It may be laid down as a rule, with barely enough exceptions to prove the rule, that tenderness on pressure either with the hand or with the hot sponge is never present in the early stages of a vertebral osteitis. So that in searching for an incipient caries let no reliance be placed on such a fallacy. I have in mind now a patient who did present tenderness early, but this was a female child and it is not at all unlikely that this was but the sign of a hysterical spine complicating the bone disease. Pressure over the spine posteriorly ought rather to relieve than cause pain where the bodies of the vertebrae are enlarged by recent inflammatory changes. The patient naturally carries himself in lordosis and that which aids this position gives relief. A weak or soft spot (apparently soft) is

sometimes found by firm pressure along the spinous processes in rachitic children. Within the past three months two very intelligent families from different parts of the country have brought their children for mechanical treatment, and after an exceedingly tedious examination I failed to find any spinal disease. The parents came, it is true, without any letter or card from the physician in attendance, but were very positive in stating that he had discovered a weak, or soft, spot, (pointing to a spinous process in the dorsal region) and had urged them to take the child without delay to the city for a brace.

Another test, very popular and constantly employed, I want to raise my voice against, for the reason that the abuse is so easy and the use even is unsatisfactory. It is the forcible pressure with the hand or blows with the same on the top of the head or shoulders in the long axis of the body. If the upper dorsal or the cervical region be affected this is actually dangerous, and it is not only true of recent cases but all the more true of cases that have been under treatment for a time. The expedient is resorted to then to ascertain whether or not a cure has been established.

A few months ago I was on a visit to a friend in a neighboring town, and the mother of a patient little girl, terribly deformed, was my hostess, and while discussing that topic, ever supreme in her mind, said, "Dr. Gibney, I don't know now, with all my fund of experience, to whom I should go if my little girl were just beginning her sufferings." And she had had a varied experience in therapeutics, for her wealth had commanded distinguished talent.

The history she gave me was that when her daughter, now fourteen years of age, was only four she began to manifest signs of weariness on slight exercise, would seek various attitudes which would rest the spine, in fact, presented symptoms that persisted until nearly three months had elapsed, when a small "knuckle" was observed between the shoulders. An orthopaedic surgeon was consulted, and he took the case immediately under treatment. For one year his skill and his assiduity were all that the most exacting parent could demand. His aim was to arrest the disease, and to prevent any further deformity, and his aim was certainly unerring. After a year's treatment he allowed the little patient to stand on its feet, removed the apparatus, and, in the presence of one or two members of the family, placed his hands on the child's head, firmly pressing downward. He was no feeble specimen of a man, and the weight upon that tiny head was more than it could bear. The patient winced under this crucial test, the limbs trembled all that day, and a restless night followed. Pain was felt in the back of the neck, and along the spine, and in remote parts of the body. Several days of irritation followed, the "knuckle" began to increase in size forthwith; the doctor was greatly annoyed that the case should act in this way, his interest seemed to wane, and in three months another specialist was consulted, under whose mechanical treatment the child became paraplegic. He, skilled as he was, got the credit of producing the paralysis, and other advice was sought. For several years the loss of power continued, the deformity grew into an immense boss, and finally, on the return of power, abscesses made their appearance.

Now, I have not pictured this case to censure any one; I have simply narrated it to serve as a warning. It made a profound impression on me, for I had so

often seen that "pressure test" employed, and in my earlier experience had practiced it myself. It is refreshing to read the remarks made by Mr. Howard Marsh in the *British Medical Journal* for June 11, 1881, concerning these same dangerous experiments. His paper is full of valuable instructions, and I cannot too strongly urge its close study.

The truth is that the nearer one comes to a knowledge of the pathology of the disease now under discussion the more easily can a diagnosis be made, and the more rational will be the interpretation of the symptoms. As Mr. Marsh says, we do not want to talk about *angular curvature*, or curvature of the spine. The term *spondylitis*, which some of my friends are attempting to introduce, is a confusing one to the student in pathology. That term was first employed, and is now employed, to designate a kind of arthritis deformans, the lesion being a rheumatic form of inflammation affecting the lateral masses and spinous processes, and never the bodies of the vertebrae. It is characterized by increase rather than by destruction of tissue. Julius Braun published, in Hanover, in 1875, a monograph on this affection as one of the most frequent causes of manifold neuroses, especially spinal irritation. He published fifty-eight cases, and drew a sharp distinction between this and spondylarthrocase (spinal caries). In spondylitis we get very marked spinal tenderness.

If we understand that a very large proportion of all the cases of Pott's disease, especially in children, begin as a central otitis of one or more of the bodies of the vertebrae, and understand that this otitis is attended with swelling in the early stages, we can then understand the mechanical effect on nerves passing through the foramina of exit when any concussion or contortion by accident occurs.

There are certain general questions to be settled in examining a case, and the first and most important is *the duration of the symptoms*. If we find the patient has been suffering vague and irregular neuroses for a fortnight or longer without any complete cessation of the same, we must know next *the behavior of the child at play or when getting into and out of bed*. If a slight strain or jar occur while the little one is at play this will be followed by an oral expression of pain, and relief will be sought in that position which will give rest to the spine. The mother, if you give her an opportunity, will tell you of many attitudes intuitively assumed. You need to know then *how the sleeping hours are passed*, and if you learn that instead of sharp screams without waking (so peculiar in hip disease) a moaning or restlessness with little cries on turning have been observed, then let the patient be stripped naked, and while this is being done the time can be spent profitably in getting the family history. I do not mean the reply to the questions, "Are you healthy?" and "Is your husband healthy?" You waste valuable time in propounding such questions. Ascertain all that there is to learn about transmissible diseases in both members of the family by direct and cross examination. A knowledge of facts need not bias your judgment. Learn also the personal history of the patient. If any cholera infantum followed by a slow recuperation, if rickets with its significant malnutrition, if malarial fever, if the more prominent of the exanthemata, such as scarlatina or diphtheria, if *whooping-cough* with tardy convalescence, — if any of these diseases, I say, come to your knowledge in getting the

personal history (and it is the safer to ask about them all) you will be about ready to give an opinion. I say *about ready*, because if you have obtained any facts leading you to recognize an acquired or hereditary diathesis, you will already have observed the movements of the child as it moves over the floor. You will also have already heard about a fall or injury, the knowledge of which came second-hand to the mother after she began to observe the very first symptoms of disability. Of course you will investigate the reported injury, and while I am as willing as any one to give a fall all the credit it deserves in the aetiology of joint diseases, I must insist on getting facts with regard to falls even.

One among the first things to observe is how the patient walks, whether the spine is carried stiffly, and whether it appears shifted to one or the other side of the pelvis. You will then observe the stooping, whether the spine be held erect, or nearly so, while the thighs and legs, by sharp flexion alone, execute the act. And do you know there are some children who wear one's patience out before you can get them to stoop? You sometimes have to lay them down forcibly. They will surely not remain on the floor, and you can get much information by watching them roll over and get upon their feet again. You will see the child often, while standing, place the hand on one or the other thigh for the "collateral transmission" of weight. The functions of both hips should be carefully examined, the pelvis should be explored by palpation and percussion as well as the ilio-costal spaces. So much for the general examination of a case for Pott's disease before the stage of deformity. A few details now regarding the different regions.

#### I. THE CERVICAL AND CERVICO-DORSAL.

One among the earliest symptoms observable in patients who are developing disease in the bodies of the cervical or upper dorsal vertebrae is a slight torticollis or a modified opisthotonos. The child early shows a disinclination to hold the head erect or to do anything which requires rotation of this member. If any object excites the interest the whole body will turn in getting a view. Often the opisthotonos will be apparent rather than real. The head will be held in this position to prevent the chin falling toward the sternum. Besides it calls other muscles into play in giving support. This can be easily excluded from true torticollis. In the one passive movements of the head are resisted and are painful, all the muscles coming to the rescue to prevent any motion that may aggravate the sensitive nerves; in the other there is no pain unless you make traction on the shortened or contracted muscles. The muscle will usually stand out in bold relief, and there is an element of rotation here not present in the other case.

The facial expression — that of pain and extreme caution in movement — is very significant. The gait is likewise peculiar, the steps being short and cautiously taken, and then there is the compensating backward curve in the dorso-lumbar region which often misleads one into regarding this as the affected locality. This position of the shoulders, shrugged as it were, the head seeming to sink down into them, is significant. The little hands can often be seen grasping the chin or the side of the head so as to support as steadily as possible. These signs and these manœuvres once seen will not be forgotten. There will be a history of pain,



usually, in the prone position, the mother will tell how sensitive the head is, will tell how much pain and distress follows the slightest cough. Indeed, occipital neuralgia will almost always be present if the first or second cervical vertebrae are at all affected either primarily or secondarily, for the sub-occipital and the great occipital nerves emerge in this region. Mr. Marsh makes a very good point when he observes that in other regions of the spine pain, when it is present, is felt either at the affected part or below it and is very rarely situated at a higher level. Irregular action of the diaphragm will materially assist in making a topographical diagnosis, for the fourth and fifth cervical pairs must necessarily be implicated by reason of the pressure from inflammatory products.

The ordinary temporary deformities of the head and neck from cold sometimes puzzle one in making a differential diagnosis, but in these we have exaggerated deformities with histories of a brief duration. An examination of the tonsils and pharynx is always necessary, and in children it is often very difficult to satisfactorily explore these parts; yet the presence of hard or soft tumors along the post-pharyngeal walls can easily be recognized by the finger. If any doubt exists this exploration should not be neglected. An abscess in this region will sometimes produce the most alarming laryngeal spasm.

The symptoms already detailed apply more particularly to the disease as it affects infants and children. In adults we can get better examinations, we can ascertain more definitely the location of pain. Furthermore, caries of the cervical spine in adults usually follows some severe traumatism, as a fracture or a subluxation, for instance.

## II. THE DORSAL VERTEBRÆ.

When the osteitis is confined to this region, the head symptoms already described are wanting and the pain is referred to parts on a level with or below the vertebrae involved. For instance, in the upper dorsal the intercostal muscles are impaired in function and the respiration is generally abdominal. Lower in the column we have abdominal pains and a fondness, very marked, for the prone position. This is sought by day over the mother's knees, over a chair, or on the floor; and by night this position is naturally assumed. To differentiate from the pains due to intestinal disorder, such as the presence of worms in the alimentary canal, or to malarial poisoning, is often difficult, that is, if one do not always examine a case thoroughly. It is well known to the practitioner who lives in malarial localities that "pain in the stomach" is one of the most constant symptoms in children suffering from this poison. I well know that a single examination will not always enable one to pronounce positively in a given case, but I do know that we have a specific that will enable one to eliminate malarial poisoning, and the reason why many cases of dorsal caries are not recognized in their incipency is not because the attending physician lacks skill but because he fails to apply that skill. He feels so confident that the case is malarial that he prescribes without a physical examination, without even an inspection, and with the full assurance that he is correct he does not examine the case again. He does not know, perhaps, that chronic bone diseases are notably diseases of exacerbations. I care not how great a man may be, how vast his experience may have been, the necessity still exists for a careful examina-

tion of all children who have abdominal pains with or without remissions.

The spine will present, instead of a projection backward or a fullness even, rather an incurvation — a lordosis, and this, taken in connection with the duration of the symptoms, the detailed history, the rigidity with which the column is held, the peculiarity in walking and in stooping, will enable one to make at least a provisional diagnosis of vertebral osteitis and give the patient the benefit of precautionary treatment.

One cannot always rely on failing health as a symptom, for there are many cases of unmistakable bone disease in fat, hearty-looking children. The plan of making extension with the child lying prone across the examiner's lap, and then reversing this, so often practiced and recommended by some good teachers in orthopedic surgery, does not meet my hearty approval. I resort to it by way of routine, but I must confess I have never been able to extract much information therefrom. As above remarked, the way in which the patient gets up from any decubitus is very significant, and the face will tell where the disease is located.

In the lower dorsal tumors in either ilio costal space often present before any bony deformity can be recognized, and we must bear in mind that a perinephritic abscess will give rise to the same sign. In the former, however, we can generally get a history of chronicity, while in the latter the symptoms will be of short duration and have a sudden onset. In adult life we have strains and rheumatism from which to differentiate, and I do not know of any infallible signs by which one can always be guided. Let the functions of the spine be thoroughly examined, and if possible get a history. Without this latter it is frequently impossible to reach a conclusion at a single visit. In all cases, however, in which a reasonable doubt exists let the patient have treatment, pending your decision, for Pott's disease.

## III. THE LUMBAR VERTEBRÆ.

When this region is affected the first sign to which the attention is directed is a lameness or a stiffness in one or the other limb. For a long while the patient will favor one side, at first almost imperceptibly, then there will be remissions apparently, and later marked flexion of the thigh. The physician when consulted does not get pains at the knee and does not get any tenderness at the hip-joint. He gets good flexion and good rotation and good abduction. He rarely thinks to explore the pelvis, and the patient is dismissed as suffering from rheumatism or "growing pains." By and by a tumor presents in the groin or in Scarpa's space, and even then the spinal lesion goes often unrecognized. Femoral hernia is diagnosed, hip disease with peculiar symptoms is thought of, idiopathic psoas abscess and simple cellulitis. The hand is occasionally passed up the spine, no deformity is felt and caries is excluded.

Let it be distinctly understood that a soft tumor in the groin or Scarpa's space especially, preceded by lameness extending over one or many weeks, unaccompanied by constitutional disturbance, hectic for instance, unassociated with stiffness at the hip joint, — smoothness of joint-surfaces, free flexion and free abduction, — and without a history of direct injury to groin or of intestinal symptoms, points to disease in the bodies of the last dorsal or some of the lumbar vertebrae. And this is as true of adults as of children. An idiopathic psoriasis is one of the rarest of diseases; an articular

ostitis of the hip will extend over many months and will make itself known long before abscess appears. Hernia can be recognized or excluded by an ordinarily careful examination.

To make a differential diagnosis between lumbar caries and perinephritis is frequently attended with considerable difficulty, especially if the perinephritis present an element of chronicity. As a rule, however, perinephritis in children is acute and is primary. In adults it is secondary to a pyonephrosis, and an examination of the urine will assist materially in arriving at a diagnosis. In Pott's disease there is always the element of chronicity. The spine in perinephritis is flexible, and one has no difficulty in thoroughly testing its functions unless, perhaps, the patient be naturally cross and unmanageable. The writer has often directed attention to the points in differential diagnosis in papers on perinephritis, and for a detailed account of the same he would refer the reader to the *American Journal of Obstetrics*, April, 1876, to the *American Journal of the Medical Sciences*, April, 1877, and to the *Chicago Medical Journal*, June, 1880.

The same difficulties arise in differentiating from iliac abscess or perityphlitis. It will be necessary simply to bear in mind these different affections and to remember that they occur with perhaps more frequency than text-books allow. In the *American Journal of the Medical Sciences* for January, 1881, I have reported six cases of perityphlitis as it occurs in children, and the points of resemblance are referred to at length.

It is not scientific, however, to wait for the tumor to appear above the surface. If flexion of the thigh occurs we should make palpation over the iliac region, and the presence of a tumor deep in the iliac fossa can be readily perceived. The general symptoms of bone disease will present here as in other regions.

A word now with reference to the occurrence of spinal caries in subjects suffering from caries in the neighborhood of other joints, more particularly the ankle and the knee joints. Time and again I have overlooked a spinal disease because my attention was devoted to a caries of the ankle or an articular osteitis of the knee. The lesson I have learned is to examine, if possible, the whole body in all cases of knee and ankle joint disease that present, especially if the patient present evidences of greatly impaired nutrition. My friend, Dr. T. E. Satterthwaite, called attention to this coincidence of diseases in his report to the Therapeutical Society on Suppurative Disease of the Ankle in Children and Young Adults, published in the *Medical Record*, August 21, 1880.

In conclusion, let me urge upon the profession the possibility of making a diagnosis of vertebral caries before the stage of deformity is reached, the duty of making the diagnosis, — a duty now all but imperative, — and the facility with which it can be done, irrespective of the region affected, if the physician cultivate a habit of submitting every case of disease in children, wherein the least element of chronicity enters, to a thorough physical examination.

— According to Dr. Carpenter, the average mortality from small-pox in the olden time, say from 1660 to 1780, was 1183 per million; but with the discovery of vaccination it fell to 2040; with the provision of public vaccination to 400; and under the compulsory vaccination system it has fallen to 276.

## HIGH-PRESSURE EDUCATION; ITS EFFECTS.

BY ROBERT T. EDEN, M. D.

IN private practice, that old but ever newly christened sister of debility and hysteria, successively appearing as "spinal irritation," "spinal" or "cerebral anæmia," or "nervous prostration," but now more familiarly known as neurasthenia, is only too familiar. In these wards, although the *clientele* of the hospital does not lie chiefly among the classes where this affection is most commonly developed, it is by no means rare. Here, as well as in private, it is far from being the exclusive property of the neurologist, for it has frequently claimed the attention of the surgeon, for some affection, real or supposed, of joint or "spine," and is almost certain to have received the assiduous cares of the gynæcologist before settling down into a well-marked condition of chronic invalidism.

The description of these cases in general terms, and with a just appreciation of all the varied symptoms which may attend them is unnecessary. The pains in back and head; the inability to read, to think, to act, and sometimes even to exist without increasing them; the general feeling of utter weariness, of loss of interest in all human affairs; the feeble and irregular circulation, leading to coldness, objective and subjective, of the extremities, and to many other abnormal sensations, perpetuated and magnified by an attention otherwise unoccupied, are familiar to all.

These patients are not necessarily hysterical or even "nervous," in the common acceptance of the word, but they have usually been well educated as to all the parts of their pelvic viscera which can possibly have an "itis" added to their names, are learned in pessaries, talk glibly of the "base of the brain," and know to the fraction of a milligramme just the dose of any drug, possibly the most feeble, which is required to produce an effect upon them.

The treatment of this affection is so largely moral and hygienic, depends so much upon the individuality of the patient and of her attendants, and has been the subject of so much literature, that I shall say nothing about it.

But my attention has been somewhat strongly directed to certain points in its ætiology, which have often been the subject of professional comment, but which will bear to be again discussed and insisted upon, since, in dealing with an affection, difficult and tedious in its treatment, which makes of so many who might be among the most useful members of society mere burdens to themselves and to the community, nothing can be of greater practical value than forcing upon the attention of responsible persons a realizing sense of its *avoidable* causes. These cases seem to originate under two almost diametrically opposite conditions, which may be briefly named, *underwork* and *overwork*. This apparent contradiction finds its parallel in the atrophy which may arise in cases having the appropriate diathesis, in those muscles which are most exposed to excessive exertion, or, on the other hand, in consequence of disuse or paralysis.

Invalids, who have become such because they have nothing better to do, have probably existed ever since there has been a class able to live without exertion, and willing to take advantage of the opportunity. The members of this class, who have felt no spontaneous impulse to work, and to whom external circumstances have furnished no definite object for labor of

any kind become the male valetudinarians and hypochondriacs, and furnish an important contingent to the array of female neurosthénics.

Among them we should find the "bed case" of the late Dr. Channing.

It is the second class, however, which appeals most strongly to our sympathies, while its existence robs the community of much more effective strength than the first.

For this class we may recognize modes of origin various in detail, but often coexisting or running into each other, and having this in common, that they involve not only mental occupation, but mental or nervous strain and tension, anxiety as well as work. It is not the steady road gait, be it fast or slow, as individual capabilities allow, that break down these patients, but the *racing*, either with each other or with those indefatigable antagonists, sickness and poverty.

Many groups of circumstances may furnish these conditions: household cares, nursing, friendly or professional, or, lastly, those which are the special subjects of this paper, over-schooling or over-study, either as scholar, teacher, or both.

The overwork is often a necessity. The future patient risks her nervous system in the cause of her friends or her family as distinctly and as honorably as the soldier risks his body for his country. It is for those who falter and fail in such a struggle that philanthropy most properly builds its hospitals and asylums; and for them, even if we consider them imprudent and misguided, we can feel only pity and sympathy.

But in others, breaking down under the absurd regimen of many of our schools, we have to regret the meagreness of results as well as the magnitude of the sacrifice, and share the doubts of the elder Mr. Welier in regard to matrimony.—"whether it is worth while going through so much to learn so little."

It would be difficult or impossible to show that preparation for and the practice of teaching are occupations peculiarly dangerous to nervous health. It is only under certain circumstances that they are so, but that these circumstances are of no infrequent occurrence seems a conclusion not at all difficult to draw from hospitals or from private practice.

The fact that out of nineteen patients in the Adams Nervine Asylum nine had been teachers, shows possibly only a coincidence, or, more probably, that teaching is the one vocation to which more educated women who are obliged to earn their own living resort than to any other.

That out of ten of these patients, whose cases may fairly be named "nervous exhaustion," seven had been teachers, certainly shows that teaching is *one* way of breaking down nervous strength. Illustration, if not proof, may be found in the subjoined histories, abridged chiefly from the records of this hospital or of the institution just named.

CASE I. Miss A., aged 34. A woman of rather large frame, and at present tolerably well nourished, has been an invalid for fourteen years. At seventeen she had typhoid fever, and has not been well since.

Two years later, when teaching, she noticed a gradually increasing sense of lassitude, lack of endurance, loss of appetite, pain in forehead, back, and neck, distress in the cardiac region, and vomiting.

She is subject to attacks of greater severity, during which she is confined to bed for weeks. At these

times there is a feeling of impending death; anguish, followed by extreme prostration.

She has improved somewhat within the last two years.

CASE II. Miss B., aged about 32, now tolerably plump, and of good color. At ten years old she was taken out of school sick; at fourteen had "slow fever"; at fifteen sent home from school, sick.

After this tried rising at four A. M. Studied sixteen hours a day, taking two hours for meals and six for sleep. She kept this up for two weeks, and broke down. Studied again, and became sick and delirious. About 1870, from too long walks, her legs gave out, and she could not walk.

Tried twice to teach. The last time she used to put her feet in mustard-water at night (to relieve cerebral congestion?) so that she might be able to go out the next day. Another sickness followed, with headache and "pressure."

Her present illness dates from 1874, from a short but severe mental strain (an essay on a somewhat difficult subject in one of the public schools in Boston), and is characterized chiefly by general weakness, and especially by inability to "use her head." She is improving slowly.

CASE III. Miss C. worked very hard as a teacher in a western city. Previously well, she broke down six years ago, was obliged to give up her profession, and has not been well since.

She has no symptoms but loss of strength.

CASE IV. Miss D., aged 23. A frail child, very ambitious and nervous. She studied until three years ago, when she graduated at a well-known female seminary.

She was troubled about her entrance examination, and soon after entering school her back began to trouble her. Has had attacks of dizziness, and two years ago had what was possibly a slight sunstroke.

She was, when last seen, a nervous invalid of the most pronounced type, emaciated, lying in a cold room with scanty clothing, and taking, to all appearances, so little food that it was difficult to understand how a normal body temperature could be approximated. She suffered intense pain in her right hand and arm.

Of her recent history I am ignorant.

CASE V. Miss E. suffered from dyspepsia, depression of spirits, emaciation, and "excruciating" pains.

Her physician says, "She was such a wreck that when she went to Philadelphia (to be under the care of Dr. Mitchell) I was glad to hear that she reached the place alive." She begins her own story: "1872, September. Teaching in N——, with some headache. Cold house and poor food." After this, though greatly improved, there were some years of ups and downs, with sleeplessness, nervousness, indigestion, and "local" (that is, supposed uterine) pains.

Is now fat, and very much better.

CASE VI. Miss F., of a nervous temperament, worked with great energy at teaching, and the care of her mother and sister (the previous case), until she gradually broke down and took to her bed.

While in the City Hospital she was in a condition of utter despondency, usually more or less concealed, but occasionally expressed in extravagant language, homesickness of the most extreme kind leading her to display a degree of cunning altogether foreign to her nature. Her notions as to her dyspeptic condition and the anatomical condition of her stomach amounted

almost to insane delusions, and rendered the task of properly feeding her a very difficult one.

She also is very greatly improved.

CASE VII. Miss G. In this case the breakdown, the headaches brought on by the least attempt at the mildest possible forms of so-called mental labor, the general debility, the torpidity of pathological as well as physiological processes, are, perhaps, less distinctly the consequence of school life than in some of the others, though diligent application, both as scholar and teacher, was supplemented by a tedious employment in the non-ventilated library of an eminent writer on hygiene. She improves slowly.

CASE VIII. Miss H., aged 32. There is a slight history of nervous tendency in the family of this patient. She was well until seventeen years of age, when there came three years of overwork. At twenty she was in Europe for four years of hard study. She used to go to bed at two, and get up at six for lessons. She then experienced flashes of light before her eyes, and a feeling of pressure upon the temples. A slight attack of diphtheria aggravated these symptoms.

In the spring of 1874 she began teaching in a high school in this neighborhood. She then suffered from intense headaches. She was very sleepy during vacations and when unoccupied, but afterward this condition was replaced by sleeplessness.

She has now been in bed for many months; is well nourished; and lately sleeps well, with a tolerable appetite. Her symptoms are chiefly the usual pain in head and spine, general hyperæsthesia, and constipation. She improves, and, I have lately heard, walks a little.

CASES IX. to XIII. Misses I., J., K., L., and Mrs. M., are all nervous invalids; all inmates of the Adams Nervine Asylum, and have all been teachers; though the connection between their present condition and their occupation is less clear than in most of the cases just cited.

The case of one of them obtained considerable notoriety through the daily papers as a cure by prayer and the laying on of hands.

As to the pathology of these cases it is difficult to speak, except in negations or metaphors. Morbid anatomy they have none. Frequently emaciated or anæmic; often enough, at least, to justify the treatment so widely known by the name of the eminent specialist of Philadelphia, yet all these cases do not depend upon want of fat or blood as the essential condition. Fattening may improve, but does not always cure. The hypothesis of a local anæmia of brain or cord is, in the first place, unsupported by facts; and, secondly, insufficient to account for the symptoms; and we are obliged to fall back on various ostensible explanations, which, after all, amount to but little more than stating, in various verbal forms, that the nervous centres, and especially the higher ones, fail to do their duty without rapid exhaustion, and give rise to more or less abnormal manifestations.

We have not as yet found either larger or smaller ganglion cells in these cases than in the normal brain; no fatty or calcareous or hyaloid degeneration; no interstitial hyperplasia has been shown. It is far from demonstrated that they are not supplied with blood as abundantly and of as good quality as is to be found in many other diseases attended with a much greater degree of organic mischief, and yet entirely free from the strange set of phenomena here noticed. But notwithstanding all this these cells will not work.

Why? I doubt if we know until the laws of nervous force are much better understood than now; until, for instance, we can explain exactly in what consists the so-called "inhibitory" action; or can tell why one degree of irritation should simply cause increased action and a higher degree absolute paralysis.

This latter doctrine of stimulation and over-stimulation, so necessary, so clearly, and so demonstrably illustrated in the physiology of nerves whose functions are made obvious by muscular contractions, as the vaso-motor or motor nerves, has undoubtedly much to do in the explanation of cerebral-spinal debility. But an analogy does not give us a satisfactory answer to our questions.

The various agencies which may make so long-continued and serious a draft upon the productiveness of the nerve-cells that the supply of force is not for years again equal to the demand, or the kinds and amount of shock or strain which permanently paralyze them, have been already mentioned. The one which I have made the subject of this paper is among the most important, not only because one of the most frequent, but because avoidable; and because so much of our school system seems almost expressly designed for the manufacture of nervous invalids from material only too easily worked, and too abundant, in the form both of scholars and teachers.

Offensive though it may be to those who consider any intimation of mental or moral difference in the sexes as almost an insult to their own, the fact remains that the cases of nervous debility from this cause are very much more common in women than in men; and although, of course, the much larger number of women employed as teachers accounts for a portion of this difference in those whose breakdown comes a few years later, and is correspondingly more complete, yet the scope of education for the two sexes is now so nearly the same, and certainly no more exacting for one than the other, that we must suppose, for the earlier cases at least, either a relatively less power of resistance in the female, or a very different way of attacking the task.

I think we may find here a sort of paradox, and say that the breakdown of many women is owing to their superior powers of endurance; that is, of endurance for a time, under nervous excitement.

A boy of moderate ability, even with some ambition, and anxious to do well, is apt soon to realize his true position, and content himself with such moderate scholastic honors as are easily within his reach, and to get his sleep and recreation even at the expense of class standing,—a philosophical procedure, in carrying out which, however, he has this immense advantage over his sister, that he realizes at a very early age that many avenues are open for him toward success in life, and that in only a few of these is high scholarship of any advantage whatever, and in some, perhaps, even a drawback.

What we are to name that impelling force which drives on the girl to pursue her studies, and sometimes, if trying to be prudent in matters of hygiene, her sports, with a "tireless sort of energy," is not easy to say. It seems to be a compound of conscience, ambition, and a desire to please, in varying proportions with a peculiar feminine sort of obstinacy which, in a better cause, and reasonably directed, would demand admiration rather than pity.

The more sensibly conducted the studies, and the

better the physical training, the better are the results. The studies of the school girl may lead to those of the woman learning a profession, or pass into those of the "higher education." In other cases all further trouble is averted by the readiness with which all study is given up forever when the "education is completed."

The exhaustion will probably come sooner or later, but is not so likely at this stage to be permanent or complete.

For the full development of a case of neurasthenia something more than even a first-class female conscience is usually necessary; though this, if hypersensitized, may do the whole work. An outside pressure is required, and this may come from domestic or friendly cares; but the most efficient form in which it can be applied is that to which the teacher may be subjected, and under such a pressure a very large proportion of the overworked and ambitious scholars come.

Regular and legitimate mental labor is, like any other reasonable exercise, conducive to the well-being of the organ employed, and there is no reason why teaching should not, like other intellectual occupations, conduce to health and longevity. So it would often appear to do, for, in the first place, education has not always been, and is not always, conducted with the intensity demanded in our public schools. It may be, and sometimes is, really education,—a drawing out and developing, and not a cramming in. Or, secondly, the cares of the teacher may fall upon those happy dispositions which shed their troubles as a duck does the water, and remain indifferent to expected praise or blame.

Those, however, who control these matters on a large scale apparently forget that the quantity of information which the scholar's mind can usefully hold does not depend upon the maximum amount which the teacher is capable of stowing away in a given time, but upon its original capacity.

Into a number of knowledge-boxes, all of varying size and shape, a certain, and usually large, amount of information on a dozen different subjects has to be packed. Fortunately many are leaky. The knowledge runs out nearly as fast as it runs in, but the box remains whole.

Those which cannot get rid of it so easily are the ones which are cracked.

A girl preparing to teach, or, what is perhaps even a more unfortunate case, an old-fashioned teacher being remodeled, has to learn (!) half-a-dozen arts and sciences, to a limited department of any one of which a man devotes his lifetime.

The highly important question of the relation of female education to the physical peculiarities of the sex I have purposely avoided, although by no means unconnected with my subject.

I cannot forbear, however, quoting the following passage from an eminent authority, as showing that nerve centres alone do not bear the whole strain of high-pressure education:—

"On looking over my case-books I have been surprised to find the same statements repeated again and again, namely, that the sufferer had taken the highest honors at some noted female school or college, and gave no tangible signs of weakness until reaction took place after her return home."—"I hold that it is not practicable to educate a girl by the same method found

best fitted for a boy without serious consequences afterward."<sup>1</sup>

If, as I believe, our system of education is responsible both by omission and commission, for an important proportion of the chronic female invalids, the remedies are easily to be seen, even if not so easily obtained. They are; moderate and carefully regulated bodily exercise; less studying for prizes and more for knowledge; lesser demands upon teachers; fewer scholars; and, perhaps most important of all, lucrative employments beside teaching which shall be considered respectable for women.

## RECENT PROGRESS IN ANATOMY.

BY THOMAS DWIGHT, M. D.

THE proceedings of the Anatomical Section of the International Medical Congress held last summer, in London, contain a great deal that is valuable which we should wish to present to the readers of the JOURNAL. Unfortunately, however, we have not yet had access to the volume in which they are published, and though some of the papers have appeared elsewhere we know nothing more of others than can be gathered from abstracts far too short to be satisfactory. We miss, also, the instruction that would be gained from full reports of the discussions that followed the various papers. For instance, Professor Struthers read a paper on the supracondyloid process of the humerus, which appears to have elicited a very interesting discussion, but we have met with no account of the paper sufficiently exact to be worth reproducing.

## THE CAUSES OF THE FORM OF BONES.

Professor Lesshaft, of St. Petersburg, read a paper on this subject which deserves a fuller report than the abstract allows us to give of it. He made a series of experiments with Dr. Popoff which led him to the following conclusions:—

"(1.) The development of every part of a bone is in relation with the activity of its neighboring muscles. When activity is great the bones are strong; but when feeble, the bones become thinner, weaker, more slender, and relatively longer.

"(2.) The form of the bones varies when the resistance of the neighboring organs is lessened; in such cases the bone grows thicker towards the part which offers least resistance.

"(3.) The form of the bones depends upon the greater or lesser amount of pressure by exterior organs; development is diminished whenever outside pressure increases; and if pressure be only directed on one side the bone accordingly alters its shape and curves.

"(4.) The aponeuroses, which are under direct muscular influence, also exert a lateral pressure, which is lessened by section of the aponeurosis. This has the same effect on the form of the bones as removal of portions of the muscles themselves.

"(5.) The bones are active organs as far as their structure is concerned, serving as a basis and support to adjacent organs; but they are passive in relation to those organs. This relation depends mainly on the sources of their common nutrition, which increases as

<sup>1</sup> Emmett, Principles and Practice of Gynecology, 1879.

the pressure of adjacent parts diminishes, and as the action of neighboring muscles is developed."

#### THE POSITION OF THE STOMACH.

Any one who for the first time consults any English anatomical text-book will conclude from the figure of the stomach that meets his eye that this organ lies in the main transversely in the abdomen with the lesser curvature above and the greater below. Indeed, this is essentially the description of its position that is given in the eighth edition of Quain. Yet it is nearly twenty years since Luschka declared that the lesser curvature was vertical in the greater part of its extent, and as far as the writer is aware, though this view has been very generally ignored, especially by English anatomists, it has never till last summer been contradicted.

Professor Lesshaft read another paper before the Section of Anatomy at the International Medical Congress, On the Situation of the Stomach based on the study of 1200 subjects. His views on the position of the stomach are those of Luschka, but in addition, he gives theories as to the development of the peculiar shape of the organ. It is perhaps best to quote from the abstract of Lesshaft's paper:—

"(1.) The stomach is placed vertically in the abdominal cavity, so that its fundus touches the diaphragm; its pyloric extremity is to the right; the lesser curvature is also to the right, with the upper part slightly inclined downwards; the great curvature is to the left.

"(2.) The stomach is in the left hypochondriac region, and exclusively in the gastric region proper. The pylorus corresponds to a line drawn vertically downwards from the right border of the sternum.

"(3.) The stomach, in consequence of its intimate relation with the neighboring organs, cannot dilate by the displacement of one of its parts (the great curvature, for example); it can only become equally distended in all its parts in proportion to the accumulation of its contents."

We must admit that this proposition seems to us open to question, at least when the stomach is only partly full; perhaps, however, Lesshaft refers to its distention beyond its perfectly normal size.

"(4.) The muscular coat of the stomach is made up of longitudinal, transverse, and oblique fibres. The longitudinal fibres are directed from the fundus towards the pylorus, and the circular fibres become thicker as they approach the latter; they are especially noticeable in the neighborhood of the pylorus, where they form a true sphincter. It follows that the food-stuffs move in relation with the walls toward the pylorus, and this permits of a very advantageous admixture with the gastric juice. Then the contents return through the middle of the stomach towards the fundus, as there is here less resistance on account of its larger size.

"(5.) The peripheral movement of the contents of the stomach from the fundus towards the pylorus, and the central movement in the opposite direction, can only take place in consequence of the special shape of the stomach. The absence of the fundus in the newborn child and its after development can be accounted for by taking into consideration the influence of the returning middle column of digesting food upon the walls of the stomach. With regard to the lengthened

stay of the food in the stomach, and the slowness of its after passage through the small intestines, it can be explained partly by the shape of the stomach, and partly by the disposition of its muscular fibres. . . .

"(7.) A large stomach, accustomed to a generous food-supply, always retains its vertical position, and it is only the pyloric extremity which is directed upwards and to the right."

From the very meagre report of the discussion that has reached us we learn that Mr. Holden was unable to agree with Professor Lesshaft, that Professor Allen Thompson thought that the stomach was situated almost transversely, and that several other anatomists were of the same opinion. This divergence is most surprising, as the matter, one would think, could be easily settled. The difficulty, perhaps, is due to the fact that the edge which forms the greater curvature describes in its course from the cardia to the pylorus about three quarters of a closed curve, and that, looked at under varying circumstances, the long axis of the stomach may appear sometimes more or less vertical, sometimes more or less horizontal. The two following points, however, establish to our mind the correctness of Luschka's and Lesshaft's views: the greater end-de-sac points upward and the lesser curvature is in the main vertical.

#### THE POSITION OF THE OVARIES.

Professor His<sup>2</sup> contributes a new paper to the rapidly increasing literature of this vexed question. He holds, in the main, to his theory that they lie with one side resting against the wall of the true pelvis and that the long axis is vertical, a view which appears to have gained ground since its publication in 1878. He has since very carefully examined the position of these organs in three suicides aged respectively fifteen, sixteen, and twenty years, and finds, as indeed might have been expected, that if the fundus of the uterus is on one side of the median line the ovary of the opposite side is drawn downwards and into an oblique position. It is evident that after this position has once been reached the weight of the viscera will tend to press the ovary more and more from its normal position. Summing up the results of all his observations His gives the following as the normal or primary position of the ovary in the young adult female. The organ lies with its side against the wall of the pelvis, the free border being behind and the attached end below. The Fallopian tube is looped over the ovary, rising along the front and falling behind it. The fimbriae then turn back and spread over the summit of the ovary.

It should be remembered that with advancing years and after repeated pregnancies the situation of the ovary must become more and more uncertain.

#### RESEARCHES ON THE VEINS.

Professor Friedrich,<sup>3</sup> of Heidelberg, who is engaged on an elaborate paper on a series of clinical questions which have reference to normal and pathological murmurs in veins, has published a preliminary paper on the occurrence of valves in the femoral and some of the abdominal veins. He has examined 185 subjects, or 370 extremities. He found that in the upper five cms. of the femoral vein valves were present on both

<sup>2</sup> Archiv für Anatomie und Entwicklungsgeschichte, 1881, heft 4 and 5.

<sup>3</sup> Morphologisches Jahrbuch, Band vii., heft 2, 1881.

<sup>1</sup> We regret that we have seen only an abstract of this paper.

sides in 137 subjects, and in 26 on one side only; in other words, in 300 of the 370 legs. From these, however, we must subtract 28 legs in which the veins were insufficient, either from want of development or from pathological processes. This leaves 272 (74 per cent.) extremities in which there were good valves in the femoral vein within five cms. of Poupard's ligament. In no single case were valves wanting at the opening of the profunda into the femoral vein, and only twice were they rudimentary or obviously inadequate. It is generally taught that no valves are found in the continuation of the femoral vein inside of the abdomen, and the most valuable point in the paper before us is the refutation of this axiom as a universal rule. Friedreich found valves in the external iliac veins of both sides of 41 subjects, and on side in 48. That is to say, in more than 35 per cent. of the extremities. They were found more frequently in the upper than in the lower half of the vein. It is especially noteworthy that valves occurred in the external iliac vein in but a few of the cases in which they were wanting in the upper part of the femoral, and thus their presence cannot be explained by saying that they are merely the femoral valves somewhat displaced. More than one third, however, of these valves in the external iliac veins were found insufficient.

Valves were found in the common iliac vein five times, two of them being symmetrically placed in the same subject. The author has never found any in the inferior cava.

Dr. E. Henry Fenwick read a paper on the subcutaneous veins of the trunk before the Anatomical Section of the International Congress. We regret that we have seen only a brief abstract, from which we quote. "His method of investigation was first to dissect bit by bit the venous branches in an uninjected subject, and make an accurate drawing of them. The veins were next injected in another subject and dissected, the position and direction of the valves being ascertained. After treating several subjects in this way, it was found, among other results, that the vein-trunks proceed from the venous net-works on the anterior surface to the femoral, axillary, and subclavian veins, and that Braune's fascial pump-like action, which these large spaces exert upon them, is materially assisted by valves appropriately directed and placed at the mouths of these vein-trunks. The long vein-trunks which connect the femoral with the axillary vein of either side have, at and toward their mouths, powerful valves so directed as to prevent the passage of blood from the extremities into the abdominal and thoracic wall systems. The superficial are connected with the deep epigastric veins, and are possessed of valves allowing the blood to pass from the former to the latter, but opposing its return. The deep epigastric with the internal mammary vein forms a system similar to that found in the superficial epigastric vein. The intercostal veins connecting the azygos with the internal mammary vein have precisely the same valvular arrangement."

There may not be very much really new in Dr. Fenwick's paper (of which, by the way, we have not given the full abstract), but it deserves mention as an instance of good work in a neglected field. It is evident that knowledge of practical value can be gained from a study of the course of the venous blood in different regions, and it is to be hoped that similar investigations will be continued.

#### ARRANGEMENT AND VARIATIONS OF THE CEREBRAL SINUSES.

Mr. J. F. Knott<sup>1</sup> has studied the arrangement and the variations of the cerebral sinuses, and publishes his results in a paper of considerable value. A work of this kind cannot be satisfactorily condensed into small compass, so we will notice a few points only. Mr. Knott finds that the torcular Herophili usually inclines to one side. It was mesial only eight times in forty-four cases; it inclined to the right twenty-seven times, and to the left nine times. He states that the right lateral sinus is usually the larger, but we are surprised that he describes it as being only four times the direct continuation of the superior longitudinal. Possibly he means that these were the only cases in which the latter sinus turned wholly to that side without any communication with the other, but he seems to overlook the fact (as we believe it to be) that though this sinus communicates at the torcular with both lateral ones, yet only one can, as a rule, be called its continuation. He found the superior longitudinal sinus precisely in the middle of nine calvaria out of thirty-eight. He found it bifurcating in two cases a little behind the coronal suture, the two branches renniting an inch and a half further back. For reasons that may be apparent presently we will quote from Mr. Knott's description of the straight sinus: "This vessel, which is formed by the confluence of the inferior longitudinal sinus with the vena magna Galeni, passes backward and downward to join the torcular Herophili, or (what oftener happens) it may turn a little to one side to pass into one of the lateral sinuses. 'It opens, for the most part, by an oval mouth, formed by strong pillars of fibres, into the left lateral sinus, rather than directly in the middle of the communication of the three great sinuses.' Such is the description of its termination given by Sir Charles Bell, and it is entirely in accordance with my experience. In twenty-six cases out of forty-four it opened into the left lateral sinus, the terminal orifice answering exactly to the description above quoted. In six cases the deviation was to the right, while it ended medially in twelve instances."

We are surprised that Mr. Knott did not make a very evident deduction from such accurate observations, which has, indeed, been made by Rüdinger, but has not received the attention it deserves, to wit, that normally the superior longitudinal sinus turns to one side (generally the right) and the straight one to the other. They communicate, as a rule, at the torcular, but still the latter is not usually formed by a splitting of the superior longitudinal in the way commonly supposed.

—The annual banquet of the Union of the Titans, the prime requisite for membership in which is a stature of at least six feet and two inches, was recently held at Delmonico's, New York city, and the medical profession was represented by quite a number of its "big men" on that festive occasion. Among the toasts of the evening were "Prometheus," which was responded to by Dr. William A. Hammond, and "Apollo as an Æstheté," to which Dr. A. E. MacDonald responded.

<sup>1</sup> Journal of Anatomy and Physiology, October, 1881.

## Hospital Practice and Clinical Memoranda.

### A CASE OF OPTICO-CILIARY NEUROTOMY. FAILURE. ENUCLEATION.

BY DR. EDMOND LANDOLT, PARIS.

TRANSLATED BY HASKET DERBY, M. D.

[THE question as to whether the division of the optic nerve might not prevent an injured eye from affecting its fellow sympathetically, and thus render unnecessary its removal, has been seriously entertained by eminent surgeons. The weight of evidence, however, is gradually accumulating against the belief that enucleation may thus be superseded. The following case, recently published by my friend, Dr. Landolt, goes to confirm this statement. H. D.]

Jacquin, sixty-seven years old, came to my clinique April 15, 1880. His left eye had long been lost, and he now requested an examination of the right, inasmuch as it was the seat of pain, and its vision diminishing. I found: left, absolute amaurosis; right, myopia 20 dioptries, acuteness of vision 0.05.

**History.** Twenty-two years ago the patient was profoundly affected by the death of his brother, who expired in his arms. He soon suffered from hemorrhages from both mouth and nose, and from a stomachic derangement that lasted five years. During all this time he could take no meal that was not immediately followed by vomiting. It was about then that, returning from a visit to one of his relations, he had a fall on the stairs of the Paris railway station. On being raised up he declared that he could not see. "They have put out the gas," he said. Severe pain came on in the left eye; for six weeks he was attended by an oculist, without any return of vision in either eye. Another oculist, who was consulted, stated the condition to be: "Left, numerous hemorrhages, separation of the retina; right, impending separation." For three weeks he had derivative treatment, cupping, etc. Vision returned in the right eye. Great care was taken, the patient remained in a dark room, and refrained from work. For a long time, some fifteen years, his condition was tolerably satisfactory. He used his right eye, but never saw again with his left. Suddenly a fresh hemorrhage occurred in the right eye, while he was at work; derivative treatment was again used, and was once more followed by a return of vision. There followed now another cessation of disturbance until 1880, the time of the patient's coming to me. This time the left eye became the seat of exquisite pain, the vision of the right fell to 0.05, sympathetic irritation became evident. In the left eye there was deep circum-corneal injection, the aqueous was turbid, the iris discolored, and there were numerous synechiae. No reflex could be had from the fundus, the tension was increased, and the eye tender on pressure, especially in the ciliary region. In the right eye there was found an extensive inflammatory choroidal atrophy, a posterior staphyloma, circular in shape, and floating opacities of the vitreous. Visual field contracted.

I proposed the enucleation of the right eye, but the patient hesitated at this, and finally refused. Having probably heard something about neurotomy, he finally requested this operation, and declared he would go no farther.

This I performed, under chloroform, April 20th. I

passed a thread through the external rectus, and divided the muscle in front of the thread, then, seizing the stump with forceps, I introduced a pair of curved scissors, and divided the optic nerve. I then revolved the eyeball until its posterior pole presented at the palpebral aperture, excised the portion of the optic nerve still adherent to the globe, and freely incised the tissues round about the nerve. Bleeding was free; I replaced the eye, and reunited the muscle to its tendon. A compressive bandage was applied. There was but little inflammatory reaction, and sensitiveness disappeared.

April 24th the suture came away, pain ceased, and the corneal sensitiveness returned.

April 29th. Corneal haziness, ciliary pain.

May 10th. Corneal ulceration.

May 28th. I again measured the right field of vision, and found it still decidedly contracted (85° out, 45° in).

June 18th. Tension diminished, the keratitis has disappeared. Sensitiveness at the corneal centre, but not yet at its periphery.

On the 10th of June I again took the visual field, and found it even more contracted, extending but 60° out, and 42° in. The acuteness of vision kept pace with this diminution. The operation had evidently failed to arrest the progress of the disease, and I renewed my original proposal to remove the left eye.

The patient did not return till October 10th. The left cornea had become anæsthetic over its entire surface, the eye was phthisical. Operation again proposed, and again refused. January 31, 1881, I found the myopia to be 20 dioptries, the patient counting fingers at 2.5 metres. Posterior synechia, aqueous cloudy, iris yellowish. The eye was excessively sensitive at its lower part, beneath the cornea. A corresponding point of sensitiveness, slightly to the inside of this, was found in the left eye. I strongly represented the necessity of enucleation, telling the patient his sight would steadily diminish until total blindness ensued. The contraction of the visual field remained the same.

February 1st he returned, his vision was still falling off, the optic nerve was much congested.

March 2d. There had been for several days pain in the right side of the head; fingers could be counted in two metres. The patient, however, was no longer able to go about alone, and was hence made to realize the more forcibly the failure of his sight. There was the same exaggerated local sensitiveness in each eye. The right eye looked dull, pupil contracted, anterior chamber cloudy. Enucleation was at last agreed to, and performed the same day. Under chloroform it was done without difficulty. The patient slept the first night, pain having completely vanished. The right eye already looked better, although the pupil failed to respond to atropine. The patient left the clinique March 7th, finding his way about much better than before.

Optico-ciliary neurotomy has done good, a fact on which its friends have not failed to insist, but, as is the case with every new operation, it has been the old story over again. The inventor gets nothing but good results, his followers publish no others, a false sense of shame causing them, perhaps, to hold their peace, when their efforts have not been crowned with success. Such are the difficulties that beset a proper estimation of the value of a new operation. The case I here publish seems to me to afford, in itself alone, ample ground for the utter rejection of optico-ciliary neurotomy where sympathetic ophthalmia is dreaded. And I



hope my colleagues will publish broadcast their failures in order that light may be shed on the danger incurred by a patient who squanders precious time on an operation, the final result of which is not at once felt, instead of submitting to enucleation.

# REPORT ON MALARIAL FEVER IN THE NEIGHBORHOOD OF PROVIDENCE, R. I.<sup>1</sup>

BY HOMER BATCHELDER, M. D.

On closing my first communication on the subject of Malarial Fever I had supposed that the disease had had its run and I should have no further occasion to speak of or treat any more cases of malarial disease. The number of attacks through the latter half of October had dwindled down to five or six cases, and none during the last week; I felt well assured that I should not be called upon to treat new cases. But on the fifth day of November I was summoned to a young man's bedside, who appeared to be very sick. After learning the previous history of the patient, with a careful examination and analysis of all the symptoms, I was quite forcibly impressed with the fact that this was still a case evidently suffering from the effects of malarial poison, yet differing in many essential features from the *intermittent type* of fever that I had been called upon to attend and treat during the preceding four months.

**CASE I.** This young man was nineteen years of age; had grown to manhood very rapidly; was robust and healthy. He had during his childhood and youth scarlatina, measles, and whooping-cough. When I first saw him his pulse did not beat over sixty-five times a minute, and was small and irregular. His tongue was not really coated, but exhibited a sort of erectile appearance of the villous coat, representing in color a bluish gray,—not very unlike that of the serous membranes lining the cavities.

He had been slightly ailing for two days or more, though I could not learn that he had had any real ague chill; but in the morning previous to my visit at four p. m. he had experienced a passing sensation of chilliness, with alternate flashes of heat. The most prominent symptom, as well as the one most urgent, was an almost intolerable oppression at and through the gastro-hepatic region. The slight chilly sensation was in no sense like the *ague chills* which are premonitory, almost invariably, of intermittent malarial fever; while here, as in true ague, his chilliness was subjective, as his temperature already indicated 2° F. above the natural standard. He now began to suffer quite severely from headache. His stomach appeared to be hyperæmic and his bowels distended with gas. Urine about the color of strong coffee. I diagnosed the case as one of malaria, but varying a good deal in its general developments from those I had previously attended.

After prescribing some palliative treatment I left, with the understanding that I would see him again in six or eight hours. At the end of eight hours I hastened to his bedside again. I now found his pulse much accelerated, 115 strokes the minute, not throbbing, irregular, but rather compressible. I found that the hot stage had steadily increased from the time of my first call, and for three or four hours he had been very much nauseated, and had vomited considerably with

little if any relief. I found him also with a flushed countenance and suffused eyes; and now he complained of a raging headache, with a distressingly painful sensation through his limbs, loins, and back. The surface of the body was much redder; he was constantly tossing and turning in bed.

These symptoms gradually waxed stronger during a period of nine hours, at which time they began to abate, the heat of the skin to subside, and the pain of the head was partially relieved. The stomach became more quiescent, and the patient found comparative rest.

Although some of the features of this long train of symptoms seemed very much to resemble those I had often witnessed in intermittent paroxysmal fever, yet the differences were sufficiently marked.

Three days later I was called to visit another case which exhibited the same phenomena, only the symptoms were less severe than those witnessed in the first case. At this time I began to believe that the symptoms as observed in these two cases in most of their features represented remittent malarial fever. The disease has held this remittent type, and continued through the months of November and December with four or five mild cases during the first half of January of the current year.

Since the thirty-first day of October I have attended forty-six cases of remittent fever, twenty-three in November, eighteen in December, and five in this month, January.

I have been thus particular in narrating the general symptoms as accurately observed in the first case, because the symptoms as described in that case predominated with slight modifications in every subsequent case.

There was no fatal case, or rather no one died here in this community from the effects of remittent fever. But there was a man, I should judge between fifty and sixty years of age, who had been a resident of the place three years or more, but had no relations here, a shoemaker by trade, who began to show signs of malarial disease early in October. The disease assumed a chronic form; his case grew more grave, and I advised him to go to his friends in Mendon, Mass. He died just three weeks after he left, but I know nothing of his history after he left Arlington.

The ages of the forty-six cases of remittent fever were about as stated below:—

|   |    |
|---|----|
| The number under ten years . . . . .                  | 13 |
| The number between ten and twenty years . . . . .     | 7  |
| The number between twenty and thirty years . . . . .  | 8  |
| The number between thirty and forty years . . . . .   | 6  |
| The number between forty and fifty years . . . . .    | 4  |
| The number between fifty and sixty years . . . . .    | 4  |
| The number between sixty and seventy years . . . . .  | 3  |
| The number between seventy and eighty years . . . . . | 1  |
| Making a total of . . . . .                           | 46 |

A larger proportion of the above cases suffered from the fever in a protracted form than of those who had the intermittent type. Neither did the above patients rally from its prostrating results and vital constitutional disturbances in the same period of time as those mentioned in my former paper, nor was their restoration so complete.

**Enlarged Spleen.**—There were five cases in which the spleen became greatly enlarged as a direct result from intermittent malarial fever; and three cases after severe attacks of remittent fever. But they were all

<sup>1</sup> Continued from page 538.

cases where the disease had in the first stages failed to respond to the administration of quinine, the symptoms continuing persistent, while finally the disease in some respects changed its more general features and lapsed into a protracted secondary fever. These cases will be brought to the notice of the reader when the subject of treatment is discussed.

I am more or less convinced that where malarial disease prevails epidemically, and is at the time the primarily prevailing disease, no other of the zymotic diseases will find a foothold in the family or neighborhood where it prevails to any extent. But, on the other hand, where any of the zymotic diseases are prevailing in advance it makes no difference with malaria; other diseases form no barrier to its insidious occupancy.

These conclusions I first formed in the earlier part of the late War of the Rebellion, and they were afterwards strengthened by my own observations concerning the working of the disease among our soldiers while they sojourned in the South. Those who contracted malarial disease primarily very seldom suffered much from dysentery or diarrhoea, and scarcely ever from typhoid fever as a secondary complication. But neither typhoid fever, diarrhoea, or dysentery exhibited the slightest prophylactic influence in preventing an attack of malaria.

During the summer and autumn months of 1881 intermittent and remittent fever was the only disease prevailing to any extent throughout the circle of my practice. There has been no genuine typhoid fever, no dysentery, a few cases of cholera infantum, and perhaps five or six cases of sporadic but mild scarlatina. But none of these patients were of the families who suffered with malaria.

The territory wherein malaria in its different forms has mostly prevailed in my neighborhood seems to be confined within the limits of an oblong circle, of which the greatest diameter would not exceed two miles and the shortest not over one mile and a half. I do not intend to be understood as saying that there did not occur occasionally a scattering case outside of this imaginary circle. I attended five or six patients outside, three or four of whom resided three miles and a half away; but they had till within two or three months resided within the circle. I have also learned that other physicians in and out of the city of Providence attended some cases which were not within the territory where it generally prevailed. About one third of the northeastern part of this circle is situated in the southwest part of the city limits, while the remaining two thirds is that portion of the town of Cranston contiguous to the other third on the city line. The population is about four thousand, and the number of persons who have had an attack of malaria is not much less, if any, than three hundred and fifty.

The superficies of the greater portion of this location is alluvial and sandy, resting on a substratum of dark aluminous soil as a base, commingled with a sort of chip stone, forming a pan or bottom stratum, quite impervious to water.

There are and have been for many years within the eastern half of this malarial territory four ponds. The larger pond of the four is the one that is known by its Indian name as "Marshpang." It has a sandy or pebbly bottom. The shores are bold, and there are no marshy flats or shoals, no jungle or other obnoxious growths around it. It is well known to be one of the

purest sheets of water in the State, and every outward fact most certainly goes to disprove the theory advanced by some that this pond has been one of the probable sources of malaria.

Within a half mile west and north there are three other small ponds. These ponds have undergone no material change during the lifetime of any person now living. There is no jungle, and they are mostly surrounded by a marginal growth of thrifty wood; and during the summer months the atmosphere is made delightful by the fragrance from the abundant growth of the white pond-lily.

There is one other possible cause, which some persons have assigned, and they are still persistent in their belief that from this source sprang much, if not all, of the miasm that has infected this community with malarial fever.

There have been carted from the city of Providence, by those licensed to do so, about two hundred tubs, as a daily average, of twenty-five gallons each, of refuse collected from privies and cesspools, together with other noxious deposits, through Cranston Street to a point just outside the city line and emptied, either in heaps or broadcast upon the surface of a large proportion of the vacant or unoccupied lands located in the district in which malarial fever has been so prevalent. This business has been quite vigorously carried on for two seasons past, this very district being made a sort of depot wherein to deposit a large proportion of the foul excrementitious and noxious accumulations of the cesspools, together with other accumulated filth from the city, until the land in many localities became so saturated that the foul odor exhaled from the surface in some conditions of the atmosphere was intolerable. It is but just to state that this work was, on complaint, suppressed some time during the fall of 1881. Now that diphtheria, typhoid fever, dysentery, and perhaps some other zymotic diseases, may derive their origin from sources of this kind there remains scarcely a doubt. But whether the miasm which evidently results from these noxious combinations after exposure to atmospheric influences is identical with that which begets "genuine malarial fever" there seems to exist well-authenticated doubts.

I will allude briefly to one other cause which some of the most eminent writers upon the subject have classed with the more legitimate and fruitful sources of genuine malarial fever. "Malaria is produced or generated in hard rocks, such as granite and trap, in a disintegrating state, which are highly absorbent of water and often become permeated by a fungus."

There is within a half a mile of the city line a very extensive stone quarry. The composition of the rocky formation consists of what might be termed granite-gneiss. The position of these rocky strata is not a horizontal one but semi-upright, with open fissures packed with black, heavy, earthy deposits, the whole resting on a watery base. This quarry ranges in a direction from northeast to southwest, and presents a front facing the southeast for the distance of about one hundred rods, with an elevation almost perpendicular, averaging from fifty to seventy-five feet in height. This quarry is constantly being worked by the process of blasting and otherwise, as it affords the most abundant supply of material used in the construction of cellar-walls in Providence to be found anywhere in this vicinity.

There have been more cases of malarial disease

within half a mile of this quarry than have occurred in any other section of the same size within the sphere of its operations, although the population is more sparse than in either of the other localities where the disease seemed to prevail. On the other hand, however, this quarry has now been operated for fifty or more years, and it is not known that there has ever occurred an individual case of primary malarial fever antecedent to its appearance in the autumn of 1880.

## Reports of Societies.

### PROCEEDINGS OF THE MONTHLY PHARMACEUTICAL MEETING OF THE MASSACHUSETTS COLLEGE OF PHARMACY.

B. F. DAVENPORT, M. D., REGISTRAR.

At the regular meeting of February 13, 1882, SILAS S. BRADFORD, PH. G., read a paper upon

#### COTTON-SEED OIL,

describing the methods of manufacture and bleaching. He recommended its substitution for olive oil in certain pharmaceutical preparations. The paper was fully illustrated by the exhibition of specimens of the various grades of the oil, and of the official preparations made therewith instead of with olive oil. He also mentioned the increased use of the oil in the South in domestic cooking in the stead of lard.

MR. F. A. DAVIDSON mentioned having met with specimens of the oil adulterated with lard oil.

PROFESSOR MARKOE spoke of its extensive exportation and the reimportation under the name of olive oil.

MR. W. A. CHAPIN had difficulty with lin. ammoniac made with this oil from its becoming too thick to be poured from the bottle.

WILLIAM W. BARTLET, PH. G., read a paper upon

#### PEPSIN, PREPARATIONS AND METHODS OF ASSAY.

He recommends a modification of Prof. E. Schaffer's method of manufacture as published in 1872. He macerates hog-stomachs freed from all possible mucus and muscular tissues in a very dilute solution of hydrochloric acid, this solution by a series of settlings and strainings he gets into a clear condition, and then precipitates out the pepsin by the addition of sufficient powdered table salt instead of using a saturated solution. He thus avoids the great increased volume of the fluid, which would still hold much of the pepsin in solution thereby decreasing the amount obtained. This pepsin precipitation is skimmed off, pressed, and dried and, after being mixed with a weighed amount of sugar of milk this stronger saccharated pepsin is assayed and then mixed with as much more milk sugar as is necessary to bring it to the standard strength. This strength is that ten grains dissolved in one fluid ounce of distilled water acidulated with six drops of hydrochloric acid, shall in six hours, with constant agitation at the temperature of 100° F., dissolve just 200 out of the 300 grains of finely comminuted egg albumen which has been added. This albumen is prepared by boiling an egg for five minutes, chopping finely the white, and then passing it through a No. 60 sieve. Any variation in any of these conditions of the assay would alter the result. A weighed amount of this prepared albumen is dried to a constant residue at the temperature of

212° F. and its weight taken. The albumen not dissolved by the pepsin is filtered out and its weight when dried at the temperature of 212° F. likewise ascertained. From these data is determined the weight of moist egg albumen actually dissolved by the pepsin used, and therefrom the amount of milk sugar necessary to be added to bring the preparation to the standard strength.

MR. BARTLET exhibited his assaying apparatus, which consisted of a sheet iron drying oven heated by a Bunsen gas burner to the desired temperature as shown by the thermometer inserted through its top. Running through the length of the oven is an axis kept in constant revolution by a small water-wheel driven by a jet of water. On this axis revolved a wheel arranged for carrying four two-ounce glass-stopped assay bottles. In this four specimens of the pepsin can be assayed at the same time, and their average taken as the true result. To ensure the most thorough mixing up of the contents of the assaying bottles during their revolutions, three glass marbles are enclosed in each of them. By this method of assay he is enabled to obtain great uniformity of strength, and years of use had proved it to be the most certain method known to him.

MR. BARTLET exhibited a series of pepsin preparations, both solids and liquids.

PROFESSOR MARKOE commended Mr. Bartlet's pepsin preparations and the scientific accuracy of his method of assay.

## Recent Literature.

*Frozen Sections of a Child.* By THOMAS DWIGHT, M. D., Instructor in Topographical Anatomy and Histology in Harvard University, Fellow of the American Academy of Arts and Sciences, Surgeon at the Carney Hospital. Fifteen Drawings from Nature by H. P. QUINCY, M. D. New York: William Wood & Co. 1881. Imperial octavo. 63 pages.

About fifty years ago Blandin's work on Topographical Anatomy appeared in Paris. This was translated by Doane. Together with the writings and classical drawings of Bell, this first introduced the anatomy of regions into English medicine and surgery. Velpeau's Surgery is also distinguished for the clear and concise chapters on the anatomy of the regions subsequently to be dissected in surgical operations. Fergusson's Surgery has similar anatomical descriptions. Later we have Holden's Landmarks partly exemplified on the live subject; a most valuable index of "bearings" for the adventurous mariner on the sea of surgery. All these, however, were based on *dissections*.

The modern school of *sections* had its origin in Russia and Germany during the last fifteen years. Previous topographical anatomy had dealt with surfaces disclosed by dissecting them. This differed from it in cutting through the whole thickness of a head, trunk, or limb, and exhibiting sections of all the contents on one plane surface.

The great Charts of Topographical Anatomy of Life Size by Rüdinger and Braune, although superb, were very expensive, and could only be found in public libraries. An attempt was made to popularize and cheapen them by Bellamy, who published reduced photographs of Braune's Topographical Anatomy.

Ellis's Dissections also furnished a topographical

guide to the surgeon, in a series of fine-colored lithographs, with an exact descriptive text.

The Frozen Sections of a Child, by Dr. Dwight, really marks a new era in anatomy in this country. We believe we are right in saying that this is the first original work on sections published in the United States. As such, and also because it emanates from that medical school which is seeking to imitate the higher European models in scientific medicine, it possesses a peculiar value to us.

The difference between systematic and regional anatomy is very great. The one selects and classifies one group of organs or parts, as muscles, arteries, or nerves, in dissections made for them alone. The other groups all these organs in their proper relations to each other, and dissects them in regions. The one is the anatomy of the student; the other of the practitioner. The one is the anatomy we learn; the other is the anatomy we use. The child can enumerate the rivers of a country; the traveler can alone describe their relations to the surrounding land. The medical student can run off on his fingers the branches of the carotid artery; the surgeon must hold all the relations of the carotid triangle in his mind. Equally important to the physician is a similar knowledge of the deeper regions of the body. The position of the appendix cæci and a clear insight of its relations and proximity to other parts is as vital to the diagnosis of its affections, as the histology of its coats. It is to illustrate such points as these that sections of organs, *in situ*, are so important.

The position and relations of the viscera of the body are so changeable that neither an autopsy nor a dissection can show them uniformly, and as they are in life. Frozen sections supply this want. By their aid every organ can be shown fixed and frozen in its normal position; and it can also be preserved, unchanged, in alcohol, for future study.

"In making frozen sections," says Dr. Dwight, "the body must be precisely in the position you desire, and there must be no folds or indentations in the skin. Natural cold is best, when obtainable, though artificial cold can be employed. The body should be frozen like a rock, so much so that the operator cannot tell whether he is cutting bone or muscle. Tooth is the only tissue he should be able to recognize. The sections should be made in a cold room, with a very sharp saw that has been chilled. When a section is cut, its surface is obscured by a thick, half-frozen sawdust, which is doubly thick if the freezing is not quite sufficient. It is wisest to remove this at once by pouring a little hot water over the section, and brushing it off rapidly and carefully. This is a very delicate part of the process, and its successful performance has much to do with the beauty of the specimen. It is then laid on a piece of glass, and placed at once, while still frozen, in cold alcohol. The specimens from which the plates in this volume are made are preserved at the Harvard Medical School, and are at hand to solve any doubts that may arise."

The body of a child furnishes sections of a convenient size to preserve and exhibit. The differences in the anatomy of the child and the adult are carefully noted in the descriptive text. For the examination and definition of the nerves the child's sections are peculiarly good, on account of the greater relative size and distinctness of the nerves at that age. The locality and arrangement of the *fasciæ* are with difficulty to

be made out, on account of their thinness. This is very unfortunate, as no ordinary dissections display them well, while their relations to other parts are of great importance to the surgeon.

In Plate I. the section passes through the body of the sixth cervical vertebra. The trachea is divided a little below the cricoid. The isthmus of the thyroid appears large. Usually it covers the three rings of the trachea after the first; but it is extremely variable. The left lobe of the thyroid reaches to the œsophagus, and slightly overlaps the carotid. It is easy to see how, if enlarged, it might make its way between the artery and the vein. This we have once found it to do in operating for the removal of goitre.

This plate also shows that the sheath of the carotid must not be considered as a membranous tube, but rather a collection of dense areolar tissue surrounding the artery, vein, and nerve, and running in between them.

The section in Plate II. is about two centimetres below the first one. Among other things it shows well the apices of the lungs rising above the clavicle, — they reach to the level of the head of the first rib, — or some three fourths of an inch, and sometimes more, into the neck. Here their surgical relations to the subclavian triangle are of importance.

The deeper layer of the cervical fascia is shown to be continuous with the costo-coracoid membrane. It is continued into the axilla, forming the front of the sheath of the axillary vessels. The prevertebral fascia is very dense, and sends prolongations to the roots of the lungs, to the pericardium, and to the diaphragm. They may be called suspensory ligaments, and prevent sinking of the tendinous centre of the diaphragm. This plate shows how exposed the deltoid muscle is to injury in falls, or blows on the shoulder. Wasting after injury may be due to direct injury of the muscular fibre, as well as to the circumflex nerve.

The relations of the long thoracic nerve to "angel palsy" are also shown.

The thymus gland is shown in Plates III. and IV. This organ is often found in the young adult. Rüdinger says its involution does not begin until the fifteenth year. In the neck, the deviation of the œsophagus to the left deserves special mention in Plates I. and II. An examination of sections by Pirogoff, Braune, Rüdinger, etc., shows, however, great variation. A small bursa between the humerus and the pectoralis minor is to be noted. A small space is to be seen under the scapula, bounded by the chest, the rhomboid, and the serratus, where pus is occasionally found, and as the serratus does not allow the abscess to point in the axilla it may attain a large size.

In Plate IV. the aorta arises on a level with the upper border of the cartilage of the fourth rib. The height of the arch of the aorta behind the sternum varies much. In thirty instances out of forty-eight, however, the top of the arch averaged half an inch below the top of the sternum. The relations of the pulmonary arteries, veins, and bronchi, as well as the relative positions of the aortic and tricuspid valves, are demonstrated in this section, and in Plate V.

Usually, as we are shown, a needle thrust through the fifth or sixth intercostal space, and sometimes through the fourth at the left border of the sternum, will pierce the pericardium and not the pleura.

In Plates VII., VIII., and IX. the extent to which the pleural cavities extend downwards is demonstrated.

They do not follow the diaphragm into the angle which it forms with the cartilages of the six lower ribs; the very lowest part of this space is filled with areolar tissue.

The pleura lies behind both kidneys, but covers more of the right one. It reaches the upper border of the last rib, near its beginning, but the rib soon runs away from it.

A case has been reported in which a surgeon operating in the lumbar region, to reach the kidney, mistook the eleventh rib for the twelfth, and by carrying his incision toward its lower border opened the pleura. Plate IX. shows that such an accident might take place. The spleen is shown to be wholly under the cover of the ribs. The views of the stomach (page 37) are very instructive. They confirm Luschka's statement that the fundus points upward, and that the lesser curvature is essentially vertical. Five sixths of the stomach are on the left of the median line. The pylorus is opposite the first lumbar vertebra. The pylorus is usually found between the ensiform cartilage and the right costal arch. The lesser cavity of the peritonæum and the foramen of Winslow are well displayed.

One of the most important parts of Plates IX. and X. are the views of the duodenum. The opening through the pylorus looks directly backward. Both ends of the duodenum are at the same level, and both are somewhat fixed points; one end attached to the stomach, and the other suspended by muscular fibres from the celiac axis and the crus of the diaphragm. The remainder of the duodenum is pretty freely movable; it has been compared to a horse-shoe. The positions, covering, and mobility of the kidneys are shown in Plate X. Mobility is commonly due to loss of firmness in the areolar tissue around the kidney, and especially to the loss of fat.

The muscular triangle of Petit is shown. The erector spinae is subdivided and described by a new nomenclature.

The umbilicus is opposite the level of the third and fourth lumbar vertebrae. The cæcum is on a level with the umbilicus (Plate XI.).

The relation of the peritonæum to the descending colon is shown. The extent to which it covers the gut varies extremely, and at all ages.

The lumbar fascia is described. The laws of curvature of the spine are discussed at length on page 50.

The author thinks the male sacrum is more curved than the female.

The ovaries are shown descending into the pelvis, in a manner analogous to the descent of the testes. The fundus of the bladder, the *trigone*, and the ureters are considerably discussed on page 58. The distance of the pouch of peritonæum above the anus varies with age.

The third sphincter and of modern authorities is a mere thickening of muscular fibres, of no great power. The upper part of the rectum has a true mesentery, which permits moderate displacement.

"It has been demonstrated," says Dr. Dwight, "that the whole hand can be introduced into the rectum; and also that it had much better not be, unless the information to be gained is of sufficient value to justify risking the patient's life to obtain it."

The drawings of Dr. Quincy, favorably known here as a devoted anatomical artist, are excellent. They are of life size, clear, and taken from nature. The typograph-

ical execution of the book, by William Wood & Co., merits praise also for its neatness and accuracy. In short, we find little to criticize in a work so novel here, and sincerely congratulate the author on his industry, enterprise, and research. It requires these qualities, as well as a love for pure anatomy, to make a study of such a subject and to publish it. This book will be useful to students and to practitioners alike. It is to be hoped that it may be the forerunner of other and fuller treatises on topographical anatomy as time goes on.

Nearly twenty years ago the writer of this review began, and continued for fifteen years, a short annual course of dissections and lectures on regional anatomy in the Harvard Medical School. They naturally took a more practical and surgical bearing than a purely topographical one. Convinced of his inability to devote time and acquire knowledge in this vastly growing department of anatomy, adequate to give proper instruction in it, and deterred by other and pressing duties, he resigned this pleasant task to younger hands, and the event has proved the wisdom of so doing.

D. W. C.

*The Opium Habit and Alcoholism.* By F. H. HUBBARD, M. D. New York: A. S. Barnes & Co. 1881. 259 pages.

The author states that he has sought to place in the hands of the profession a carefully arranged analysis of the subject. This he has hardly succeeded in doing, many portions of the work being indefinite if not unintelligible. For example, in Chapter XIV., on the influence exerted by opium over cancer, is the following carelessly written prescription:—

|   |                |       |        |
|---|----------------|-------|--------|
| ℞ | Iod. pot.      | ..... | 3j.    |
|   | Bi. chlo. hyd. | ..... | gr. i. |
|   | Tr. iodine     | ..... | 3v.    |
|   | Aqua           | ..... | 3v. M. |

Sig. One teaspoonful in a wineglass of water.

And after it this explanation: "This was given to assist in destroying and eliminating from the system morbid products that possess *extratic* activity when deposited, as they are then transformed into an organized, adventitious mass, having within itself the power to add to morbid accumulations, or act as a nucleus for a new growth."

The book will not repay the time required for its perusal.

*The Therapeutics of Gynecology and Obstetrics, Comprising the Medical, Dietetic, and Hygienic Treatment of Diseases of Women.* Second Edition. Edited by WILLIAM B. ATKINSON, A. M., M. D. Philadelphia: D. G. Brinton, 115 South Seventh Street. 1881.

The second edition of this work presents considerable new matter, and this keeps pace with the new and improved methods of treatment. In so catholic a work, drawing its material from all sources, there must be necessarily a good deal of chaff mixed up with the wheat. To the general practitioner, however, who cannot acquaint himself with the various methods of treatment in this specialty from the original sources, this book will prove a valuable one to consult. In the absence of any careful discussion of the value of the different measures advocated, the high standing of the authors quoted must largely determine their relative merits.

# Medical and Surgical Journal.

THURSDAY, MARCH 9, 1882.

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## THE MEMORIAL HISTORY OF BOSTON; THE CHAPTER ON MEDICINE.

THE method of writing books by a coalition of writers, to whom different subjects are assigned, under the direction of a skilled director, is a very familiar one to medical men; applied to history the method is new, and so far as the first venture of the sort is concerned most certainly successful, if we may judge from the many favorable notices of the daily press and the numerous schemes for its application to other and perhaps wider subjects. To it we are certainly indebted for a very interesting chapter on Medicine in Boston by our former City Physician and present Mayor, Dr. Greene, to which are appended some additional memoranda by Dr. Oliver Wendell Holmes. Probably no two men could have been found who would have treated the subject more intelligently and more delightfully. For a medical man to say that the chapter is one of the most interesting of the four volumes is to say little more than that it treats of a subject which appeals particularly to his taste, but he might certainly venture to say that it ranks high among the various articles for fullness of detail and picturesqueness of representation. As a single chapter in a general history it necessarily leaves unnoticed many minutiae which a careful student of medical history would expect to find in a work specially devoted to the single subject, but intended, as it is, for general readers, it contains much that is most generally interesting and in most delightful dress. The chapter abounds in quaint quotations from the older medical men which add an additional charm to the narrative and testify to the extensive researches in the library of the Historical Society by its accomplished librarian.

With Giles Firmin, Jr., and the anatomy which he did make probably all the readers of the JOURNAL are familiar and how he did read upon it very well in the opinion of the apostle Ehot; our interest in the first anatomy maker is greatly enhanced by his own words, which are quoted by Dr. Greene: "*I am strongly set upon to study divinity, my studies else must be lost; for physick is but a necesse helpe.*" It seems that even then the acquisition of an income was by no means sure, and we speculate in vain on the cause of his failure; did he think that because he could make an anatomy he was therefore entitled to the patronage of the sick; he too may have left his dissection with regret and have said with John Hunter, though with language better fitted, let us hope, to the tongue of one who would minister in sacred things, that he

must go and earn that unblessed guinea; it may be that the complaints of the good wife fell upon an inattentive ear when she detailed all she had done before she called the chirurgion, and that the leech, who cared naught for anatomie-making but whose skill lay in the concoction of soothing possets, and who listened patiently and with a grave countenance, found the profession remunerative, while to our poor Giles it was but a "meene helpe;" or can it be that he had acquired expensive and luxurious habits in England which divinitie promised to gratify with less exertion, and which led him eventually to return to the mother country?

It is surprising in these days of lengthening courses, foreign study, and exclusive devotion to restricted portions of what we are pleased to term the broad field of medicine, to see how easily our predecessors carried the burdens of a double and even a triple profession. The reverend and learned Mr. Nathaniel Williams, the master of the Free Grammar School, from 1708 to 1734, was preacher and school-master as well as "a very skillful and successful physician." The conjunction was not always so noble a one; if we may credit the records Margaret Jones of Charlestown practiced witchcraft as well as physic and was hanged for the former offense. She was wise in her generation evidently, and those who refused to take her medicines found that their "diseases and hurts continued, with relapse against the ordinary course, and beyond the apprehension of all physicians and surgeons." Perhaps Margaret Jones would hardly have been recognized at a later time as a member of the fraternity, but educated physicians were rare in the older days. At the date of the introduction of the variolous inoculation there was but one regularly educated physician in the Province, Dr. William Douglass, who was wittily described by a contemporary, and the historian seems to think there was possible ground for the description, as "always positive and sometimes accurate."

The additional memoranda by Dr. Holmes bear more particular but by no means exclusive reference to the present century, though such a division is not accurately followed nor probably intended by the authors. Dr. Holmes dwells somewhat at length on the changes in drugs and methods of procedure, and gives more particularly and most interestingly his personal reminiscences of men who were known to the eldest among us, and whose names are familiar to us all, and it is wholly unnecessary that they should wait, as their author suggests, to gather interest by the lapse of years.

The chapter can but be exceedingly interesting to members of the profession, and we trust it will do much to help non-professional readers to a better understanding of medicine and medical men.

— At a stated meeting of the New York Academy of Medicine, held March 2d, Dr. Frederick A. Castle read a paper entitled, Some Practical Suggestions in the Treatment of those Diseases of Women which every Physician may be Called upon to Consider.

## MYXŒDEMA.

In 1873 Sir William Gull reported before the Clinical Society of London five cases illustrating what he described as "a cretinoid state supervening in adult life in women." Though regarding the conditions observed in these cases as characteristic of a well-defined and individual disorder, the word "cretinoid" was applied to them by Sir William simply as descriptive of the appearances of the patient, but by no means as suggestive of the aetiology or pathology of the disease, if such further observations should prove it to be.<sup>1</sup>

Dr. Morvan, of Lanniles, in France, is said to have reported fifteen cases closely resembling those of Sir William Gull's in 1875; of these we have seen a general description,<sup>2</sup> but have not been able to refer to the cases themselves.

In October, 1877, four years after Sir William Gull's cases, Dr. William M. Ord, of London, read a paper before the Medico-Chirurgical Society<sup>3</sup> devoted to an account of five of these cases which had fallen under his observation during the preceding twelve years, and applied to them the name myxœdema. Since then cases have been reported by Charcot in France, and by several physicians in England, — notably by Drs. Goodhart,<sup>4</sup> Lunn, Cavafy, Ord,<sup>5</sup> and Mahomed,<sup>6</sup> — more or less resembling each other and those first referred to.

The references we have given cover pretty much the entire literature of myxœdema, which is evidently not extensive. We are not aware that any cases have been reported in this country, or that the peculiar conditions described have attracted the attention of American physicians. The cases presented by Drs. Ord, Cavafy, and Lunn at the meeting of the Clinical Society, December 9, 1881, brought on a debate at the subsequent meeting, Dr. Mahomed taking the ground that the collection of symptoms constituting myxœdema were but manifestations of chronic Bright's disease. His opponents, though acknowledging a considerable variety in the cases, were generally disposed to consider it as a distinct disease.

Among Dr. Ord's cases reported in 1877 was one accompanied by an autopsy, performed by so competent a pathologist as Dr. W. S. Greenfield, and a microscopic examination of the œdematous tissues. The more important details of the post-mortem examination were: (1) there was general œdema of the skin, but the cut surfaces yielded less fluid than their appearance would promise; (2) there was much serous effusion in the pleura, pericardium, and peritoneum; (3) the heart was large, weighing sixteen and one half ounces, the left ventricle hypertrophied, the valves practically healthy; (4) the arteries were everywhere thickened, the larger ones atheromatous; (5) the cortical substance of both kidneys was much wasted, and granular both on surface and on section, the renal

arteries were thickened and atheromatous; (6) there was a firm, almost solid, œdema in many parts, for example, in heart, soft palate, stomach, and neck of bladder; (7) the brain showed very considerable degeneration of the larger arteries. In preparing portions of the organs for microscopic observation it was noticed that the skin in particular retained its œdematous condition even when cut up into small fragments. Upon subjection to the same process in equal proportions, the skin of Dr. Ord's patient yielded mucin to fifty times the amount obtained from the skin of non-œdematous or simply œdematous bodies.

Sir William Gull's cases<sup>7</sup> were all middle-aged women, and he described the general aspect of the disease as "a cretinoid state supervening in adult life in women." Dr. Ord's early cases were also all five women between forty and sixty years of age; as, indeed, most of the clearly defined cases since reported have been. In the light of further investigation, supported by his autopsy, Dr. Ord was led<sup>8</sup> to make the suggestion that the whole collection of symptoms are related as effects to jelly-like swelling of the connective tissue, chiefly, if not entirely, consisting in an overgrowth of the mucus-yielding cement by which the fibrils of the white element are held together. He accordingly proposed the name of myxœdema for the affection; and argued that the most important mode of operation by which this condition produces the symptoms associated with it is the padding of the periphery termination of sensory nerves, and perhaps, too, of muscular nerves, with a soft material which hinders their free reception of impressions, in the same way as cotton wool in the external auditory meatus deadens sound on its passage to the auditory nerve. That perception becoming slower than usual, and the central nervous system losing, through the altered state of the skin, its natural and necessary stimulation, a state of intellectual lethargy and a slowness in coördination of movements are necessary consequences. In this chain, slow use, partial disuse, and numbness of faculties are links of one kind, and the constant retardation of guiding sensory impulses, a link of another, so that, supposing the myxœdema to be constant, the nervous degradation tends to be progressive. The train of symptoms leading to the fatal termination commences in the encroachments of the myxosis upon vessels and upon the secreting elements of glandular structures. The two fatal cases of Dr. Ord showed at the last the symptoms associated with renal disease.

The debate on myxœdema at the Clinical Society of London, last December, was started as we have said, by a suggestion from Dr. Mahomed that the cases reported under this name were really chronic Bright's disease. This view he supported, remarking that, in many cases of Bright's disease, there was an absence of œdema, but in others there were all the symptoms of myxœdema, without albuminuria, but with high arterial tension. In one case the subcutaneous tissues were not found to contain mucin. The cases appeared to be due to chronic Bright's disease without kidney-symptoms, as described by Sir W. Gull and Dr. Sutton. In the

<sup>1</sup> Clinical Society Transactions, vol. vii., 1874.

<sup>2</sup> Gazette des Hôpitaux, September 24, 1881.

<sup>3</sup> Medico-Chirurgical Society Transactions, vol. lxi., 1878.

<sup>4</sup> Medical Times and Gazette, 1880, vol. i., p. 473.

<sup>5</sup> British Medical Journal, 1881, vol. ii., p. 1017.

<sup>6</sup> Lancet, 1881, vol. ii., p. 1078.

published cases of myxœdema, now twenty in number, three were not noted as to urine; in the seventeen others, ten had albuminuria, of which four were fatal; they had affected kidneys, hypertrophied heart, and thickened arteries; whilst many of the changes in the spinal cord were doubtless those of myxœdema of the cord. Thus in all the four fatal cases Bright's disease was present. Albuminuria was absent in many cases of Bright's disease. And if there were such a thing as local œdema taking place, it would be a good explanation of nervous symptoms developed in myxœdema.

In a paper subsequently contributed to the *Lancet* [December 24, 1881] on the subject, Dr. Mahomed added to the previous twenty cases the seven discussed at the Clinical Society, making in all twenty-seven cases, in fifteen of which he finds that albuminuria or other good evidence of Bright's disease existed during life, while it was present in all of the five fatal cases reported. Sphygmographic evidence of the degree of arterial pressure is difficult to obtain, owing to the thickening and infiltration of the tissues.

The other gentlemen taking part in the debate were none of them inclined to agree with Dr. Mahomed in his view of the subject, and seemed disposed to think that he was attempting to cover too much ground by the doctrine of arterio-capillary fibrosis; and he himself admits, in concluding the paper above referred to, that even should we seem justified in regarding this condition as a result of chronic organizing œdema due to Bright's disease or other causes, the curious and characteristic symptoms which such cases present well deserve that they should be recognized by an appropriate title. Should an excess of mucin in their tissues prove to be a constant feature, nothing could be better than the name given them by Dr. Ord, to whom we are so much indebted for their careful investigation; it has the great merit of describing an anatomical characteristic without implying a theoretical explanation. At the same time he ventures to express a fear that we may be led to regard as a disease what may be only a symptom; besides giving rise to erroneous views concerning its pathology, such a belief would obviously tend to narrow our conception of its clinical import, and of the very varied conditions, requiring equally varied treatment, under which it may possibly occur.

Dr. Ord's summary of the clinical and pathological characters of myxœdema, in closing the debate, was clear and concise, and gives a fair idea, in a general way, of what is at present known about the affection. The subjects were generally women; there was *never* albuminuria in the *early* stages; nor, in some cases, at all; there was general swelling of the integuments, which were semi-transparent, rough, and non-perspiring; the hair was scanty; the teeth bad; the temperature low; the thyroid small; the speech slow, imperfect, and nasal; thought and perception slow, but perfect. The patients were apt to become irritable and timid, sometimes demented, and finally comatose. Occasionally death arose from general debility, sometimes from uræmia. Throughout the body the interstitial tissue was swollen and nuclear, increased in quantity,

and containing mucin; it encroached on all the normal structures, which became atrophied, as in the case of the hair, the sebaceous and even the sweat glands, the heart, liver, and other internal organs. The idea that this was Bright's disease without albuminuria was soon negatived. The theory of sympathetic origin did not commend itself to him, for there was no evidence that the sympathetic had trophic functions. Probably, as regards the nervous system, the central organs were affected in the same way as were the peripheral. Dr. Ord did not think, however, that the change was due to a degeneration, but rather to a malformation of tissue. The question of heredity was new. He was not prepared with any special theory to explain the disease in its totality.

This subject is one which deserves and will probably attract further attention, the advantages in the discussion so far being decidedly with those who regard myxœdema as a distinct and independent disease, and it is an important point to bear in mind that even in the cases where it has appeared at all the albuminuria has been almost always a very late development.

#### MEDICAL NOTES.

— Some exceedingly interesting photographs of small-pox eruption from the third to the fourteenth day, the work of Mr. S. A. Powers, of the Small-Pox Hospital, may be seen at the Medical Library.

— Joseph Pancoast, M. D., Emeritus Professor of Anatomy in the Jefferson Medical College, died at Philadelphia last Tuesday morning, aged seventy-seven.

— The Woman's Medical College of Baltimore has recently been incorporated. The course of lectures will begin October 1, 1882. Seven professors, all of them gentlemen, have been already appointed.

— The Paris Académie des Sciences has conferred on Professor Brown-Séquard the distinguished honor of the Grand Prix Lecaze. This prize, which is of the value of ten thousand francs (four hundred pounds), is given only in recognition of a lifelong devotion to physiological science, which has resulted in important discoveries. The previous recipients have been Chauveau, Marey, and Dastre.

#### NEW YORK.

— At the last meeting of the County Medical Society Dr. George H. Fox read a paper on the permanent removal of superfluous hair, with reports of cases, and Dr. A. Jacobi, the late president of the State Medical Society, a paper on legislation looking to the establishing of special hospitals for scarlet fever and diphtheria, and also for the protection of factory children.

— During the month of February 21,033 persons were vaccinated by the officers of the Health Department, free of charge, and the sum of \$2311 was received from the sale of vaccine virus.

— Over forty classes are now being instructed by physicians under the auspices of the First Aid to the Injured Society, which has been organized upon the



English plan, and of which General George B. McClellan is the president.

—A moving story comes to us of the sufferings of an unfortunate lady in a village in the northern part of New York State, who was recently taken violently ill, and when the local physician arrived confided to him the startling intelligence that there was a snake in her stomach, which she had swallowed last September while drinking from a brook. The report goes on to state that the doctor, upon investigation, "became satisfied that the woman had swallowed a tadpole, which has since turned into a frog," and that the presence and movements of the reptile in the stomach can readily be felt from the outside. The patient is to be taken to the hospital in Albany for treatment, and the subsequent developments of the case will, no doubt, be awaited with no little interest.

#### MEDICO-LEGAL NOTES.

*Forcing Prisoner to show Himself.* — In a criminal case the place at which the prisoner's leg was amputated being a material point, it was decided by the Supreme Court of Georgia to have been an error in the lower court to require him to show himself, so that a witness could see him and describe his condition to the jury. A defendant in a criminal case cannot be required to give evidence against himself, either by acts or words.

*Anæsthetics from a Medico-Legal Point of View.* — Dr. J. G. Johnson, of Brooklyn, presents certain conclusions in the *Annals of Anatomy and Surgery* which deserve careful consideration.

Anæsthetics do stimulate the sexual functions, the ano-genital region being the last to give up its sensitiveness. Charges made by females under the influence of an anæsthetic should be received as the testimony of an insane person is. It cannot be rejected, but the *corpus delicti aliunde* rule should be insisted on. Dentists or surgeons who do not protect themselves by having a third person present do not merit much sympathy.

Death from administration of chloroform after a felonious assault, unless the wounding were an unmistakably fatal one, reduces the crime of the prisoner from murder to a felonious assault.

The surgeon has no right to use chloroform to detect crime, against the will of the prisoner.

But the army surgeon has the right to use chloroform to detect malingerers.

The medical expert, notwithstanding he is sent by order of court, has no right to administer an anæsthetic against the wish of the plaintiff in a personal damage suit, to detect fraud.

Gross violations of the well-known rules of administering anæsthetics, life being lost thereby, will subject the violator to a trial on the charge of manslaughter.

A surgeon allowing an untrained medical student to administer anæsthetics, life being lost thereby, will subject the surgeon himself to a suit for damages. What he does through his agent he does himself.

The physician who administers an anæsthetic should attend to that part of the business and nothing else. He should have examined the heart and lungs beforehand. He should have the patient in the reclining position, with his clothes loose, so as not to interfere with respiration; should have his rat-tooth forceps, nitrite of amyl, and ammonia, and know their uses, and when to use them, and how to perform artificial respiration.

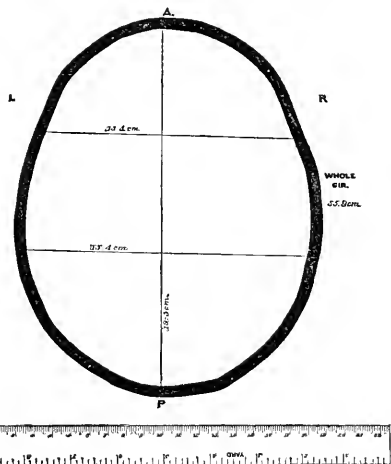
Chloroform cannot be administered by a person who is not an expert to a person who is asleep without awaking him. Experts themselves, with the utmost care, fail more often than they succeed in chloroforming adults in their sleep.

#### Dissection.

#### THE CASE OF GUITEAU.

MR. EDITOR, — I have read with great interest Dr. Folsom's carefully prepared article which appeared in your issue of February 16th, relative to the case of Guiteau, and having had occasion to examine the prisoner upon three separate occasions, as well as having watched him in court for more than three weeks, I desire to say a few words more, especially in regard to the physical appearance of the assassin, believing that it does not reveal any indication of congenital or acquired mental disease.

My visits to the jail were made with the view of discovering any possible external expression of insanity, long before the question of cranial asymmetry had been raised at all. The examinations were made in the presence of several witnesses and I was assisted

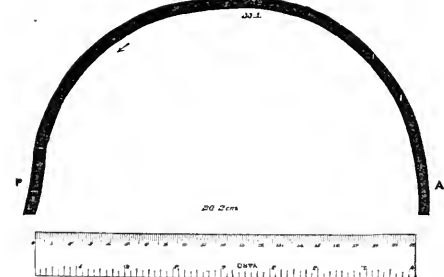


by Dr. Kempster, of the Wisconsin State Asylum, a most careful observer and student of craniology, and by others.

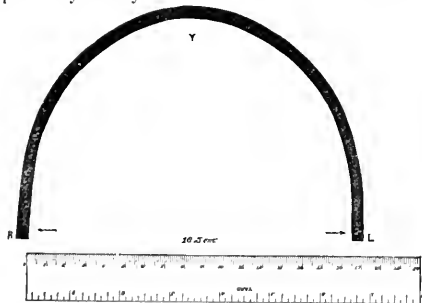
Charles Julius Guiteau, aged forty years, is of spare build, of nervous temperament, weighs one hundred and thirty-five pounds, and is five feet five and three

quarter inches in height. He is badly nourished and anæmic.

In appearance he resembles the criminal known to the police as the "sneak," and his physiognomy is one more familiar to the visitor at the prison than the asylum. The facial lines are deep, and express the constant exhibition of the baser emotions. There is a slight furrow between the brows; the nasal lines are deep, the nose thin and pointed; and the lips are thin and usually slightly parted. His hair is short and mixed with gray, and so cut as to give some appearance of flatness to the top of his head. At the anterior part of the left side of the head is a slightly depressed scar about three cm. long, the lower edge being about nine cm. above the centre of the external auditory meatus, and the superior extremity about six cm. below the longitudinal median line. There is no evidence of premature closure of the sutures, no bregmatic depression, and no cranial exostoses. The conformation of the head is no way atypical, neither *brachy-cephalic* or *dolicho-cephalic*. (See plates.) The basal circumference is 55.9 cm. The antero-posterior arch 20.2 cm.; the transverse arch 16.5 cm.; the basal antero-posterior diameter 19.5 cm.<sup>1</sup> A *con-*



*conformation* measurement taken at a higher level posteriorly at the plane of the parietal eminences reveals no special asymmetry.<sup>2</sup>



<sup>1</sup> It has been stated by a writer in the *New York Medical Record* that my measurements were made at so low a level as to prevent me from recognizing the existence of an alleged ridge of bone passing across the back of the head. The writer was not probably aware at that time that this *conformation* measurement was taken at the high level, but nothing was shown. I would take this occasion to refer to the trick of the prisoner's counsel, who placed the *conformation* tracing over the above—of course they did not agree.

<sup>2</sup> Clapham (W. R. Reports, vol. vi., 1876, page 150), gives some tables of skull measurements. He found that a man weighing 130-140 pounds should have a head of circumference of 21.253 inches. A man 65 inches high should have a head of circumference of 22.616 inches. It will be seen that the head of Guiteau was of fair size according to Clapham's figures.

There is slight fullness on the right side both anteriorly and posteriorly. I did not calculate the facial angle, there being nothing to attract attention. There is no appearance of *hamutoma auris* or crenation of ears so often found in the chronic insane, and his skin showed no abnormal change, being moist and not scurfy. The fingers were devoid of ungual defects, there being no languails, no clubbing, no temperature nor circulatory changes. The teeth are regular (I cannot agree with Dr. Folsom as to any conspicuous projection) but the two first incisors in the upper jaw are separated by a slight fissure which increased the malignity of the prisoner's facial expression when his mouth was open. The bark teeth are carious. There is no abnormality in the roof of the mouth, no extreme vaulting of the palate process of the superior maxillary bone, and no fissure.

When the prisoner was told to open his mouth he did so, and the opening was symmetrical, there being no defective muscular antagonism. Upon my first visit I found what appeared to be a fine fibrillary tremor in the upper cheek-muscles, and eyelids, but this was after an exciting day in court, and I never saw it again. The unequal tremor of the tongue, alluded to by Dr. Folsom, was not observed by me except upon this occasion, and it was not manifested except when the tongue was kept protruded for some time. In no respect did it resemble the tremor of general paresis, and it was not accompanied by tremor of the lips. The tongue was protruded slightly to the left side, but there was no atrophy whatever, and it could be freely pointed to the other direction, and its tip approximated to the roof of the mouth. I tested his speech carefully, but found no impairment, but in court he momentarily hesitated because his ideas were evolved too rapidly, and the function of the cerebral speech centres did not seem to keep pace. A careful ophthalmoscopic examination failed to reveal any neuritis or atrophy, and Dr. Loring was equally unsuccessful in making any discovery of ocular trouble. We found him to be hypermetropic, and the left eye was the seat of conjunctivitis at the first visit, and quite sensitive, and as a result the pupil was slightly contracted, but only upon one occasion was this observed, his pupils being afterwards normal, and contracting perfectly to diffused and artificial light. The pupils were not contracted as is the case in the early stage of general paresis.

Tests of motility were negative. He walked well without any drag, and there was no disturbance of co-ordinating power. I tested the tendon reflex in the extremities both by Buzzard's and Gower's method, and in the ordinary way, and I failed after repeated examination to discover any abnormal increase, and light and heavy blows failed to evolve a *jerk* of any kind, but there was moderate responsive action, equal on both sides, with no secondary jerk. Hand grasp unaffected, and he could localize small objects. Hearing was normal. Retains urine for several hours even when excited, and when passed it is neither forcibly ejected nor does it dribble. He says he has had a gonorrhoea, and his stream is spiral, so he probably has some stricture. He denies *absolutely* that he has ever had *syphilis*, and no evidences are found. He has a small herpetic patch on the forehead, but this is probably due to his depraved physical condition. There is no evidence to show that he has indulged in bad sexual habits in jail. Pulse found to be 88 upon

two occasions. Temperature taken daily by jail physician shows no abnormal rise.

It would be going over much wearisome ground to again attempt to analyze the evidence introduced in court except to insist upon what I believe to be the truth, that he is an eccentric criminal, who has been playing a part in court that might at least (if not humbling the experts) affect the jury, and gain for him a disagreement.

None of the expressions of disorderly mental action upon the part of the prisoner, either isolated or with others, were, in my opinion, incompatible with sanity, nor indications of any known mental disease. The evidence brought forward was such as to show that the prisoner had been brought up badly, and had, from the time he began to look out for himself, lived as a parasite upon society, making use of all methods of shrewdness and deception to gain shelter and food, until he found his path in life becoming more and more difficult to follow, and then he resorted to more desperate measures. Like the murderers in *Macbeth* he might have said:—

"I am one, my liege,  
Whom the vile blows and buffets of the world  
Have so incensed that I am reckless what  
I do to spite the world."

"And I another, so weary  
With disasters, tugged with fortune,  
That I would set my life on any chance  
To mend it, or be rid on't."

When we analyze his actions I do not think there is any alternative for us. We can only say that his crowning crime was the culmination of uncontrolled wickedness, and his conviction and sentence the natural result of the failure of his last desperate scheme.

Thomas Beggs Gilpin,<sup>1</sup> in speaking of the psychology of crime, says, "It matters not what may be the character of the crime; it may be arson, it may be rape; the first successful gratification of vindictive feeling leads by similar progression to the one; the first flirtation of simple sensuality, unchecked, if not encouraged, leads by the like gradation to the other; in all cases progress from venial to bad, from bad to worse, and thence to extremes, is the invariable trait of a criminal career; consequences are first calculated with anxiety, then merely weighed against immediate gain, and finally disregarded altogether."

There are thousands of men at large to-day who display all the eccentricity of Guiteau, but their actions are as impulsively good, or at least their intentions are as well meant, as his were bad, and still they are not called insane. In some cases these persons are reformers, with projects in every way as absurd as any of Guiteau's. What can be said of the educated individual, for example, who advocates the abolition of vaccination?

Guiteau is only a shrewd scamp, with the plausibility of an Alfred Jingle in swindling his boarding-house keepers, and evading the payment of his debts; the visionary enthusiasm of Micawber or Colonel Sellers; the cant and hypocrisy of Aminadab Steek or Uriah Heap; the ambition of Erostratus, and the murderous manners of Felton, who assassinated the Duke of Buckingham, of whose crime the killing of Garfield was an almost exact counterpart.

None of his "delusions" were akin to those of gen-

eral paresis of the insane, for in that disease there is no reasonable basis whatever, and, moreover, if Guiteau is a general paretic, as Dr. Folsom suggests, his boasting and immense projects have been expressed for at least twenty years, and there are few cases of general paresis that live beyond the tenth year of the disease, and they nearly all end fatally in three or four years, or less. Guiteau's projects were, as a rule, substantial, and were at some time realized.

The *Inter-Ocean* scheme was a pronounced success, the *Theocrat*, conducted, perhaps, in a more modest way than Guiteau might have wished, had an existence of several years as the *New York Daily Witness*, a small religious daily paper, and even his last and most fatal "delusion" was verified, for he *did* "unite the Republican party," and his act has thoroughly changed the features of American politics. In some countries where a president is assassinated every year or two, he might even have become the martyr he expected to be, but, unfortunately for him, his own was not one of these.

Dr. Folsom<sup>2</sup> very aptly says, "His shooting of the President was, to a certain extent, the logical result of bad training, character somewhat unscrupulous, enormous self-conceit, self-will, disappointment in not getting office, cowardice, extreme political partisanship, delusions or deceit regarding religion, desperation of poverty, expectation of personal gain, love of notoriety, and hope of praise from the 'stalwarts,'"—but are these necessarily expressions of insanity?

I should have been far better satisfied had Guiteau really been found insane, but I feel that viciousness and lawlessness must occasionally find vent, and we have to congratulate ourselves, under the circumstances, upon the comparatively few exhibitions of the kind that have hitherto thrilled us with horror.

While I do not agree with an English criticism that "Guiteau is a type of American civilization," I do believe that in a new country as large and great as ours, a land in which religious and political liberty is as universal as it is in this, and in which the creed that "one man is as good as another," has so many believers, there must be many Guiteaus; not Guiteaus who necessarily kill a president, but eccentric individuals with "badly arranged winds." In many sections of the country there are religious sects and communities whose teachings are as immoral and unstable as that of the establishment at Oneida, from which the assassin graduated. In the section in which the elder Guiteau lived I understand that a large number of people, even to-day, hold that with careful bodily care, life may be prolonged indefinitely, but the counsel for the prisoner inadvertently proved, in alluding to the elder Guiteau's views on this subject, as an element of his insanity, that he nevertheless made a will and insured his life. In your own State there is a body of "Second Adventists," many of whom, I understand, fully approved at the time the crime of Freeman, who sacrificed his child, and in other parts of the country there are colonies of equally ignorant and fanatical people, whose teachings and practices are calculated to stimulate the baser emotions of the ignorant, and send them adrift to prey upon society, with the most loose views both religious and ethical.

In conclusion I desire to express my conviction that we should not permit ourselves to confuse the crime

<sup>1</sup> Forbes Winslow's *Journal of Psychological Medicine*, vol. v., p. 177.

<sup>2</sup> *Boston Medical and Surgical Journal*, February 16, 1882, page 151.

which is the result of a low state of the morals for which the individual is solely responsible, with that moral perversion which is associated with intellectual insanity, and which is the product of a diseased brain.

Very truly yours,

ALLAN McLANE HAMILTON.

NEW YORK, February, 1882.

### IS SCARLATINA CONTAGIOUS?

MR. EDITOR.—The books say so. The prolix Ziemssen, whose learning often smothers his knowledge, says so. The Massachusetts Board of Health says so, and I bow to the Board of Health, accepting their dictum as a dogma, without having seen evidence, without knowing their reason, and, therefore, without reasonable conviction. Accordingly I isolate my patients, and keep families of children from school, and practice such disinfection as does not involve waste nor cruelty, endeavoring always not to add to the terrorism which extraordinary measures are liable to develop. But yet in more than forty years of experience, and much of it on a large scale, I have failed to see the evidence of contagion in scarlatina.

I have just ceased attendance on a man sixty years old sick with scarlatina. The eruption was general and vivid and persistent, the fauces inflamed, the constitutional disturbance great, the convalescence protracted, and the desquamation in large patches. In this man's family, twenty-five years ago, I attended five children with scarlatina. The sickness was in narrow quarters, and covered several weeks of time, during which both father and mother were over the patients almost constantly. The disease was also grave, one case terminating fatally within twelve hours after the invasion. Both parents escaped the "contagion," and the father had the disease twenty-five years later, after no known exposure, and when his improved circumstances had placed him in a much more wholesome habitation.

Thirty years ago one of a pair of twins, aged three years and inseparable, had scarlatina under my care. These children were in excellent sanitary surroundings. The other twin did not contract the disease then, but had it a year later, when there was no scarlatina in the neighborhood.

I have just come from a boy thirteen years old, sick with tonsillitis. On inquiring of his mother if there was any scarlatina in the neighborhood, she reminded me that he had had this disease several years ago, when there was no other case in town so far as we knew.

I have recently attended a young man with scarlatina in the Jesuit College here. This building has a population of one hundred and more in priests, professors, pupils, and lay brethren. The College is situated on a high hill, in a field of many acres, with no dwelling house within a quarter of a mile, and the patient had been in no dwelling house whatever for three weeks, and then only for a few moments in a house where there was no sickness. His disease was mild. I placed him in a separate room, isolating him as well as I could on a common corridor, and he did well, and no other person in the house had the disease.

I state these cases not as proving anything conclusive. They certainly do not prove contagion. They are of a large class of cases familiar to physicians whose practice covers a considerable period of time. And I find that the longer and the larger and the more

intelligent the practice the less is the confidence in the contagion of scarlatina.

It is much easier to get together facts bearing on a question like this in a country town than it is in a large city, where one may be jostled on the sidewalk by a man who has varioloid.

It is, perhaps, natural that we should look upon the diseases which, as a rule, we have only once, as derived from and containing and evolving contagious elements. And this may generally be true. But such diseases are always of epidemic as well as of contagious character. The epidemic influence is one which we cannot understand nor measure. The contagious influence has certain laws, and operates usually by a period of incubation which is determined and well known. Thus, many years ago, at a meeting of our local Society for Medical Improvement, I mentioned my having been called that day to a case of measles, while I had seen no case before for several years, and I inquired if other gentlemen had recently seen measles. Immediately it was ascertained that within two or three days measles had settled down upon the whole town. Now here is an instance of what is called spontaneous development by epidemic or endemic influence, and wholly beyond our power to understand or explain. And then each individual patient becomes a seat of influence and a source of contagion, and may affect other individuals not residing in his locality, and who see him only for a moment, and the result is developed within a well-known period of time. The history of other contagious diseases is similar, but there is no such history for scarlatina. We try to say that the cause is a peculiar, material, and easily transferable substance, of extraordinary adhesiveness and tenacity, so indestructible as to resist all ordinary means of cleanliness and purification (clinging to a bed-pan, for instance, fourteen months), not capable of entering the organism through the intact epidermis, and yet sometimes existing and developed in the child at birth; and that the contagion should operate in from four to seven days, and that when it does not this is because of a lack of individual susceptibility, which lack may enable a person to resist the contagion during a three months' residence in a close room with a patient having the disease severely, and may some months after be overcome on exposure to the clothing of the same patient in a healthy atmosphere in the country.

Is the sort of reasoning which such statements suggest the measure of the medical calibre of this day? Is it not wiser to concede that the pathogenesis of scarlatina is a mystery, as its whole history is irregular, inexplicable, and unreliable?

I do not oppose ventilation, and purification, and isolation during and after sickness, and especially with sickness where there may be so much fetid exhalation, but I object to an excited terrorism, which involves distress and anxiety, and cripples humanity.

Yours truly,

JOSEPH SARGENT.

WORCESTER, MASS., February, 1882.

### TRICHINOSIS.

In a recent instructive lecture on the subject of trichinosis M. Germain Sée distinguished four clinical types under which the symptoms may manifest themselves. The first is the gastro-intestinal form, in which the affected individuals are seized with grave

digestive troubles without apparent cause, epigastric discomfort and sense of distension, nausea, and vomiting. The times of the vomiting vary; sometimes they occur on the day on which the trichinous food was taken, sometimes they are delayed for four or five days. The vomiting is usually accompanied with diarrhoea, sometimes choleric form in character. Such symptoms, if slight, may be readily mistaken for a simple indigestion. If the nature of the disease is, however, suspected, the diagnosis may readily be made by the discovery of the entozoa in the stools. When the diarrhoea is excessive the symptoms may resemble those of cholera, but two distinctive characteristics are the excessive perspirations and considerable muscular prostration, which may even precede the onset of the diarrhoea. In the second, or rheumatoid, form, muscular pains are the dominant symptom; muscular exertion is painful, and causes fatigue. Towards the eighth day the muscles become swollen, hard and tender, and the flexors are always more affected than the extensors, and from the swelling of the muscles, shortening, and even a flexor contracture, may result. Painful trismus or difficult deglutition may be the effect of the presence of the trichinae in the muscles of the jaw and pharynx, and the affection of the laryngeal muscles may change the voice, and that of the intercostals

and diaphragm may cause a painful dyspnoea. With these are spontaneous pains, often severe, irregular in distribution, not corresponding to the course of the nerves, and constantly mistaken for rheumatism. In this form, also, there are usually initial gastro-intestinal troubles, which (as well as the prostration) should always arouse suspicion. The third and most characteristic is the oedematous form. The patients make their appearance with swollen faces, particularly the eyelids, and they complain of extreme prostration. The swelling may be bilateral or unilateral, and in the latter case is pathognomonic. This oedema, with normal heart and urine, with muscular prostration and initial gastro-intestinal troubles, should leave the diagnosis in little doubt. The last is the typhoid form, between which and enteric fever there are several analogies. There is continuous fever, considerable prostration, some dyspnoea, and much muscular pain. Three distinctive symptoms, however, are the profuse sweating, the oedema of the face, which is present in nine out of ten cases of trichinosis, and the brief duration of the pyrexia, which ceases although the other symptoms persist. The last is the gravest form, and death may occur in the second or third week with delirium or stupor, and the general aspect of a severe case of typhoid disease. — *Lancet*.

## REPORTED MORTALITY FOR THE WEEK ENDING FEBRUARY 25, 1882.

| Cities.                          | Population by Census of 1880. | Reported Deaths in each. | Deaths under Five Years. | Percentage of Deaths from         |                |                       |                |            |
|----------------------------------|-------------------------------|--------------------------|--------------------------|-----------------------------------|----------------|-----------------------|----------------|------------|
|                                  |                               |                          |                          | The Principal "Zymotic" Diseases. | Lung Diseases. | Diphtheria and Croup. | Scarlet Fever. | Small-Pox. |
| New York.....                    | 1,206,590                     | 766                      | 355                      | 30.67                             | 18.14          | 8.48                  | 10.57          | 1.56       |
| Philadelphia.....                | 846,984                       | —                        | —                        | —                                 | —              | —                     | —              | —          |
| Brooklyn.....                    | 566,689                       | 270                      | 115                      | 22.22                             | 17.77          | 7.77                  | 10.00          | —          |
| Chicago.....                     | 503,304                       | 249                      | 125                      | 33.33                             | 13.65          | 6.82                  | 2.81           | 14.05      |
| Boston.....                      | 362,535                       | 183                      | 64                       | 14.20                             | 14.74          | 8.73                  | —              | .54        |
| St. Louis.....                   | 350,522                       | 181                      | 55                       | 20.76                             | 13.84          | 4.62                  | 2.30           | .76        |
| Baltimore.....                   | 332,190                       | 145                      | 57                       | 18.62                             | 8.96           | 10.34                 | 2.07           | 2.07       |
| Cincinnati.....                  | 255,708                       | 122                      | 35                       | 26.23                             | 15.57          | —                     | .81            | 20.48      |
| New Orleans.....                 | 216,140                       | —                        | —                        | —                                 | —              | —                     | —              | —          |
| District of Columbia.....        | 177,638                       | 100                      | 33                       | 15.00                             | 18.00          | 4.00                  | 3.00           | 2.00       |
| Cleveland.....                   | 160,140                       | —                        | —                        | —                                 | —              | —                     | —              | —          |
| Pittsburgh.....                  | 156,381                       | 97                       | 41                       | 43.29                             | 18.55          | 2.06                  | 5.75           | 11.34      |
| Buffalo.....                     | 155,137                       | 90                       | 52                       | 27.77                             | 12.22          | 5.55                  | 11.11          | 1.11       |
| Milwaukee.....                   | 115,578                       | 70                       | 37                       | 1.42                              | 15.71          | 2.85                  | 4.28           | —          |
| Providence.....                  | 104,857                       | 53                       | 11                       | 11.32                             | 13.20          | 1.88                  | 5.86           | —          |
| New Haven.....                   | 62,882                        | 31                       | 12                       | 12.90                             | 22.58          | 9.67                  | —              | —          |
| Charleston.....                  | 49,999                        | 29                       | 9                        | 10.34                             | 6.89           | —                     | —              | —          |
| Nashville.....                   | 43,461                        | 20                       | 9                        | 5.00                              | 10.00          | —                     | —              | —          |
| Lowell.....                      | 59,485                        | 14                       | 8                        | 35.71                             | 7.14           | 7.14                  | —              | —          |
| Worcester.....                   | 58,295                        | 27                       | 9                        | 18.51                             | —              | —                     | —              | —          |
| Cambridge.....                   | 52,740                        | 28                       | 7                        | 7.14                              | 25.00          | 3.57                  | —              | —          |
| Fall River.....                  | 49,006                        | 23                       | 11                       | 17.39                             | 8.69           | 4.34                  | —              | —          |
| Lawrence.....                    | 39,178                        | —                        | —                        | —                                 | —              | —                     | —              | —          |
| Lynn.....                        | 38,284                        | 14                       | 6                        | 21.42                             | 21.42          | 7.14                  | —              | —          |
| Springfield.....                 | 33,340                        | 19                       | 9                        | —                                 | 15.78          | —                     | —              | —          |
| Salem.....                       | 27,598                        | —                        | —                        | —                                 | —              | —                     | —              | —          |
| New Bedford.....                 | 26,875                        | 15                       | 6                        | 20.00                             | 13.33          | —                     | 13.33          | —          |
| Somerville.....                  | 24,985                        | —                        | —                        | —                                 | —              | —                     | —              | —          |
| Holyoke.....                     | 21,851                        | 9                        | 4                        | 33.33                             | 22.22          | 11.11                 | —              | —          |
| Chelsea.....                     | 21,785                        | 8                        | 2                        | 12.50                             | —              | —                     | —              | —          |
| Taunton.....                     | 21,213                        | 6                        | 2                        | 16.66                             | —              | —                     | —              | —          |
| Gloucester.....                  | 19,329                        | 7                        | 1                        | —                                 | 40.00          | —                     | —              | —          |
| Haverhill.....                   | 18,475                        | 5                        | 1                        | —                                 | 16.66          | 16.66                 | —              | —          |
| Newton.....                      | 16,995                        | 6                        | 2                        | —                                 | —              | —                     | —              | —          |
| Brockton.....                    | 13,608                        | 1                        | 1                        | —                                 | —              | —                     | —              | —          |
| Newburyport.....                 | 13,537                        | 5                        | 1                        | —                                 | 60.00          | —                     | —              | —          |
| Fitchburg.....                   | 12,405                        | 8                        | 4                        | —                                 | 25.00          | —                     | —              | —          |
| Malden.....                      | 12,017                        | 4                        | 0                        | —                                 | —              | —                     | —              | —          |
| Twenty-one Massachusetts towns.. | 160,435                       | 65                       | 18                       | 13.84                             | 13.84          | 3.07                  | —              | —          |

Deaths reported 2619 (no reports from Philadelphia, New Orleans, and Cleveland): 1102 under five years of age; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and fevers) 633, consumption 347, lung diseases 416, diphtheria and croup 165, scarlet fever 147, small-pox 91, typhoid fever 50, measles 44, diarrheal diseases 39, whooping-cough 26, cerebro-spinal meningitis 22, malarial fevers 20, puerperal fever 16, erysipelas 12, typhus fever one. From *typhoid fever*, Pittsburgh 15, Chicago seven, Boston five, Buffalo four, New York, St. Louis, and Lowell three each, Cincinnati and District of Columbia two each, Baltimore, Providence, Charleston, Lynn, Peabody, and Marblehead one each. From *measles*, New York 28, Chicago six, Brooklyn three, St. Louis and Buffalo two each, Cincinnati, Pittsburgh, and Milwaukee one each. From *diarrheal diseases*, New York 14, Brooklyn and Chicago five each, Baltimore three, District of Columbia and North Adams two each, St. Louis, Cincinnati, Pittsburgh, Milwaukee, New Haven, Charleston, Lowell, and Lynn one each. From *whooping-cough*, New York 10, Boston and Pittsburgh three each, St. Louis two, Brooklyn, Baltimore, Milwaukee, Nashville, Cambridge, Fall River, Chelsea, and Taunton one each. From *cerebro-spinal meningitis*, New York seven, Chicago, Pittsburgh, and Worcester two each, Boston, St. Louis, Cincinnati, Buffalo, Charleston, Fall River, New Bedford, Holyoke, and Weymouth one each. From *malarial fevers*, New York eight, St. Louis seven, Chicago, Baltimore, District of Columbia, Holyoke and Northampton one each. From *puerperal fever*, Buffalo three, Pittsburgh, Milwaukee, and Worcester two each, New York, Brooklyn, Chicago, St. Louis, Cincinnati, District of Columbia, and Providence one each. From *erysipelas*, New York five, Brooklyn and Chicago two each, Worcester, Fall River, and Northampton one each. From *typhus fever*, New York one.

One hundred and seven cases of small-pox were reported in Cincinnati, Pittsburgh 60, St. Louis 14, Baltimore nine, Brooklyn eight, Boston three, District of Columbia three, Buffalo two, and Milwaukee one; diphtheria 33 cases, scarlet fever six, ty-

phoid fever three in Boston; scarlet fever 21, and diphtheria three, in Milwaukee.

In 39 cities and towns of Massachusetts, with a population of 1,012,210 (population of the State 1,783,086), the total death-rate for the week was 22.96 against 19.85, and 20.16 for the previous two weeks.

For the week ending February 4th, in 173 German cities and towns, with an estimated population of 8,436,712, the death-rate was 26.2. Deaths reported 4244; under five 2039; pulmonary consumption 625, acute diseases of the respiratory organs 453, diphtheria and croup 254, diarrheal diseases 131, scarlet fever 95, whooping-cough 74, measles and roteln 50, typhoid fever 33, puerperal fever 26, small-pox (Frankfort-on-Older, Hanover, Essen two, Eupen) five, typhus fever (Thorn) three. The death-rates ranged from 14.2 in Metz to 37.7 in Krefeld; Königsberg 30.1; Breslau 28.7; Munich 3.7; Dresden 23.8; Berlin 24; Leipzig 23.7; Hamburg 24.5; Hanover 27.6; Bremen 17.2; Cologne 23.2; Frankfort-on-Main 18.3; Strasburg 33.1.

In the 28 English towns, with an estimated population of 8,455,308, for the week ending February 18th, the death-rate was 26.4. Deaths reported 4275; acute diseases of the respiratory organs 759 (London), diphtheria-cough 280, measles 138, scarlet fever 92, fever 49, diarrhoea 25, small-pox (London 17) 22, diphtheria 18. The death-rates ranged from 14 in Leicester to 35.3 in Blackburn; Bristol 20.9; Birmingham 22.6; Leeds 22.6; Sheffield 22.6; Liverpool 24.8; Manchester 28.2; London 29.3. In Edinburgh 21.1; Glasgow 28; Dublin 36.9.

For the week ending February 11th in the Swiss towns there were 44 deaths from acute diseases of the respiratory organs, pulmonary consumption 40, diphtheria and croup 10, whooping-cough and diarrheal diseases each seven, typhoid fever five, scarlet fever two, puerperal fever one. The death-rates were, Geneva 34.6; Zurich 30.4; Basle 22; Berne 27.6.

The meteorological record for the week ending February 25th, in Boston, was as follows:—

| Date.            | Barom-eter. | Thermom-eter. |          |          |            | Relative Humidity. |             |       |            | Direction of Wind. |             |            | Velocity of Wind. |             |            | State of Weather. <sup>1</sup> |             |                       | Rainfall.         |  |
|------------------|-------------|---------------|----------|----------|------------|--------------------|-------------|-------|------------|--------------------|-------------|------------|-------------------|-------------|------------|--------------------------------|-------------|-----------------------|-------------------|--|
| February, 1882.  | Mean.       | Mean.         | Maximum. | Minimum. | 7.23 A. M. | 3.23 P. M.         | 11.23 P. M. | Mean. | 7.23 A. M. | 3.23 P. M.         | 11.23 P. M. | 7.23 A. M. | 3.23 P. M.        | 11.23 P. M. | 7.23 A. M. | 3.23 P. M.                     | 11.23 P. M. | Duration, Hrs. & Min. | Amount in inches. |  |
| Sun., 19         | 30.355      | 20            | 29       | 10       | 61         | 84                 | 100         | 82    | NW         | SE                 | SE          | 4          | 10                | 5           | O          | S                              | F           | —                     | —                 |  |
| Mon., 20         | 30.023      | 32            | 39       | 27       | 82         | 66                 | 67          | 72    | W          | NW                 | NE          | 7          | 11                | 10          | F          | O                              | C           | —                     | —                 |  |
| Tues., 21        | 29.751      | 27            | 32       | 22       | 94         | 100                | 100         | 98    | NE         | E                  | NW          | 18         | 32                | 24          | S          | Sleet.                         | X           | —                     | —                 |  |
| Wed., 22         | 29.696      | 22            | 27       | 18       | 76         | 94                 | 70          | 80    | NW         | N                  | NW          | 16         | 6                 | 6           | O          | S                              | X           | —                     | —                 |  |
| Thurs., 23       | 29.546      | 21            | 30       | 13       | 75         | 77                 | 84          | 79    | NW         | NW                 | NW          | 12         | 12                | 13          | O          | C                              | O           | —                     | —                 |  |
| Fri., 24         | 30.211      | 25            | 35       | 17       | 75         | 54                 | 73          | 67    | NW         | NW                 | NW          | 11         | 16                | 16          | F          | F                              | C           | —                     | —                 |  |
| Sat., 25         | 30.393      | 27            | 40       | 18       | 70         | 50                 | 70          | 63    | NW         | SE                 | S           | 12         | 7                 | 5           | C          | C                              | C           | —                     | —                 |  |
| Means, the week. | 30.082      | 25            |          |          |            |                    |             |       |            |                    |             |            |                   |             |            |                                |             | 11.20                 | .64               |  |

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., snow; R., rain; T., threatening; X., clearing.

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM FEBRUARY 25, 1882, TO MARCH 3, 1882.

POPE, BENJAMIN F., captain and assistant surgeon. Relieved from duty in Department of Dakota, and to report in person to the Surgeon-General for duty in his office. S. O. 42, A. G. O., February 21, 1882.

MOFFATT, PETER, captain and assistant surgeon. Relieved from duty at Camp Spokane, W. T., to proceed to Fort Conr d'Alene, Idaho, and relieve Assistant Surgeon Spencer from duty at that post. S. O. 20, Department of the Columbia, February 11, 1882.

COLLIGAN, E. T., captain and assistant surgeon. Assigned to duty at Fort Stanton, New Mexico, relieving Assistant Surgeon Newton. S. O. 40, Department of the Missouri, February 21, 1882.

SPENCER, WILLIAM G., captain and assistant surgeon. Granted leave of absence for one month, with permission to apply for an extension of one month, to Division Headquarters, and

for an extension of four months to the Adjutant General of the army. S. O. 19, Department of the Columbia, February 10, 1882.

SPENCER, WILLIAM G., captain and assistant surgeon. Relieved from duty in Department of the Columbia, to proceed to New York city, and on arrival, report by letter to the Surgeon-General. S. O. 46, A. G. O., February 27, 1882.

ERRATA. — Page 175, line 27, instead of "Dr. Watson" read "Dr. Cullen." Page 176, line 8, add "alone;" line 21, for "antipyretic" read "antiphlogistic;" line 35, for "does not cause deafness" read "does not usually cause deafness;" line 38, for "South Carolina" read "Alabama."

MASSACHUSETTS COLLEGE OF PHARMACY. — The regular monthly pharmaceutical meeting of the College will be held at 7.30 P. M., on Tuesday, March 14, 1882, in the College Hall, No. 151 Washington Street. Stephen P. Sharples, Sugar Manufacturer and Assaying. Henry W. Lincoln, Ph. G., Pharmacy Laws, are they Desirable? All persons interested in pharmacy and collateral pursuits are invited to be present.

DR. B. F. DAVENPORT, Registrar.

## Original Articles.

TUMOR FORMATIONS IN ACUTE PELVIC INFLAMMATIONS.<sup>1</sup>

BY HALL CURTIS, M. D.

WHEN first the attention of physicians was called to acute inflammations of the tissues connecting and covering the pelvic viscera they decided that the peritonæum was the exclusive seat of these affections. Later investigators placed them in the cellular connective tissue underlying the peritonæum. In 1857 this prevailing theory was upset by the investigations of Bernutz, when again the pelvic peritonæum came to be generally considered as the sole offending, or rather offended, membrane. Still many writers cling to their old beliefs and theories. Among them Nonat, Aran, West, and Hewitt, for they describe minutely the distribution of the cellular tissue and its inflammation, referring now and then to the occasional coexisting peritoneal inflammation as a mere accessory, the main affection being confined to the areolar tissue. During the past two or three years the tide seems to be turning more and more strongly in the direction of the views expressed by them. Among the articles published bearing on this subject especially to be mentioned is one in the *Saint Bartholomew's Hospital Report on Perimetritis and Parametritis*, by Walter S. A. Griffith. Another is found in the *Edinburgh Medical Journal*, June, 1880, written by A. Macdonald, and a third on *Obscure Pelvic Abscess, with Remarks on the Differential Diagnosis between Pelvic Peritonitis and Pelvic Cellulitis*, by Paul F. Munné, in the *Archives of Medicine*, December, 1880.

The truth seems to be that both tissues are affected separately or together, at times the one more than the other. Occasionally the line of demarcation is easily defined, and diagnosis may be simple; at times impossible. When acute observers like Duncan and Emmet state they are unable to make at the bedside a diagnosis, and the latter says the difference is merely a theoretical one, we need not be surprised at our own indecision nor wonder why hospital records offer such apparent contradictions.

As Dr. Priestley puts it, in an article written in 1872, "They have in a great measure the same causes, approximately the same symptoms, and require to some extent the same treatment, while they are often associated together. One by contiguity may light up inflammation in the other, and they may pursue their respective course at the same time and in the same portion."

There can be no doubt that these inflammations are among the most important, as they are also the most frequent, of all diseases confined to woman. Unfortunately they are often misunderstood or entirely overlooked. The symptoms at times are obscure, the course of inflammation chronic, or at all events not sufficiently acute to turn the attention of the attendant in the proper direction. The patient is supposed to be suffering from general debility, from tuberculosis, from hysteria or nervous prostration, while a vaginal examination, the only means by which a more correct idea of the true condition of the patient could be formed, is not made.

One of the earliest contestants for cellulitis, or, as

he termed it, peritertiary phlegmon, was Nonat, in 1840. And it is interesting to see that the localities he asserted to be the chosen sites for cellulitic deposit are identically the same described by Macdonald in 1880, and proved by anatomical studies made by König, Schlesinger, and Spiegelberg.

Macdonald gives six localities for cellulitis, as follows: (1.) In front of the uterus. Here the peritonæum is reflected at a level as high as the internal os, leaving the cervix bare of peritonæum, and connected with the neck of bladder by a plentiful layer of loose vascular connective tissue.

I do not see how in this position the cellular tissue can be considered plentiful (unless in the sense of sufficient). It is really scanty, which accounts for the comparatively rare occurrence of ante-uterine cellulitis.

(2.) Peritonæum covers the whole of the uterus posteriorly, extending to a considerable extent over the upper part of the vagina, but is so altered in its relation to the organ at or about the level of internal os as to have a thick layer of subserous connective tissue.

(In this position the cellular tissue is especially loose, is capable of great distention, as is often seen in the low bulging tumors in the posterior wall of vagina.)

(3.) On each side of the uterus a space, triangular in shape, with apex at either Fallopian tube and base at reflection of the vagina on to the uterus, which is not covered with peritonæum, is rich in blood-vessels and connective tissue.

(4.) Lastly, between the layers of either broad ligament, particularly at the lower part of them, is much highly vascular connective tissue.

As Macdonald says, it will be observed that the situations in which such inflammation may take place, with exception of the top of the triangles by the side of the uterus, are *low down in the pelvis*. He states the *upward spread* of the inflammation is prevented by the firm and unyielding peritonæum, but I should rather attribute its *descent* to the fact that the cellular tissue becomes looser and more abundant the lower it lies in the pelvis, and also to the law of gravitation. The fact is, at all events, that pelvic cellulitis as a rule is low placed.

Of these localities the utero-vesical is the least frequently affected. Much more common are the phlegmons of the broad ligament, of the lateral and post-uterine cellular tissue. Again, the left side seems to be more generally affected, attributed to the fact that the sigmoid flexure and the rectum, with the accumulated feces, are more liable to determine a congestion on that side.

These attacks of cellulitis, low lying as already stated, clinging to the pelvic wall, following closely down the sides of the cervix, depressing the vaginal cul-de-sacs, and thus, as it were, shortening the cervix, are as a rule to be distinguished only by a vaginal examination, though at times a carefully made bimanual examination will define the upper limits of the thickening, expressed by Duncan as presenting extent rather than a great mass or thickening.

In looking over such of the records of the City Hospital for the past ten years as I could have access to, taking them in hand from the time when Dr. Sinclair made his contribution on pelvic peritonitis, published in the first report of the Hospital, I have found 74 cases reported as peritonitis, 15 as cellulitis, and 24 as pelvic abscess. This would lead us naturally to infer that cellulitis is by far the rarer of the two affections,

<sup>1</sup> Read before the Obstetrical Society of Boston, November 12, 1881.

but I think some latitude must be allowed here for the bias of the physician in attendance. Certainly, in looking over the records some of the cases seem to have been cellulitis rather than peritonitis. For instance, in one case inflammation was low seated, the *cervix shortened*, the effusion *extending to os uteri*.

In another, an indurated mass involving uterus and cervix, extending *nearly to edge of os*; two weeks later free and continuous discharge of pus.

In another the body of the uterus was fixed, forming a part of the solid mass in the pelvic cavity, from which the os seemed to protrude *in a nipple-like manner*.

Again. Above a *short cervix* is a hardness almost stony in character, the os, admitting finger, had a *ring-like feel*, hard and rigid.

Another, tubular, from outside thickening, its edges semicartilaginous.

Another, pelvic roof very hard, cervix almost obliterated.

In connection with our statement that these tumors are situated low down in the pelvis we may also quote or refer to an autopsy made by West bearing on this point, where the uterus was pushed up and to the right by eight ounces of pus in the cellular tissue to the left and back of the organ. *The upper part of the abscess reached one and one half inch above the level of the os uteri.*

A post-uterine tumor resulting from cellulitis is generally smaller than one depending on pelvic peritonitis. It flattens the posterior cul-de-sac, or may even bulge it downwards, at the same time prolapsing the posterior vaginal wall.

These cellular infiltrations or so-called phlegmons as a rule do not form tumors sufficiently extensive to be recognized by an abdominal examination alone. When a cellulitis offers the signs of a tumor readily felt through the abdomen, as in the extensive inflammations of the broad ligament, there is an accompanying peritonitis, and usually suppuration.

When the brunt of the inflammation falls upon the tissues situated in the broad ligament its possible area seems to be much more extensive than in the other para-cervical regions. As the inflammation as a rule is more intense, so its ravages are more marked. It may, and often does, extend, as proved by König, into the cellular tissue of the inguinal region, into the cellular tissue forming the sheaths of the psoas and iliacus muscles, and into the abdominal parietes, rising as high as the umbilicus, or, climbing the steps of the areolar network, mounts into the hypochondrium, as was seen in a case reported by me to this Society some three years since.

In these cases the peritoneum is always affected, and the resulting tumor is prominent and readily recognized by external examination.

Dr. Gräffths, in his very interesting paper, divides these inflammations into para-metritis inguinalis, transversalis, and psoas para-metritis, considering each of them separately and giving cases in point. His inguinalis, so often seen shortly after delivery or abortion, consists in a hardness, tenderness, and prominence along or rather above Poupart's ligament, with retraction of the corresponding thigh. This form he considers leads us to the more remote varieties of para-metritis, namely, to that in the transversalis fascia and muscle and in the psoas sheath.

When the broad ligament is thus affected the peritoneal inflammation marches with an equal step, whereby

the large exudation masses are formed, and suppuration, as a rule, follows. The temperature chart of suppurative cellulitis is remarkable for its daily remissions. High in the evening it may be low in the morning; at times normal, or even below the normal line in the morning, yet rising to 105° F. at night.

As the peritoneum occupies a higher plane in the pelvic cavity, so its inflammations naturally would take a higher level than those confined to the cellular tissue. Moreover, the well-known tendency of peritonitis to spread from coil to coil of intestine, fusing them together into a tumor-like mass, lets us readily understand why this affection should rise higher than a cellulitis proper, which as a rule spreads laterally.

Adhesive peritonitis, the most frequent of the peritoneal inflammations, does not always betray its presence by a tumor. Its favorite site is in Douglas pouch, where at times the uterus, or an ovary bound to the sacrum, forms the centre of a mass of adhesive peritonitis and a resulting tumor. When, however, the peritoneal inflammation spreads and the various viscera are matted together, a large tumor is formed, most readily detected by an external examination.

These tumors may also be enlarged by a secretion of serum or pus poured into the meshes and intervals lying between the effused lymph and intestinal masses. These larger peri-metric tumors *theoretically* are to be diagnosed by the resonance irregularly distributed of the intestinal coils confined in the general mass. Pelvic peritonitis, as recognized by the vagina, is only found behind the uterus, does not *encroach on the lower part of the cervix, nor usually shorten the vagina*. The tumor resulting from a post-uterine cellulitis is generally smaller and does not throw the uterus so forcibly forwards, but it, as already stated, *lies lower, depresses and flattens the posterior cul-de-sac*, and often *prolapses* the posterior wall of the vagina.

The aetiology of the inflammation also throws a distinguishing light on the two affections, for injuries or diseases of the upper part of the vagina and of the cervix are, as a rule, followed by inflammation of the cellular tissue, whereas lesions of the upper part of the uterus light up a peritoneal inflammation. Bernutz states that the spontaneous opening of these *peri-metric* purulent collections into the vagina has never been demonstrated, in his knowledge, by an autopsy. I think we may borrow this weapon from him to prove one point, and show the higher situation in the pelvis of peri-metric effusions.

## REPORT OF PROGRESS IN MATERIA MEDICA AND PHARMACY.<sup>1</sup>

BY WILLIAM F. BOLLES, M. D.

### HYOSCINE.

E. MERCK sent a communication to the British Pharmaceutical Conference upon this alkaloid and others of the solanaceae, covering ground which has been previously touched in these reports. The following is an abstract of his paper: Professor Ladenburg in continuing his researches upon the mydriatic alkaloids of the Solanaceae has definitely confirmed the ex-

<sup>1</sup> Pharmaceutical Journal and Transactions; American Journal of Pharmacy; New Remedies; The Pharmacist and Chemist; Chemist and Druggist; Journal de Pharmacie et de Chimie; Archiv der Pharmacie, etc.



istence of a second alkaloid in *Hyoscyamus niger*. The presence of this alkaloid was indeed suspected from the difference in the physiological action between the crystallized and amorphous hyoscyamine. Here L. calls the new alkaloid "hyoscine." It is isomeric with atropine and hyoscyamine, whilst, however, atropine and hyoscyamine split up into tropic acid and tropine, hyoscine yields as decomposition products tropic acid and pseudo tropine.

Professor Edelfsen has instituted a number of clinical trials of hyoscine which, so far as they have gone, have shown that in certain cases it exercises a more constant and surer action than atropine, and that it also possesses a soothing and soporific influence. Professor Edelfsen has obtained beneficial results from hyoscine in the treatment of whooping-cough, asthma, and epilepsy.

These trials, although not conclusive, serve to show that in the new alkaloid we possess a pure and trustworthy remedy. The hydriodate and hydrobromate have been prepared by Mr. Merck.

He gives the following synoptical account of the three mydriatic alkaloids and of their origin according to the new views.

(1.) Atropine occurs: (a) In *Atropa belladonna*, L. It is also known as "heavy atropine" and "atropine verum." (b) In *Datura stramonium*, L. Is "daturin verum" or "heavy daturine."

(2.) Hyoscyamine is found: (a) In *Hyoscyamus niger*, L. (b) In *Atropa belladonna*, L. So-called light "atropine." (c) In *Datura stramonium*. Known as "light daturine." (d) In *Duboisia myrapioides*. So-called duboisine.

(3.) Hyoscine; in *Hyoscyamus niger*.

#### EFFECT OF CULTIVATION UPON BELLADONNA.

Mr. A. W. Gerrard, having an opportunity of obtaining a considerable quantity of wild belladonna plants, has undertaken a comparative examination of the alkaloidal value of wild and cultivated specimens. The former grew upon a very poor limestone soil incapable of producing ordinary cultivated crops, but which seemed particularly adapted to this plant, as it grew in great luxuriance to the height of six feet. The age, according to his estimate, was three or four years. The cultivated drug was obtained from an herb garden with a chalk sub-soil and a foot of good loam; the plants were three or four feet high and three or four years old. The following is the result of his analysis:—

|        | Wild Plant.   | Cultivated Plant. |
|--------|---------------|-------------------|
| Root,  | .45 per cent. | .35 per cent.     |
| Stem,  | .11 per cent. | .07 per cent.     |
| Leaf,  | .58 per cent. | .40 per cent.     |
| Fruit, | .34 per cent. | .20 per cent.     |

There was a decidedly greater percentage of alkaloids in every part of the wild plant, although the cultivated specimen was considerably better than the average.

#### PETROLEUM OINTMENTS.

The melting points to which it is desirable to have our petroleum ointments adjusted have been carefully considered by numerous gentlemen, especially by several interested in the revision of the Pharmacopœia whose views probably foreshadow the requirement of a somewhat stiffer preparation than the ordinary vaseline or cosmoline as now sold. Both these preparations in the heat of midsummer become almost fluid and in-

stead of forming a consistent non-adhesive dressing are too apt to soak away indefinitely into the cotton.

The possession of two degrees of hardness in fatty dressings is a convenience that the surgeon would be loath to give up, and it is earnestly to be hoped that the Pharmacopœia Committee will give us two grades of petroleum "ointment" which shall correspond with the ointments and cerates of the present edition. Mr. Rice at the last meeting of the American Pharmaceutical Society read a paper upon the subject which may be surmised to be somewhat prophetic so far as the new Pharmacopœia is concerned. He quotes as the opinion of a number of physicians that he would like two of these salves, one melting at 40° C. or 104° F., the other at about 46° C. or about 115° F.;—figures that would appear to be perfectly satisfactory. Then rather curiously giving as a reason the danger of confusion he recommends that only *one* of these, and that the lowest, should be recognized, but why it should be more confusing than the present unguentum and ceratum it is difficult to see. If this is the final decision of the committee, physicians will still have to write for any variation from the standard ointment under the proprietary names which they were hoping to get rid of. The classical distinction between an ointment and a cerate which Mr. Rice handles so respectfully is practically obsolete, mercurial ointment; which is generally used by innuendo, is as stiff as most cerates, while zinc ointment, which is much softer, is never so employed. The melting points of cerates adapts them especially for summer use; and for mixture with various softening medicaments; while ointments serve better in the winter and for admixture with dry powders. It is to be hoped that both the hard and soft petroleum ointments will be recognized.

#### IGNATIA.

Although known in Europe as an article of commerce for nearly two centuries, and for many years one of the important sources of strychnia, but little is accurately known of the plant which produces it excepting that it is a climbing shrub, bearing a large, several-seeded fruit. This has been described and figured a number of times, but never so carefully as by Flückiger and Meyer within the past year in an elaborate article in the *Pharmaceutical Journal*. They received from Manilla four fruits, one dry and three others preserved in alcohol, in a perfectly satisfactory state. They were globose, twenty-five to twenty-nine centimetres in circumference, with a smooth, shining, green epidermis (unripe), and ten or twelve seeds (the commercial portion) imbedded in a soft pulp. There was no appearance of any dissepiment which the authors believed, with probable truth, had become converted into the soft parenchyme surrounding the seeds. Their description both of the gross and microscopic appearances is very minute and careful, and the article is illustrated by nearly twenty interesting drawings.

M. Planchon has also, during the year, published an elaborate series of studies upon other members of the *strychnos* genus, especially those employed in the various processes for making curare. In the first paper he compares the microscopical characters of five or six barks from different species, including *nux vomica* (false angustura) "hoang nan," m'bondon, and the species used in South America for making curare, with the result of finding a decided similarity of struc-

ture in them all. The woods were characterized by silky fibres and large lacunae, but seemed to be less constant in their resemblance to each other than the barks. In the second paper there is the general and now pretty accessible history and description of curare, with the following *résumé* of its varieties, etc. All the cures contain products of some species of *Strychnos*, which plays the important part, the other plants mixed with them being evidently accessories. This has been demonstrated by physiological experiments undertaken recently with the bark of American species of *Strychnos*, which show that the characteristic action of the poison can be referred to them alone.

In the actual state of our knowledge we can indicate pretty clearly four regions where curare is prepared, and for each of them mention a species of *Strychnos* which is used as a basis for its preparation. These are passing from east to west:—

(1.) The region of the upper Amazon or of the *Strychnos Castelnauana*, Wedd. It yields the curare of the Ticunas, Pebas, Yaguas, and Oregones.

(2.) The region of the upper Orinoco extending towards the Rio Negro, where the *Strychnos Gableri*, Planch., is met with, which yields the curare of the Moquiritaras and Piaros.

(3.) British Guiana, *Strychnos torifera*, Schomb., associated with *S. Schomburgkii*, Kl., and *S. cogens*, Benth., from whence comes the curare of the Macasis, Oreunas, etc.

(4.) The region of Upper French Guiana or of *Strychnos Crevauxii*, whence comes that of the Trios and Roucouyennes.

In several successive numbers M. Planchon gives all the information that can be obtained regarding these different cures, as to their origin and preparation, in support of the above conspectus.

#### CHINOLINE.

At a meeting of the Materia Medica Section of the International Medical Congress, Dr. Donath stated that the tartrate of chinoline in the proportion of 0.2 per cent. completely prevents the lactic fermentation of milk, decomposition of urine and gelatine, and the development of bacteria in artificial cultivating fluid, and that it is superior in antiseptic power to sodium salicylate, quinine, boric acid, salicylic acid, copper sulphate, and alcohol. Even in concentrated solution it does not precipitate albumen, and in the proportion of 0.1 per cent. it prevents the putrefaction of blood, and the curdling of milk. In the proportion of one per cent. it completely destroys the coagulability of the blood. Taken internally it lowers the temperature in fevers, is useful in periodic neuralgia, and is an excellent local antiseptic. The dose for adults is one or two grammes dissolved in equal parts of syrup and water.

Children take it easily. It is said not to cause any unpleasant after-effects, such as giddiness and timidity. A further communication on the subject from Dr. Donath appears in the current number of the *Berichte* (xiv., 1769), from which it appears that chinoline, even in considerable quantity, does not affect the alcoholic fermentation, and is remarkably inactive towards yeast cells, a property that, notwithstanding statements to the contrary by Liebig and others, appears to be shared by quinine. The author states that chinoline is never found as such in the urine after administration, and he thinks it probable that it appears there as pyridine

carbonate, which also would have an antiseptic action. As the fact that it has sometimes been alleged that chinoline derived from coal tar is not identical with that derived from the decomposition of quinine and cinchonine, points to possible variations in the substance supplied under that name, it may be useful to know that in the second paper in the *Berichte*, above referred to, Dr. Donath gives a series of reactions for testing its purity — *Pharm. Journ. and Trans.*

#### CINNAMIC ACID AS AN ANTISEPTIC.

The recent artificial production of this well-known substance at a much cheaper rate than it can be separated from the oils and balsams of which it forms a characteristic portion, renders its antiseptic claims worth noticing.

It is a beautiful crystalline solid, having a slight odor, varying according to the source from which it is made. It dissolves in one thousand parts of water, sixty-six of oil, and is more soluble in borax and phosphate of soda solutions, as well as in alcohol, ether, and chloroform. Dr. Barnes, following Dr. Fieck and others in point of time, has reported some experiments made with artificial cinnamic acid, of which the following are the most instructive: (1.) Two grains preserved four ounces of urine from decomposition for one month in a warm room; (2) the same quantity preserved four ounces of a solution of albumen in water for seventeen days; (3) half a grain to the ounce prevented the fermentation of a solution of malt for thirty-five days.

There is now no lack of antiseptics of considerable power, and additions to the number do not call forth any special enthusiasm, but they all have some drawbacks either of odor, irritability, or taste, while some, as is the case even with the now indispensable carbolic acid, are occasionally dangerously poisonous.

Cinnamic acid is said to be unirritating, and never poisonous, and deserves trial.

## Hospital Practice and Clinical Memoranda.

### MASSACHUSETTS GENERAL HOSPITAL.

#### CASES IN THE SERVICE OF DR. SHATTUCK.

REPORTED BY MR. FREDERIC W. TAYLOR.

#### CHRONIC BRIGHT'S DISEASE WITH DIABETES.

CASE 1. S. G., aged sixty-two, farmer, living in New Hampshire, is a very large man, usual weight three hundred and five pounds, had been accustomed to drink considerably. Always well till January, 1881, when he thought he caught cold; had slight cough and wheezing respiration; subsequently suffered from pain and a feeling of cold between the shoulders, also from sweating, especially at night, felt cold even in a warm room. Entered the hospital July 28th, complaining of persistence of the cold feeling, of loss of appetite, nausea, occasional vomiting of mucus, bowels regular but dejections slimy. He was given a diet of bread and milk, and once a day a pill containing small quantities of belladonna, nux vomica, and colocynth. He did not vomit after entering the hospital, though troubled by gaseous eructations and a feeling of oppression in upper abdomen. August 3d the urine was acid; of normal color; specific gravity 1023; sediment increased,

containing many hyaline and granular casts; albumen less than one quarter per cent.

He improved much, and, though still complaining of occasional chilly sensation in the back, was discharged August 29th; weight about two hundred and seventy-five pounds.

He returned October 15, 1881, saying that one week ago while at work out doors he caught cold; since then his sleep had been disturbed by loud wheezing respiration; he had a slight cough but little expectoration. Sibilant and sonorous râles were heard in both lungs; chest otherwise normal. Given syrup of squills, paregoric, and potassic iodide. Urine: color normal; acid; specific gravity 1026; albumen less than one quarter per cent.; sediment slightly increased, containing numerous casts, coarse and fine granular, hyaline, fatty, of various sizes, some convoluted.

October 20. Respiration easier and much less noisy. Urine: specific gravity 1020; albumen and sediment less than at last examination; in sediment a few casts and crystals of uric acid.

November 3d. Appetite poor; gaseous eructations; respiration loud, without râles. Urine: specific gravity 1023; albumen large trace; sugar; in the sediment crystals of uric acid, and numerous hyaline and granular casts. Squills, paregoric, and potassic iodide omitted.

R Carb. ligni . . . . . 5i.  
Potassii bitartratis . . . . . 5ss. M.  
Three times a day after meals.

R Tr. gent. co. 5ij. three times a day before meals.  
To eat no sugar or potatoes.

November 11th. Appetite not improved. Omit tr. gent. co. and potass. bitart.

R Potassii bicarb. gr. x. three times a day.

November 18th. Micturition less frequent, feels better. Ordered to drink no water but Vichy.

November 21st. Urine: slightly pale; acid; specific gravity 1020; albumen large trace; sugar 1.7 per cent.; sediment slight, containing uric acid crystals, and numerous hyaline and granular casts.

| Date.   | Fluid Drunk, cu. cm. | Amount of Urine, cu. cm. | Specific Gravity. | Percentage of Sugar. | Amount of Sugar in grammes. |
|---------|----------------------|--------------------------|-------------------|----------------------|-----------------------------|
| Oct. 28 | -                    | 2280                     | -                 | -                    | -                           |
| Nov. 3  | -                    | 2700                     | 1023              | -                    | -                           |
| Nov. 11 | -                    | 2880                     | -                 | 0.14                 | 175.68                      |
| Nov. 21 | -                    | 1830                     | 1020              | 1.7                  | 21.11                       |
| Nov. 23 | 2160                 | 2160                     | -                 | -                    | -                           |
| Nov. 25 | 2400                 | 2160                     | -                 | -                    | -                           |
| Nov. 27 | 2700                 | 1800                     | -                 | -                    | -                           |
| Nov. 29 | 2700                 | 2040                     | -                 | -                    | -                           |
| Dec. 1  | 2940                 | 1900                     | -                 | -                    | -                           |
| Dec. 3  | 2220                 | 2160                     | -                 | -                    | -                           |
| Dec. 5  | 3000                 | 2220                     | -                 | -                    | -                           |
| Dec. 6  | 3240                 | 2160                     | -                 | 2.27                 | 49.                         |
| Dec. 7  | 3000                 | 2040                     | -                 | -                    | -                           |
| Dec. 9  | 2280                 | 2160                     | -                 | -                    | -                           |
| Dec. 11 | 2460                 | 2040                     | -                 | -                    | -                           |
| Dec. 13 | 2820                 | 2700                     | -                 | -                    | -                           |
| Dec. 15 | 3000                 | 1980                     | -                 | -                    | -                           |
| Dec. 17 | 3240                 | 2160                     | -                 | -                    | -                           |
| Dec. 19 | 3240                 | 2160                     | -                 | -                    | -                           |
| Dec. 21 | 3180                 | 2130                     | -                 | 2.1                  | 44.73                       |
| Dec. 23 | 3000                 | 1920                     | -                 | 1.64                 | 31.48                       |
| Dec. 25 | 3150                 | 2100                     | -                 | -                    | -                           |
| Dec. 27 | 3000                 | 2160                     | -                 | -                    | -                           |
| Dec. 29 | 3000                 | 1020                     | -                 | -                    | -                           |
| Dec. 31 | 2580                 | 1920                     | -                 | -                    | -                           |
| Jan. 2  | 3060                 | 2160                     | -                 | -                    | -                           |
| Jan. 4  | 3000                 | 2220                     | -                 | -                    | -                           |
| Jan. 6  | 3000                 | 2160                     | 1022.5            | 2.23                 | 28.16                       |
| Jan. 8  | 3000                 | 2130                     | -                 | -                    | -                           |
| Jan. 10 | 3000                 | 1920                     | -                 | -                    | -                           |
| Jan. 12 | 3150                 | 1980                     | -                 | -                    | -                           |

<sup>1</sup> Morning urine; the others are specimens of the twenty-four hours' urine mixed.

January 6, 1882. General condition good; goes out every day; would not think himself sick if he did not know that he had diabetes; complains that he does not relish food, yet he takes a large amount; drinks much milk and some Vichy water. Urine: acid; slightly pale; specific gravity 1022.5; albumen one quarter per cent.; sediment contains uric acid crystals, numerous hyaline and granular casts, some with round cells adherent.

#### DIABETES.

CASE II. December 1, 1880. Jane L., aged twenty-three, single, a domestic, born in Ireland, and has lived in Springfield. Well till five years ago, when she had "diphtheria and inflammation of the bowels." One year ago last month she had typhoid fever. Last February she worked very hard, was up much at night; has not been well since. At that time she first noticed thirst and a profuse and frequent micturition. Since then she has been in California, and has been losing strength and flesh continually. Six weeks ago her legs swelled, and she gave up work; has felt better since. At present appetite good; bowels regular; catamenia normal; temperature 99° F.; pulse 80. Urine: pale; specific gravity 1054; large amount of sugar. Nothing abnormal found in chest or abdomen. Best weight 145 pounds; present weight 122 pounds. Diet restricted to gluten bread, butter, meat, eggs, Vichy water.

December 8th. Less thirst; better appetite. Urine: acid; pale; specific gravity 1030; 89.788 grammes of urea in twenty-four hours; albumen very slight trace; sediment considerable; contains blood, leucocytes, and sugar spores. Complaints of gastric acidity.

R Sodii bicarb. gr. x. three times a day after meals.

December 17th. Thirst variable; drinks two quarts of Vichy water in the twenty-four hours; has a variety of bread.

December 29th. Weighs 112 pounds. Perspires after taking a warm bath. Is allowed milk and fish.

January 7, 1881. General condition good; takes an hour's walk each day; is in bed the rest of the time.

R Tr. opii m. x. three times a day.

R Fowler's solution gr. iij. three times a day.

February 4th. Omit sodii bicarb. and tr. opii.

R Potassii iodidi gr. x. three times a day.

February 14th. Decidedly improved some days; others worse. Omit Fowler's solution.

R Saponis gr. iv. three times a day.

R Morph. sulphatis gr.  $\frac{1}{2}$  three times a day.

March 11th. Omit present medicines. Feels as strong as ever. Pulse 84, full and strong.

R Sodii salicyl. . . . . gr. xij.

Tr. opii decod. . . . . m. x. M.

Three times a day.

March 20th. Increase salicylate of soda to gr. xx. three times a day.

March 26th. Failing. Return to a varied diet. Omit salicylate of soda.

R Acidi carbolici m. ij. three times a day.

April 1st. Ferri iodidi gr. i. three times a day.

April 13th. Food does not sit well. Omit carbolici acid. Takes four quarts of skimmed milk daily.

April 16th. Omit skimmed milk; return to restricted diet.

R Potassii iodidi gr. vi. three times a day.  
 R Morhiae sulphatis gr. ʒ three times a day.  
 R Saponis gr. ix. three times a day.

April 19th. Increase potassic iodide to gr. x.; later it was increased to gr. xx. three times a day.

April 29th. Sodii bicarb. ʒi. three times a day.

May 22d. Is tired of hospital, and wants to go home; will continue treatment there.

September 24th. Patient has been comfortably well most of the time since leaving the hospital; recently the amount of urine has diminished. She went to a party September 22d, taken sick at four p. m., September 23d, and died this morning at nine o'clock; symptoms of last sickness not learned.

| Date.       | Amount of Urine, cu. cm. | Percentage of Sugar. | Weight of Sugar, Grammes. |
|-------------|--------------------------|----------------------|---------------------------|
| December 4  | 6802                     | 9.4                  | 639.88                    |
| December 8  | 6144                     | 6.5                  | 399.35                    |
| December 16 | 6200                     | 8.3                  | 514.6                     |
| January 4   | 8164                     | 7.5                  | 612.3                     |
| January 12  | 5760                     | 6.6                  | 380.16                    |
| January 25  | 3780                     | 8.3                  | 313.74                    |
| February 6  | 7380                     | 6                    | 442.8                     |
| February 8  | 7800                     | 6.3                  | 491.4                     |
| February 29 | 7800                     | 6.6                  | 459.16                    |
| February 10 | 8100                     | 6.3                  | 522.2                     |
| Feb. 11-25  | —                        | 6.7                  | —                         |
| March 16    | 6800                     | 8.14                 | 567.72                    |
| March 22    | 9600                     | 7.5                  | 720.0                     |
| March 29    | 7500                     | 7.5                  | 562.5                     |
| March 31    | 3604                     | 5.75                 | 207.45                    |
| April 13    | 3600                     | 7.14                 | 257.12                    |
| April 23    | 4720                     | 7.3                  | 345.56                    |
| May 1       | 7550                     | 4.65                 | 351.3                     |
| May 8       | 9000                     | 6.11                 | 549.9                     |
| May 17      | 5300                     | 7.35                 | 388.95                    |

#### CHRONIC BRIGHT'S DISEASE WITH RECOVERY.

CASE III. October 23, 1871. J. W. N., fisherman, aged thirty-six, born in Prince Edward's Island, and living in Provincetown. Family history good. Uses tobacco freely, and till within eight years liquor also. On the 10th of last September was up all one night, but well protected from exposure; on the 11th found his feet and ankles somewhat swollen, and on the 12th his legs and abdomen, and soon after his scrotum and penis; oedema and ascites have gradually increased; at one time much dyspnoea; has had no trouble with eyesight, no vomiting or headache; he is sure there has been no oedema of face; pulse 72; temperature 98.5° F.; appetite fair; thirst considerable; bowels free; estimates amount of urine one pint in twenty-four hours. Urine: acid; specific gravity 1018,  $\text{uph} + \text{u. cl. c. p.} -$ ; albumen considerable; hyaline, granular, and fatty casts.

Lies with three pillows under head; emaciation marked; abdomen not very large; no resonance from a few inches above umbilicus down; hepatic dullness begins just above fourth rib; right back dull at lower angle of scapula; crumpling at end of inspiration over lower right back; sounds of heart normal.

R Tr. ferri chloridi . . . . . gtt. x.  
 Three times a day.

October 27th. Vomiting; abdomen tense; feet much swollen; pulse 64, small, varies in strength; dyspnoea.

R Tr. aloë et myrrh . . . . . ʒss.

October 28th. Three loose dejections; feels better.

November 1st. Thinks he passed two pints of urine in twenty four hours.

R Ol. morrh. . . . . ʒss.  
 Twice a day.

November 14th. Legs and abdomen improved. Takes every day or two a pill of podophyllin and belladonna, by which bowels are kept loose.

November 27th. Left leg nearly normal in size.

R Liq. am. acet. . . . . ʒss.  
 Tr. scilla . . . . . ʒj.  
 Tr. digitalis . . . . . gtt. viii. M.  
 Three times a day.

December 25th. Omit liq. ammon. acet., digitalis, etc.

January 6, 1872. Urine same as at first examination.

January 10th. Much serum oozes from left leg. Puncture both with needle.

January 12th. Omit ol. morrh. and tr. ferri chloridi.

January 13th. Says he never felt better in his life.

January 16th. Urine same.

January 30th. Dullness over lower right back, sibilant and sonorous râles.

February 10th. Tr. ferri chlor., ten drops three times a day.

March 8th. Bandage leg.

March 19th. Urine: acid; specific gravity, 1025,  $\text{uph} + \text{u. n. cl. n. and c. p. n.}$ , albumen considerable; hyaline and fatty casts in abundance.

March 23d. Discharged much relieved. Laxatives taken all the time.

December 20, 1876. Reports that he is perfectly well, works regularly at bridge building, lifts heavy weights, and is exposed to wet and cold. Urine still contains casts and albumen.

January 16, 1878. Same as in 1876.

December 14, 1880. Urine: color normal; acid; specific gravity 1021;  $\text{uph. n. ind. sl. +, u. n. u. sl. +, cl. n. e. p. a. p.} -$ ; albumen slight trace. In sediment much calcic oxalate, blood, few leucocytes, hyaline and granular casts.

January 9, 1882. Still works at bridge building; is strong and well as any one. Urine: color normal; acid; specific gravity, 1021; albumen slight trace. In sediment an occasional blood globule, and doubtful granular cast.

#### CANCER OF HEAD OF PANCREAS AND OF THE LIVER.

CASE IV. Charles F., aged fifty-two, a musician, born in Germany, and living in Boston, entered the hospital August 18, 1881, and gave the following history:—

Family history good. Have been in the habit of using considerable wine and beer, also some distilled liquor, but seldom to intoxication. For the past six years I have had five or six loose dejections a day without pain. Four months ago skin and conjunctive became very yellow. I vomited, and feces were white; since then I have vomited occasionally, lost fifty-five pounds of flesh, and have some pain in right side of body generally. The yellowness of the skin varies in intensity frequently; feet and legs swollen at times; sleep disturbed by itching; appetite good, but food does not sit well on my stomach.

Physical examination. Bright yellow color of skin, conjunctiva, and mucous membrane of mouth; hepatic dullness not increased in area upward; below border of right ribs is felt a hard, oval mass, about the size of a lemon, which rises and falls with respiration, is dull on percussion, of the density of liver substance, and occupies the position of the gall-bladder. Urine

is of a dark, greenish-brown color, and contains much bile pigment.

September 22d. Patient is seldom in bed all day; goes out doors occasionally; has lost some flesh and strength since entrance; prominence below right ribs larger and more superficial; dejections dark gray, pul-taceous, and average four a day.

October 17th. Patient apparently improving; goes out every pleasant day; appetite better; no increase in size of tumor; urine nearly normal in color; dejections of a dark-slate color.

November 16th. Tumor no larger, but lower edge of liver readily felt; urine, color high, acid, specific gravity 1007, large trace of albumen; in the sediment a few granular and epithelial casts.

December 7th. Has been losing strength the past few weeks; some pain in right hypochondrium; dejections liquid.

December 22d. Is much weaker, and remains in bed all the time; defecation and micturition involuntary.

January 1, 1882. Apathetic; occasional severe pain in right hypochondrium; delirious at times.

January 4th. Pulse gradually failed till he died, at 11.15 A. M. Since the dejections became liquid the urine diminished greatly in quantity; for the last three weeks he passed but twelve or sixteen ounces a day; urine passed this morning was as follows: color dark; acid, specific gravity 1016, bile pigment, albumen large trace; in the sediment, renal epithelium, numerous granular and epithelial casts, little free blood.

January 5th. *Autopsy.* Universal yellow color not only of the surface of the body, but of all the tissues. Kidneys slightly enlarged; epithelial lining of the convoluted tubes granular, with an extensive deposit of amorphous biliary pigment in some of the cells. Intestines: mucous coat thickened, covered by a layer of mucus, the ends of the papilla of a dark-slate color. Liver large, its gall ducts greatly distended; scattered throughout its substance were numerous cancerous nodules, in size from a pin's head to a cherry; the liver substance itself was of a dark, greenish-yellow color, but otherwise normal. The gall-bladder and both cystic and common ducts were greatly distended, the latter easily admitted the thumb. The pancreas was large, dense, with lobules distinct, cancer in the head, and results of inflammation in the tail; the head evidently pressed upon the outlet of the common gall duct so as to obstruct the flow of the bile. The left pleura contained a few cancerous nodules.

#### HEPATIC CIRRHOSIS. DEATH FROM HÆMORRHAGE.

CASE V. Sarah D., aged thirty-three years, born in Canada, and living in Boston, entered the hospital November 9, 1880. Father died with an enlarged liver, mother of heart disease. Patient had intermittent fever eighteen years ago, pneumonia and pleurisy six years ago. Since having pneumonia she has had attacks of bloody dejections every two or three months, the attacks last three days, there are three or four dejections a day, each dejection containing half a cupful of blood. Epistaxis nearly every day for more than a year. One year ago she had an attack of vomiting and diarrhœa, which kept her in bed a week; she did not fully recover her health till five months afterward. Since some time last summer she has averaged four loose dejections a day; several days ago they were white, now nearly natural in color. Conjunctive have

been yellow for several months; the color has been more marked the past six or eight weeks. At present she complains of a dull pain in right hypochondrium, sharp pain in left hypochondrium and in left lumbar region, lassitude, imperfect sleep.

Catamenia have always been irregular, the interval between them varying, and always being longer than a month.

Physical examination. Complexion is dark, with a decided yellow color, which is especially noticeable on chest and abdomen; no emaciation; area of hepatic dullness normal; liver cannot be felt beneath the border of the ribs; area of splenic dullness much increased; heart not enlarged, soft systolic souffle at the apex; slight general tenderness of the abdomen; urine acid, specific gravity 1005, bile pigments present, albumen absent, nothing abnormal in the sediment.

November 19th. Frequent bloody dejections the last few days; blood enough in some of the dejections to form a clot several inches in diameter on the bottom of the vessel; emesis this morning; vomitus green.

December 6th. Abdominal pain; dejections dark; feet œdematous; liver can be felt beneath border of ribs at the end of a deep inspiration.

December 13th. Legs and face œdematous; urine dark; patient remains in bed.

December 21st. Two boils on neck bleed very readily; epistaxis frequent; in the evening epistaxis from right nostril, which did not stop till both anterior nares were plugged; about one pint of blood was lost; it clotted very slowly. Ext. ergotæ fl., ten minims, every two hours, were then given.

December 22d. Slight flowing; three dejections last night, and four to-day; they consisted almost entirely of blood; at eight P. M. hæmorrhage from the posterior nares; stopped only by plugging.

December 23d. No loss of blood except slight flowing; ergot omitted; during the day took a few ounces of milk and stimulants; became unconscious at three P. M., and died at 9.30 P. M. There was a slight rise of temperature just before death.

December 24th. *Autopsy.* Spleen much enlarged. Recent hæmorrhage in the mucous membrane of the pelvis of one kidney. Mucous membrane of the stomach and of the intestines was besmeared with a dark-red, almost black, viscid material, showing red in dilution; mucous membrane of ileum was stained with a dirty red color. The liver weighed three pounds, fourteen ounces, avoirdupois; their surface was irregular and lobulated, the largest elevations being not more than one half inch in diameter; the organ was dense, and symmetrically atrophied; on section the lobules were seen to consist of islets of unaltered parenchyma separated by streaks of connective tissue; the entire liver was of a greenish-brown color. The gall-bladder was shrunken to the size and shape of a little finger, and contained a white cylindrical calculus, one and one half inches long. The cystic duct near the gall-bladder contained three small white calculi. The lymph glands in the immediate vicinity of the liver were swollen and soft, on section gummy, resembling dregs of paint.

—The *Medical Press and Circular* records the death, from diphtheria, caught during the performance of tracheotomy, of Dr. Gadshy, of Mansfield, Nottinghamshire, at the early age of twenty-eight.

## Reports of Societies.

### PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

T. M. ROTCH, M. D., SECRETARY.

FEBRUARY 27, 1882. DR. W. STURGIS BIGELOW made some remarks on the study of bacteria and their relations to disease, to the following effect:—

#### THE STUDY OF BACTERIA AND THEIR RELATIONS TO DISEASE.

DR. BIGELOW said: The nature and characteristics of the lower organisms, and their relation to disease, is a subject which has of late attracted so much attention both in this country and in Europe that it has become more or less familiar to every one in the form in which it is presented in the medical journals. Unfortunately, however, most of the articles in the journals presuppose on the part of the reader a familiarity with certain general facts connected with the subject which he does not always have the time or opportunity to acquire. Hence it often results that a man may become thoroughly acquainted, on paper, with the minute details of some hairsplitting controversy as to whether a certain bacterium has or has not a constriction in the middle or a flagellum on the end, without having himself ever seen a bacterium; or with a rigid and closely-reasoned criticism of experimental methods, without knowing either the essentials of a good experiment or the commonest faults of a bad one.

DR. B. did not propose to go into details still *sub judice*, but to speak of a few general points connected with the natural history and classification of the microbia, with the methods of experiment, and with their relation to disease where such relation has been demonstrated.

The floating dust in the air consists of a certain quantity of amorphous matter together with certain well marked objects. The nature of the latter can be roughly predicted from the locality. Among them are filaments of animal and vegetable fibre from clothing, shreds of woody tissue, particles of mineral and other crystalline substances, fragments of the horny or siliceous layers of grains and grasses, and the spores or germs of the microbia.

These latter are very small, usually round or oval, with sharp outlines, and highly refracting or opaque. When sown in a suitable soil they grow like any other seed, giving rise to different organisms. Among these are the microscopic fungi and a series of organisms varying in form from a small sphere to a short oval, a long oval, or a more or less attenuated rod. They may or may not have motion, and in some cases flagella can be shown. They may be single, in pairs, or in chains. The chains are sometimes spiral, and some spiral forms occur apparently consisting of a single element, as if a rod were twisted into a corkscrew. In some cases colonies of organisms are clumped together in a mass of jelly—the zooglia. The number of forms appears to be unlimited. But the form, whatever it be, is constant in successive generations. The rods do not beget spheres, nor *vice versa*. But the spore of a large rod may be a small oval body, formed at a certain part of the rod.

A confusion of ideas has arisen from the use of the term "germ theory of disease." An organism which

causes a disease may be said, more or less figuratively, to be the germ of that disease, but the germ of a disease is a very different thing from the germ of an organism. All microbia, so far as known, possess one form in which they are permanent; in some cases, especially among the round or oval microbia, this form is not distinguishable from the form of the adult organism except by its higher refracting power, in others, as in bacillus of anthrax, the spores are glistening, oval bodies, one of which is formed in each end of the individual bacilli; after their formation the body of the bacillus dissolves, and the spores are freed.

No morphological classification yet made is satisfactory, from the constant occurrence of intermediate forms between the groups, no matter where the line be drawn.

A division on physiological lines is more satisfactory. Pa-teur distinguishes aerobia, which require oxygen to live, and anaerobia, which do not. A division into pathogenic and non-pathogenic is also made, though it is a question whether this will always hold good. The growth of different forms in organic fluids, part of whose chemical constituents are assimilated by the growing organism, causes chemical alterations in these fluids which constitute fermentations or decompositions. Hence organic fluids alter when exposed to the air, from germs falling into them and developing. If the germs be kept out, and the fluid contain none to begin with, it can be kept indefinitely in contact with the air without fermentation or putrefaction. Different organisms produce different changes in the same fluid. But the same organism always causes the same change under the same conditions. All organisms do not grow equally well in all fluids. The bacteria and micrococci grow best in alkaline fluids. The lower fungi in acid solutions.

To collect dust for examination several different methods have been proposed. If a current of air be drawn by means of an aspirator through a tube containing a plug of cotton wool, the dust will be arrested by the plug; and if for ordinary cotton gun-cotton be substituted, it can be afterwards dissolved in ether, and the spores collected by evaporating the ether. This method is open to the objection that immersion in ether may impair or destroy the vitality of certain spores. Besides, if a small quantity of ether be used, its evaporation leaves the spores imbedded in collodion, and in an awkward condition for future study, while if enough ether be used to dilute the collodion to a point where it ceases to interfere with the experiment, the spores are lost in the volume of fluid.

Another method is that employed at the Observatory of Mont Souris; a current of air produced as before by an aspirator is directed through a small tube vertically downwards against a drop of glycerine on a microscope slide; the objections to this are three: first, a certain amount of dust is carried away without ever touching the glycerine; second, the glycerine absorbs water from the air and the drop swells to an unmanageable size; thirdly, a spore in a mixture of glycerine and water is very disadvantageously placed for future study. A third method is that described by Koch, which is unquestionably the best. At the bottom of a beaker glass, eight inches deep, is placed a shallow vessel containing a fluid capable of supporting the microbia, mixed with two to three per cent. of gelatine, enough to render the mixture solid at common temperatures. The depth of the glass insures a quiet atmos-

phere inside it, and any germ which falls into the glass settles by its own weight till it falls on the surface of the gelatine; here it develops. In other words, the seed grows to a plant at the point where it falls, and the different species remain as separate and distinct as the different plants in a flower bed, and can be cultivated indefinitely by successive transplantations to fresh surfaces of gelatine.

It has been maintained by Nagele that all known forms of microbes were the modifications of two primitive types; later observers have, however, demonstrated the incorrectness of this view. Each form reproduces itself and nothing else, and assertions to the contrary are based on the errors of experimentation.

In regard to experimental processes it is well to bear in mind one or two general principles, which are best illustrated by an example. If an organic fluid such as blood be left for a few days exposed to the air, it will be found swarming with organisms of different species. Suppose we desire to study the effect of inoculating one of these species on an animal, how are we to isolate it? Until very lately, these experiments having been entirely performed with fluids, it was customary to attempt, by a series of transplantations in fluids, to try to kill off all the species but one. This was always a long and difficult process, for while certain general lines can be drawn, as, for example, between acid and alkaline fluids, yet it may be said to be a matter of chance if the experimenter stumbles on a fluid which will support only the particular organism he is studying. Another method is that suggested by Lister, who begins by making with the microscope an approximate estimate of the number of organisms in a given volume of fluid, and by a succession of dilutions, as in the homœopathic preparation of drugs, increases the volume of fluid to the point where each drop should contain by calculation a single organism. He then sows one drop of the diluted fluid in each of a large number of flasks containing sterilized infusions, and in a certain percentage of the lot he obtains the pure culture sought for; the method is an awkward and difficult one, and not to be compared for neatness, accuracy, and economy of time and work to the method of Koch's before spoken of.

In regard to the sterilization of instruments and fluids, processes which are common to all experiments, one or two general rules may be laid down. It should be remembered first that the spores show enormously greater powers of resistance to the effect of the changes of temperature or the action of chemical reagents than the organisms themselves, and that some of them will bear heating far above the boiling point of water, and for a considerable length of time, without losing their power of germination; it should be remembered also that these spores are deposited in immense quantities on the surfaces of all solid objects, and that no water except spring water taken at the spring itself is free from them, not even the distilled water of our laboratories. All solid objects, therefore, used in experiments must be thoroughly disinfected beforehand; in practice this is effected by heating them to a point which insures the partial or complete burning of the organisms. Acid fluids can be sterilized by heating to 100° C. for twenty minutes, neutral and alkaline fluids require heating to 110° C. for the same time. In a recent publication from the Health Office in Berlin, Koch describes some experiments of his own in which he reaches the remarkable conclusion that all organ-

isms, moist or dry, adults or spores, in acid or alkaline fluids, are equally killed by being heated for ten minutes to 100° C., and that the reason that previous experimenters have reached different conclusions is because their experiments have been so conducted that the organisms were not really heated to this point. To demonstrate this, a flask, capacity of one litre, was filled with water, and a maximum thermometer run through the cork so that its bulb came in the centre of the flask. The flask was then inclosed in a metal steam box, and heat applied. In the course of half an hour the steam reached 127° C., while the quicksilver of the thermometer in the flask had not reached 65° C., the lowest graduation on the scale.

These experiments have not as yet been repeated by other observers.

The ordinary methods of microscopic examination are insufficient to distinguish the slight structural differences between many forms of microscopic organisms. Staining of some sort is absolutely essential, and can be preferably done with aniline colors. Methylene blue is recommended by Koch for general use, but different organisms vary widely in their susceptibility to the action of any given color. To distinguish some of the finest points of difference a first rate sub-stage condenser, such as that made by Zeiss and known as the Abbé illuminating apparatus, is essential; without some such apparatus many organisms cannot be recognized, for example, that which causes septicæmia in mice, a rod so minute that countless numbers of them are found packed in the interior of a single white blood corpuscle.

Two points of general interest remain to be spoken of: the first of these is the now celebrated theory of cumulative virulence, originally announced by Davaine. This, in its present form, seems to be based largely on misunderstanding of the author's statement, which has been quoted from book to book, apparently without any one having taken the trouble to verify it by reference to the original paper. It was, briefly, as follows:

If a rabbit be inoculated with a decomposing fluid, such as blood, containing many kinds of microbes, several grammes are necessary to produce disease; but if a second rabbit be inoculated from the blood of the first a small fraction of a drop is sufficient, a third inoculated from the second needs still less, until the tenth rabbit dies on inoculation with the one trillionth part of a drop. It has been asserted that the activity of the virus increased in a regular proportion from the first rabbit to the last. This is not true, nor did Davaine ever say this; his own experiments prove that the virus is fatal in infinitesimal doses after the second rabbit, in other words, after a pure culture is obtained in the body of the animal, and its blood becomes crowded exclusively with an organism which existed but sparsely in the original solution.

The second point relates to the subject of vaccination; the principle involved being that an organism cultivated outside of the body may become, by a combination of circumstances controlled by the experimenter, so enfeebled in virulence as to produce its characteristic disease in a form which is not fatal. This effect Pasteur has described as being produced by the prolonged exposure of the microbes to the oxygen of the air. This result was first described by him in the case of chicken cholera, and subsequently in the case of charbon. Doubts have lately been raised in Germany in regard to the reliability of these vaccinations,

but in the meanwhile Pasteur has gone on vaccinating sheep and cows by the ten thousand, both in France and Hungary, and, so far, with triumphant success.

The speaker did not propose to enter on details of the vexed question of the diseases attributed to the presence of microbes, but referred his hearers to the work on traumatic infectious diseases by Dr. Koch, translated by the Sydenham Society. He added that the conditions laid down by this writer, to be fulfilled before any disease can be said to be caused by a given microbium, should never be lost sight of. First, that the microbium should be a well-marked and easily distinguishable form. Second, that it should occur in every case of the disease. Third, that it should occur in such number and distribution as to account for all the symptoms. Fourth, where inoculation is possible, it should produce the disease by inoculation on a healthy animal. The speaker showed the method of carrying out pure cultures on solids, and showed some characteristic forms of organisms under the microscope.

DR. MORRILL WYMAN said that his brother, the late Prof. Jeffries Wyman, had considered the influence of heated, dry, and moist air, steam, and also the influence of high pressure steam, five atmospheres about 300° F., upon living organisms. The boiling was continued four hours and yet the spores became productive; those under pressure were boiled fifteen minutes, and some of them became productive. He is very careful to say, in the published account, that these experiments are made without any reference to spontaneous generation. A flask which bears the mark "1867 June" still continues free from any evidence of organisms.

DR. CABOT asked Dr. Bigelow whether he would not expect to find the bacteria of diphtheria below the deposit rather than above.

DR. BIGELOW answered that he would, and that he should look for them especially on the edge of the process.

In answer to a question by Dr. G. B. Shattuck, DR. BIGELOW said that he regarded the *Spirillum of Relapsing Fever* as a well recognized organism and its relation to the disease as well established.

DR. ABBOT spoke of the alleged facts presented by Dr. Gregg in the *Medical Record* of February 11th, to the effect that the bacteria said to exist in diphtheria, etc., are only forms of fibrin granules, fibres formed from them, and spiral forms, such as these always take in coagulating fibrin, and occurring also in all inflammatory processes; the granules also being said to appear in some morbid processes from the disintegration of tissues, becoming putrid and leading to suppurations or putrid ulcerations, and possibly to septicæmia, but never forming false membranes.

DR. G. B. SHATTUCK referred to the conclusions of Drs. Wood and Formad as expressed in their recent report to the National Board of Health on the Nature of Diphtheria. Though acknowledging the presence of micrococci they do not find that these present any specific character; the micrococcus of diphtheria they consider identical with the organism found in health, though in a more active state and making a more successful invasion of the parts owing to local and atmospheric conditions.

#### RUPTURE OF MENINGEAL ARTERY.

DR. WHITNEY reported a case of rupture of the meningeal artery in a boy from the blow of a brick on the head, and exhibited the specimen.

#### UTERINE POLYPUS.

DR. MINOT showed the specimen, which was removed at the Massachusetts General Hospital from a woman, thirty-five years old, whose last child was born six years ago. For about eighteen months she had had menorrhagia, which became profuse and constant. The patient was blanched, feeble, and emaciated, but not confined to her bed. On examination, the vagina was found to be filled with a large tumor which was connected with the interior of the uterus by a stalk of the thickness of the little finger. The tumor was drawn down outside the vulva and the pedicle severed with scissors. The tumor was roundish, weighed four and one half ounces, and measured seven and one quarter inches in its longest circumference and six and three quarters in its shortest. It was of the ordinary fibroid character. No hemorrhage followed its removal, and the woman was discharged well, in a few days.

#### UNPLEASANT RESULTS FROM THE USE OF IODOFORM.

DR. FIFIELD wished to present to the attention of the Society a case which had caused him much anxiety from the surprising effects produced by the cautious application of a small quantity of iodoform in powder to some ulcerated surfaces. In view of the great and constantly increasing use of iodoform, both in the hospitals of Europe and in this country, he deemed the subject worthy of much careful study, and thought that as the substance had been spoken of as a rival, and in some respects the superior, of carbolic acid as an antiseptic, its possible dangers as well as its good effects should be made known as quickly as may be. Dr. Fifield then alluded to the two fatal cases at Breslau where iodoform had been largely and successfully used in the treatment of caries. The history of these cases showed death to have resulted in one case in two days, in a second in sixteen days. In both there was intermittent drowsiness ending in coma, paralysis of sphincters, aphonic disturbance of speech, contraction of the muscles of the neck, and scaphoid retraction of the abdominal walls, together with great frequency of pulse from the beginning. Temperature normal. In the second case the patient continued in good condition for nine days during the use of iodoform (externally), then headache, and somnolence for two days. Fatty degeneration of the heart with cloudiness of the liver and kidneys were shown post mortem.

Dr. Fifield's case was as follows:—

A young lady had had for some time cethymatous ulcerations with typical, piled-up, oyster-shell-like scabs in different parts of the body, particularly affecting the scalp, which was the seat of numerous foul ulcerations threatening the very bones beneath. On Friday last, at very urgent solicitations of relatives that some vigorous effort be made to arrest the progress of the disease which had obstinately refused to yield to mercurials and iodides in all forms, Dr. Fifield had removed certain scabs on the hands and one scab on the left temple, and had sprinkled them with iodoform. On Saturday, no unpleasant result having been experienced, the scabs of three other ulcers of the scalp had been removed and their surface lightly strewn with the same powder. On Saturday afternoon he was surprised to find the patient with swollen scalp, profuse serous discharge from nearly its whole surface, which presented a typical acute eczema. No constitutional effects complained of.



On Monday head and face enormously swollen, eyelids puffed out to a degree interfering with vision. Neck somewhat swollen on right side with tendency to contraction of muscles, profuse serous and purulent discharge from scalp, soaking the pillow on which the head rested. A powerful odor of iodoform filled the house. At noon the same day the eyelids were less swollen, the neck rather more.

Tuesday, 28th, swelling subsiding. Some little nausea complained of; had not rested well; pulse rather quick; temperature normal.

March 1st. All alarming symptoms have disappeared.

Dr. WEST, in answer to Dr. Fifield, said that Professor Billroth used iodoform very freely in the treatment of wounds, and out of hundreds of cases which he had seen treated in this way he had never seen a case of poisoning. The cases of poisoning were where cavities had been filled with iodoform.

Dr. H. J. BIGELOW, referring to the use of iodoform in his wards, said that in certain subjects it acted as a local irritant, and in this way might cause trouble.

Dr. C. H. WILLIAMS said that he had treated an ulcerated eyelid with iodoform freely applied and without bad result.

Dr. FITZ spoke of the necessity of preliminary cleanliness, as insisted upon by German authors, before applying the iodoform.

## PROCEEDINGS OF THE MEDICO-LEGAL SOCIETY OF NEW YORK.

REASONING MANIA; ITS MEDICAL AND MEDICO-LEGAL RELATIONS, WITH SPECIAL REFERENCE TO THE CASE OF CHARLES J. GUTEAU.

ONE hundred and seventy-ninth meeting, MARCH 1, 1882.

A large audience assembled to listen to the paper of Dr. WM. A. HAMMOND on the above subject and the interesting discussion which followed it. The first authority to differentiate this form of mental disorder, the writer said, was Pinel, who published an account of it under the designation, *Mania without Delirium*, in which he summed up his description as follows: "It may be continuous or characterized by the occurrence of periodical accessions. There is no marked change in the functions of the understanding, the perception, the judgment, the imagination, the memory, etc., but perversion of the emotional faculties, and blind impulses to the perpetration of acts of violence, or of even sanguinary fury, without its being possible to recognize the existence of any dominant idea or any illusion of the imagination to which the acts in question can be ascribed." Since that time a more definite conception of the affection had been entertained by leading alienists of every country, and he quoted from the writings of Esquirol, Morel, and Dagonet, as well as of Pinel. Among the English authorities who recognized reasoning mania as a distinct affection were Prichard, Maudsley, Bucknill, and Conolly, and among the Germans were Hoffbauer, Griesinger, and Caspar, while in America, the late Dr. Isaac Ray was the most distinguished advocate of its claims.

In describing more fully the affection as it had been portrayed by others, and as he had observed it in his own experience, Dr. Hammond mentioned that its

most prominent characteristic was an overbearing egotism, which constantly showed itself, even on the most unimportant occasions. Though without social position, wealth, or political influence, the individual conceived that he had only to make his wishes known to those in authority in order to have them granted, and he would not hesitate to push himself forward as an applicant for high office in spite of numberless refusals and the most pointed rebuffs, although he might not possess a single qualification for the position he was seeking. Any little act of common politeness that might be shown him was construed at once into a promise of assistance, and he was always sanguine of success in his projects. When, however, the inevitable disappointment came, his chagrin was of short duration, and, conoling himself with some plausible excuse for his failure, he would soon begin to direct his energies to the securing of some other and perhaps still more unattainable position. In illustration of this point, the writer described in detail the case of a young man affected thus, who had recently been under his care. Convinced that he was entitled to a position as a sort of commissioner of emigration for the United States in Europe, he had gone on to Washington to obtain an interview with the President, and his father had only been able to get him home again by calling in the assistance of the police.

The intense egotism of these persons made them utterly regardless of the feelings and rights of others, so that everybody and everything had to give way to them, and their comfort and convenience had to be secured although every one else was made uncomfortable or unhappy. Another manifestation of their intense personality was their entire lack of appreciation of any kindness done them. All benefits conferred upon them were regarded by them as so many rights to which they were justly entitled, and hence they were apt to be ungrateful, arrogant, insolent, and abusive to those who had served them, and shamelessly hardened in all their conduct toward them. At the same time, if advantages were yet to be gained, they were sycophantic to nauseousness in their deportment toward those from whom the favors were expected. While boasting of their genius, their piety, their high sense of honor, their learning, and other qualities and acquirements, they were perfectly well aware that they were, in reality, commonplace, irreligious, cruel, vindictive, utterly devoid of every chivalrous feeling, and saturated with ignorance. It was no uncommon thing for the reasoning maniac, influenced by his supreme egotism and desire for notoriety, to attempt the part of a reformer, and in doing this he generally selected some practice or custom in which there was really no abuse. His energy and the logical manner in which he presented his views, based, as they often were, on cases and statistics, imposed on many worthy people, who eagerly adopted him as a genuine champion of morality and overthrower of vicious practices. But sensible persons soon perceived that there was no sincerity in his conduct, that he cared nothing whatever for the cause he was advocating, and that his cases and statistics were forged, or intentionally misconstrued for the direct purpose of deceiving; in short, that the philanthropy or morality which he affected was assumed for the occasion. Even when his hypocrisy and falsehood were exposed he continued his attempts at imposition, and even when the strong arm of the law was laid upon him he would prate of the ingratitude of those

he was endeavoring to assist, and of the disinterestedness and purity of his own motives. Dr. Hammond then dwelt for some time on the cases of two noted criminals whom he regarded as subjects of reasoning mania, William Speirs, who attempted to burn the State Lunatic Asylum at Utica in 1857, and Hélène Jégado, the French poisoner, who destroyed no less than twenty-eight lives between 1853 and 1857. Jesse Pomeroy and other similar monsters he also believed to come under this category.

He next took up the question of derangement of the intellect in this affection, and stated that he was quite sure that though the emotions and the will were primarily and chiefly involved there was more or less aberration of the purely intellectual faculties in every case. There could be no doubt whatever that this had been so in every instance that had come under his personal observation. On a superficial examination the intellect might appear to be unaffected, as it very generally happened that there was an absence of marked delusion; but a ready susceptibility to be impressed by slight exciting causes, an unquestioning faith in their own powers (when in reality these were far below the average), and an entire disregard of their duties and obligations, and of the ordinary proprieties of life, could not, in his opinion, but be regarded as indications of intellectual derangement. Most authors who had described the affection appeared to think that it invariably existed without the participation of the intellect; while others, perceiving that the intellect participates to some extent in all cases of mental derangement, refused to admit the existence of such a thing as reasoning mania. The question was a mere quibble, however, for whether the intellect was involved or not was by no means a matter of prime importance.

Dr. Hammond then went on to speak of the case of Guiteau. It was scarcely necessary to go over the whole record of the trial, he said, in order to form a definite opinion of the man's mental condition. We had only to take the hypothetical question proposed by the District Attorney, and which was answered by every one of the medical witnesses for the prosecution in positive language, that if the statements therein contained were true, the prisoner was sane. He went briefly over the statements referred to, which comprised an outline of Guiteau's life and conduct from the time he entered college to the date of the shooting of President Garfield; and then proceeded to say that on such a statement of facts, and with a knowledge of the manner in which the prisoner conducted himself while being tried for his life, his abuse of his friends who were trying to save him, his praise of judge, jury, and opposing counsel at one time, and his fierce denunciation of them at another, his speech in his defense, his entire lack of appreciation of the circumstances surrounding him, his evident misapprehension of the feelings of the people toward him, his belief in the intercession of prominent persons in his behalf and of his eventual triumph, and the many other indications with which all were familiar, — especially his conduct after his conviction, — he had no hesitation in asserting that Guiteau was the subject of reasoning mania, and hence a lunatic. What, then, was to be done with such persons as Speirs, the Utica incendiary, Brown, the Maine wife-murderer, Jégado, the poisoner, Dumolard, the killer of servant girls, Pomeroy, the boy-torturer, and Guiteau, the assassin of the President? That all these people were lunatics he had no doubt;

that all fully deserved the punishment awarded them he was quite sure. It was a source of satisfaction to him, he continued, to find that the views which for nearly ten years past he had endeavored to promulgate had at last received practical indorsement by the conviction of Guiteau. The charge of Judge Cox showed what he thought; and it was doubtless due to his very emphatic declaration that insanity, unless of such an extent as to destroy the knowledge of right and wrong, or prevent the accused knowing the nature and consequences of his act, did not absolve from responsibility for crime, that a verdict of guilty was rendered. The charge of Chief Justice Davis, of the New York Supreme Court, in the recent Coleman case, was also commended in this connection. In it he said, "Emotional insanity, impulsive insanity, insanity of the will, or of the moral sense, all vanish into thin air whenever it appears that the accused party knew the difference between right and wrong at the time and in respect of the act which he committed." Dr. Hammond concluded as follows: "As I have endeavored to show quite recently, there is no necessary connection between medical insanity and legal insanity. Let Guiteau suffer the full legal penalty for his crime; but let him be executed with the distinct understanding that he is a lunatic deserving of punishment. To shut our eyes to his exact condition, and to try to flatter ourselves that he was of normally constituted mind when he shot the President, is not only cowardly, but it is impolitic. The conviction and execution will be without the force of an example upon hundreds of others of unsound minds who may be contemplating the commission of crimes; and it will lead to the erroneous conclusion that there was a sane man, a man in the full possession of his mental faculties, capable of killing the President of the United States for the purpose of uniting the two wings of the Republican party, when both had never failed to show their contempt for the assassin whenever he had given them the opportunity. Was there ever a more insane motive than this, and was there ever a man whose whole career from childhood to the present day has afforded a more striking example of the form of mental derangement called reasoning mania?"

In the discussion which followed the reading of the paper Dr. RALPH L. PARSONS was the first speaker. He coincided fully with the views of Dr. Hammond as to the existence and nature of reasoning mania, but could not agree with the latter as to the legal punishment of such cases. He held that the criminal insane should be treated as a class by themselves, and that the verdict of the jury in this class of cases should be a special one. He did not at all coincide with writers who were of the opinion that the insane did not reason and were not actuated by motives; but the reasoning was insane in its character, and the motives those of madness. It was said that these cases ought to be punished for the sake of example; but the sane were not influenced by such examples, and the poor insane who might be cognizant of the punishment would not be affected unless it were brought directly to their knowledge. For the protection of society, however, criminals of unsound mind should be permanently confined in a proper house of detention for the insane.

MR. GEORGE H. YEAMAN questioned the value of the term "reasoning mania," as tending to complicate the nomenclature of insanity; but agreed with the au-

thor of the paper as to the propriety of holding Guiteau legally responsible for his crime.

Dr. E. C. SPITZKA said that in his examination he had found Guiteau full of delusions. His egotism and assurance were wonderful, and when he came to mount the scaffold it would be with the firm belief and assurance that God Almighty would descend from heaven and rescue him. His family history was bad, and he believed that he had been born as much of a lunatic as he was to-day. He could not unreservedly agree with Dr. Hammond. This was a question not of retribution upon a disgusting and revolting wretch; but whether the example would frighten other lunatics. This, he believed, would not be the case.

Dr. GEORGE M. BEARD said that he believed in simple terms, and hence did not like the expression, "reasoning mania." He preferred Esquirol's phraseology, and would say *affected monomania*, or simply *monomania*. As to the execution of Guiteau, he thought it would be, from a scientific point of view, the greatest disgrace that ever befell this country. Even during the time of the trial there had been insane murderers who were not so much as tried, and others who were acquitted, with less evidence in their favor. As a principle, the hanging of Guiteau would be a return to the barbarism of the Middle Ages. The whole course of the prosecution had been analogous to the Salem witchcraft trials. There, also, the old dogma about knowing right from wrong had prevailed. Insane murderers usually did know right from wrong, and it was because a murder was a terrible thing that the insane man committed it. If we carried out the doctrine of condemning every man who knows right from wrong there was no safety under the law: trial must lead to conviction, and trial under such a dogma was conviction.

Dr. EDWARD MANN said that he thought most of those present would concede that the greater part of our knowledge on the subject of insanity was derived from Esquirol, and he could not possibly see how intelligent physicians could follow this great authority and yet pronounce Guiteau sane.

Dr. LANDON C. GRAY, of Brooklyn, also acquiesced in the insanity of Guiteau, and recommended that every such criminal should be sent for life to an asylum where the superintendent should be powerless to release him, and that there should be no pardoning power vested in the governor in such cases.

After some remarks by Dr. M. H. HENRY, Dr. SAYRE stated that he regretted very much that the suggestion made by him-self at the time of the murder had not been carried out, namely, that the investigation into the sanity of Guiteau should be made before the trial. It would be much better that the assassin should be shown to be insane than that the idea should prevail that any other than a maniac would dare to shoot the head of this free and enlightened republic.

The Hon. CLARK BELL, president of the Society, then made an address, during the course of which he quoted the answer made by fifteen judges to the House of Lords in consequence of the trial of McNaughten (only Justice Maule dissenting), as to certain of the questions, as follows: "That notwithstanding the party committed a wrong act while laboring under the idea that he was redressing a supposed grievance or injury, or under the impression of obtaining some public or private benefit, he was liable to punishment." The jury ought in all cases, he said, to be told that every

man should be considered of sane mind until the contrary was clearly proved in evidence. Differing from many of his profession, the author of the paper had taken the view generally held by the bar and by the judiciary, and had contended that an insane criminal should be held to the same responsibility as the sane if he was able to understand the nature of his act and its consequences, and to discriminate between right and wrong. While it was undesirable to distrust the verdict, which was generally acquiesced in, the mental state and true condition of the assassin formed an important question in forensic medicine to-day.

Before Dr. Hammond brought the discussion to a close, Mr. Scoville, Guiteau's counsel, who had come into the meeting late, made a few remarks, in which he denied the correctness of the assertion that so long as the insane person knew the criminal nature of his act he was liable to the penalty of the crime. He did not accept the McNaughten case as representing the practice of the courts either in England or the United States. If such were the case, then logic would compel them to remove three fourths of all the insane from the asylums, and place them on trial before the courts. "My investigation of this subject," he said, "has led me to this conclusion: that the court, with some degree of humanity, will find some mode of modifying the law so that while they hold to its spirit they do not hold to its letter. In a case like the Guiteau trial they depart from the rules just to the extent that public opinion demands it; if the public opinion demands it, then the rules are wholly departed from."

#### PROCEEDINGS OF THE GYNÆCOLOGICAL SOCIETY OF BOSTON.

HENRY M. FIELD, M. D., SECRETARY.

STATED meeting, first Thursday of DECEMBER, WM. G. WHEELER, M. D., president, in the chair.

Dr. STOKER made brief but earnest remarks inspired by the recent deaths of Prof. J. P. White, of Buffalo, and of Dr. Theophilus Mack, of St. Catharine's,—both honorary members of the Society,—and then read resolutions of regret and respect which, upon vote, the secretary was instructed to forward to the respective families of the deceased.

#### NEW ATTACHMENT FOR UTERINE FORCEPS.

Dr. GRAINGER, of East Boston, was introduced, and requested to show an instrument of his invention, designed for attachment to the uterine forceps.

The forceps which the doctor had selected was that known as the Elliott, upon the left blade of which Dr. Grainger had fitted a flange, into which could be introduced a slightly curved steel rod, with handle at proximate extremity. Its design is, in case of application of the forceps to the head still above the superior strait, to enable the operator to exert a force which shall be directed downwards and backwards, by which the presenting part shall be returned to its proper position in line with the axis of the parturient canal. The apparatus, it was maintained, was a simple one, and simple in its use. With a reasonable degree of ease it could be employed with perfect safety, and, in the exhibitor's experience, with great satisfaction.

Dr. WHEELER emphasized the difficulty with which all gentlemen are familiar in the case of forceps appli-

cation to the head still above the upper strait. More than twenty years ago he had resorted to a device of his own, calculated to accomplish the same purpose as that which Dr. Grainger had done more effectively by his instrument. His patient was placed upon her back, and drawn well to the edge of the bed, a linen or cotton-cloth band was then placed over the forceps, after they had been locked, at a point as far away from the hands of the operator as possible. This, passing to the floor, was caught by the foot, and thus a downward and slightly backward force was applied in addition to that imparted by the hands in the usual manipulation of the forceps.

DR. MARCY compared the Grainger adjustment with the method of Tarnier. The former appears to be more simple, because it can be kept out of the way, and it is only obtruded upon occasion when it is wanted.

DR. W. S. BROWN had been accustomed to meet the difficulty under discussion by calling to his assistance the hand of the husband, having first instructed him as to the purpose of the aid he was to render.

DR. MARCY called for the experience of any gentleman present in the use of Tarnier's instrument, but it appeared no one was practically familiar with it. The doctor moved the thanks of the Society to Dr. Grainger, which were unanimously passed.

#### LIGATURE NEEDLE.

DR. MARCY exhibited his needle for the purpose of ligating the large pedicle of a tumor, — for example, fibroid or ovarian. It consists of a modification of the Skeeue needle, is fixed in a firm handle, is about nine inches long, and has the eye one inch from the point. The eye is much larger than usual, and, being cut upon the one side completely through, affords sufficient elasticity to aid in the unthreading. The point is nearly round, and thus avoids cutting through the tissues. Commencing at one side, the needle, armed with the ligature (carbolized tendon preferred), is thrust through unthreaded, the opposite end being adjusted and withdrawn. Thus, from opposite sides, each end is drawn through the same opening, and the process is repeated, dividing the mass into as many parts as may be desired, — the cobbler's or shoemaker's stitch. Such ligature is claimed to be not only safe as preventing hemorrhage, but it has the further advantage that when it is properly applied it does not produce necrosis of the tissues, and may thus be safely returned into the abdominal cavity. The animal ligature is either absorbed or transformed into connective tissue, and little irritation ensues. This method of ligature has a further advantage, which, with animal ligatures, is important, of being secured with only one knot, even if many stitches are required.

The doctor also exhibited a specimen of ligature, of exceptional fineness and firmness, contributed by Dr. Simons, of Charleston, S. C., and obtained from the tail of the large fox-squirrel of the South. Dr. Simons had used ligatures from this source with much satisfaction.

DR. W. S. BROWN observed that in the needle used by Spencer Wells the point was blunted. He thought Dr. Marcy's needle had so sharp a point as to lead to the danger of the transfixing of a blood-vessel.

#### EXTRA-UTERINE PREGNANCY.

DR. MARCY showed a pathological specimen of a uterus and appendages, with the following history: —

The woman from whom the specimen was taken had died suddenly, and the case was obscure; moreover, she had presented the singular feature of a temperature as low as 96° F. Autopsy showed the uterus enlarged by multiple fibroids, and the left ovary containing a cyst of about the size of an English walnut, which, upon being opened, was found to contain a collection of the macerated bones of a fetus. The case was interesting as showing a successful effort of nature to repair what would otherwise have been a fatal blunder. On the opposite side were evidences of salpingitis and a degenerated ovary, and yet this ovary contained a corpus luteum of recent menstruation, and the patient had menstruated a short time before death.

DR. STORER gave the points of

#### A COMPLICATED CASE OF PREGNANCY

to the following effect: —

The patient, the wife of a physician, had been married several years, and had miscarried some time since. Had had previously an attack of dysentery, from which she had nearly died. She was now eight months advanced in pregnancy; upon both occasions had fixed conception by a peculiar attack of fainting experienced. Had menstrual discharge two months after supposed beginning of pregnancy. At the third month intolerable pain set in at the lower part of the abdomen, and this has since continued, with somewhat of a periodic character. Had been treated as for intermittent fever without avail. The question is whether the pain does not depend on some abdominal lesion, set up at the time of dysentery, such as a peritonitis with bands of organized lymph, such as we sometimes see in a post mortem. She very early began the use of hypodermic morphia; afterwards, still to obtain relief, and in order to avoid recourse to morphia, she tried chloroform, and soon developed a similar craving for this narcotic. Then bromide of potassium with chloral was tried, and coca was brought in to satisfy the craving appetite. The case persists with its peculiar features, as detailed, but the patient is now near full term. She has at times attacks of maniacal excitement if the morphia be withheld.

DR. FIELD asked if suppositories of morphia and belladonna had been tried, as producing less emphatic impression upon the nervous system than hypodermic morphia, allowing the combination with belladonna, and meeting regional considerations. Reply. They had, with good degree of success.

DR. W. S. BROWN asked if the patient had been examined under anesthetics. Reply. She had, without affording any more positive information.

DR. WHEELER recalled a case in which he operated some years ago for strangulated hernia; abscess followed and extreme pain for months, leading to the inference that some small, sensitive nerve filaments had been drawn into and fixed in the cicatrix. Should suspect, in Dr. Storer's case, the dysentery was responsible for the mischief.

DR. STORER rejoined the mania had been at times markedly suicidal. Physicians ought, more generally and always, to give attention to slight abdominal symptoms in the female, on account of possible subsequent developments or complications. They require greater care for this reason, and closer watching than male patients. Here is suggested one of the many occasions in which gynecology treads closely upon the steps of general practice.

DR. MARCY remarked the case appeared to him more like one of nervous disturbance; he suspected the pain was to be referred to a different set of centres than would be involved if we supposed it dependent directly and altogether on some abdominal lesion. Furthermore, in case of peritoneal adhesions the progress of pregnancy helps the patient.

DR. FIELD believed there was something psychologically wrong, so to speak, about the patient; she had not used opium long enough to develop an opium appetite before the morbid craving showed itself. Furthermore, it was not opium alone that was demanded, as with the opiophagi; there seemed to be a constant appeal for something which should produce both stimulation and repose, — now opium, again chloroform, coca, etc.

DR. WHEELER said that, barring local pain, we should call the case one of puerperal mania.

The Society hereupon went into executive session, during which C. W. Stevens, M. D., of Charlestown, and Samuel M. Nelson, M. D., of Boston, were elected to active membership.

### Recent Literature.

*A Manual of Midwifery.* By ALFRED MEADOWS, M. D., Lond., F. R. C. P., assisted by ALBERT J. VENN, M. D., M. R. C. P. New York: G. P. Putnam's Sons. 1882. 498 pages.

In 1876 we had occasion to express our regret that Dr. Meadows should allow a new edition of his work to appear without attempting to improve on the previous publication. We are now called to review a fourth edition, which the publishers announce as revised and enlarged. We have carefully examined the work, and are somewhat curious to know what assistance could have been rendered by Dr. Venn. The form of the book is altered from one which was easy to hold to the thick and bulky form of a student's manual. There are no changes worth noticing in the work. Three of four pages on abdominal supporters have been omitted, with the plates which illustrated them, and a few paragraphs have been added in which brief allusion is made to the use of the hydrate of chloral. Porro's operation, puerperal thrombosis, and hæmorrhage. We doubt if the few paragraphs added equal in amount the pages omitted, so that we are at a loss to see in what the "enlargement" of the work consists. The publishers have not even taken the trouble to change the numbering of the illustrations, so that one looks in vain for engravings numbered from 122 to 129 inclusive. Nearly six years ago we pronounced the work as unworthy of the writer, and the six years that have since passed seem to us to have only added to the imperfections of the book.

*Illustrations of Dissections in a Series of Original Colored Plates Representing the Dissection of the Human Body.* By GEORGE VINER ELLIS, Professor of Anatomy in University College, London, and G. H. FORD, Esq. Volume I. Second Edition. New York: William Wood & Co. 1882.

This is the first volume of a work that we shall be glad to see completed, for although neither the dissec-

tions nor the descriptions display much originality, they are both satisfactory, and it is well that a series of colored plates of good dissections with simple descriptions should be within the reach of the student. These few words will suffice to express our general opinion of the book. Were it more pretentious it might call for severer criticism; but it makes no claim to present a system of anatomy, nor should the occasional practical deductions be discussed as if they appeared in a surgical text-book. The plates are reduced in size so that they may be brought into an octavo volume. Many are very handsome and well executed, a few are feeble and rather indistinct.

*Illustrations of Dissections.* By GEORGE VINER ELLIS. Volume II. New York: William Wood & Co.

The second volume calls for little additional comment, for the general remarks which we made on the first are equally applicable to it. There is perhaps a larger proportion of surgery in this volume, which includes the important regions of the pelvis and of the groin. It is perhaps to be regretted that these dissections stop short of the deepest parts, and that little if anything is said of the bones and joints.

T. D.

— Dr. Mikulicz, of Vienna, describes an instrument by means of which he and Dr. Leiter have been enabled to inspect the interior of the stomach of living persons. The instrument consists of a long tube, containing an insulated double electric wire, two water-channels, a fine air-channel, and a means of electric lighting for the optical apparatus. The tube is stiff, but has an angle at the junction of its lower and middle thirds, where a reflecting prism is introduced. It is passed while the patient is in a condition of morphia-narcosis, lying on his side. The stomach is washed out through the water-channels and air is pumped in through the air-channel to afford a fit medium for the inspection. Dr. Mikulicz has hitherto confined his examinations almost entirely to healthy individuals, and therefore is not yet in a position to offer much information on the value of the gastroscope for diagnostic purposes. — *The Practitioner, from the Centraltblatt für Chirurgie, No. 43, 1881.*

— In filling the position of surgeon to the Great Western Railway, England, a position worth six hundred pounds per annum, the authorities were obliged to make a selection from over six hundred candidates.

— The Pennsylvania College of Dental Surgery held its twenty-sixth annual commencement at the Academy of Music, February 25th, graduating fifty students, the address being delivered by Prof. W. F. Leitch, and the valedictory by M. H. Feltzer, D. D. S., from the graduating class.

— The Philadelphia Dental College held its nineteenth annual commencement March 1st, graduating fifty-two students. An address was delivered by J. Foster Flagg, D. D. S., Professor of Dental Pathology and Therapeutics, and the valedictory by Leon F. Head, D. D. S., a member of the class.

# Medical and Surgical Journal.

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No. 4 PARK STREET, BOSTON, MASS.

## ICE-WATER.

OUR esteemed contemporary, the *British Medical Journal*, of a late date, indulges in some remarks on the above subject, which we think will scarcely profit its English readers, and are not required by its American:—

The prevalent dyspepsia from which Americans suffer so much, and which is so apt to undermine the strength of the men and the bloom of the women of America, is in a large measure due, we believe, to the universal habit of drinking large quantities of ice-water. This essentially transatlantic habit has long been a speciality of which our American friends and travelers seem to be proud, complaining that they find the purest water in England undrinkable from the difficulty of getting water to drink with lumps of ice floating about in it. Nothing can be more destructive to the utility of the process of digestion than this habit. There is, however, another danger inherent in this mode of introducing ice, to which attention has more than once been called by sanitary authorities in this country, and which, we note with interest, is now also attracting notice in America. It hardly needed the scientific experiments of Professor Pumpelly—an authority whose name is singularly appropriate to the investigation—to prove again that the freezing of organic impurities and diseased germs does not deprive them of vitality, but only suspends their activity, and that frozen water is apt to entangle a large proportion of the floating impurities which may be suspended in it; and that it is probably quite as easy to contract typhoid fever from impure ice as from impure water. The habit of drinking ice-water is altogether a bad one, and may readily become a source of serious or fatal illness if the ice be impure.

Habits of life are very apt to be determined by climate and general surroundings, and the instincts of natives are guides which strangers would do well to respect more often than they do, as many an English liver protests after being tyrannized over by its owner for some years in India.

Barring the question of alcohol, we permit ourselves to suppose that in England a native should be a fair judge of the ingesta demanded by his system, but he will not remember that the English climate is one thing, that of India another, and that of the United States—if the two last countries can be said to have any one climate—still another.

A high temperature with a dry atmosphere, favoring rapid evaporation, create a natural demand for more fluid to replace loss and to sweep away waste products, and cold water is found to be more palatable and more refreshing than warm. We have large quantities of ice, and we use it freely, and our personal observation leads us to think that as ice in England improves in quality, and becomes more abundant by import or manufacture, it is more largely and more generally used.

Americans who have traveled there in former years will recall the utter impossibility of finding ice even

in the hottest days of summer, and the not unusual response to a call for water of, "Yes, sir; hot water, sir?"

Bad ice is much less often encountered than bad drinking water, in fact with us it is rare, but it is neither the British scientist nor Professor Pumpelly who first called our attention to the dangers of using it. In the Seventh Annual Report of the Massachusetts State Board of Health, that published in January, 1876, is a report by Dr. A. H. Nichols, on an outbreak of intestinal disorder, attributable to the contamination of drinking water by impure ice, which we commend to the attention of our esteemed contemporary, only having space for the closing paragraph, namely:—"The notion that ice purifies itself by the process of freezing is not based upon trustworthy scientific observation. On the contrary, it is utterly wrong in principle to take ice for consumption from any pond the water of which is so fouled as to be unfit for drinking purposes." Since the publication of the above paper this subject of impure ice as a source of intestinal and other disorders has been discussed and borne in mind both by the profession and the public in this country, but, though not denying its possibility, we have yet to learn of genuine typhoid fever conveyed in this manner.

Moreover, without wishing to magnify a small matter, we must take exception to such dogmatic statements as that "nothing can be more destructive to the utility of the process of digestion than this habit," or that "the habit of drinking ice-water is altogether a bad one," and protest, "not proven." That the Americans are a dyspeptic people is unfortunately too true, but we think our neighbor has exalted a coincidence into a cause.

In the *Archives of Medicine* (New York) for August, 1880, there appeared an article by S. G. Webber on Water as a Prophylactic and a Remedy to which we applied at the time, in the course of some editorial comments, the words "timely and sensible," and in which the author declares that his experience leads him to believe that as a rule the contrary extreme to that attributed to us by the *British Medical Journal* is in the ascendant, and that Americans do not drink enough water.

We can undoubtedly still learn much from England and Englishmen for our profit on many subjects, but we doubt if ice and ice-water should be placed prominently among them.

## VITAL STATISTICS IN ENGLAND AND GERMANY. COMPARATIVE MORTALITY TABLES.

THE January number of the *Vierteljahrsschrift für Gerichtliche Medizin und öffentliches Sanitätswesen* (Berlin) contains a paper by Dr. Ebertz, in which the mortality and causes of death in England and Germany for the year 1880 are compared. The tables given are compiled from the weekly returns of the registrar-general and the monthly reports of the medical officers of health in England on the one hand, and from the weekly returns of the German Health

TABLE I. STATISTICS OF MORTALITY IN ENGLAND FOR THE TWENTY LARGE TOWNS, LONDON INCLUDED, WITH A POPULATION OF ABOUT SEVEN AND A HALF MILLIONS, FOR THE YEAR 1880.

|  | JAN.<br>4-31. | FEB.<br>1-28. | MARCH.<br>Feb. 26 to<br>April 3,<br>5 weeks. | APRIL<br>4 to<br>May 1. | May<br>2-29. | JUNE<br>May 30<br>to<br>July 3,<br>5 weeks. | JULY<br>4-31. | AUG.<br>1-28. | SEPT.<br>Aug. 29<br>to<br>Oct. 2,<br>5 weeks. | OCT.<br>3-31. | NOV.<br>Oct. 31<br>to Nov.<br>27. | DEC.<br>1, 1881,<br>5 weeks. |
|--|---------------|---------------|--|-------------------------|--------------|---|---------------|---------------|---|---------------|-----------------------------------|------------------------------|
| Number born.....                               | 21,155        | 21,377        | 26,897                                       | 22,314                  | 21,323       | 26,584                                      | 20,418        | 20,337        | 25,023  | 19,687        | 20,259                            | 24,302                       |
| Number died.....                               | 14,933        | 16,697        | 16,048                                       | 12,583                  | 11,918       | 13,707                                      | 11,960        | 14,091        | 17,294  | 12,681        | 12,756                            | 14,713                       |
| Seven infectious diseases.....                 | 2,204         | 2,250         | 2,354  | 1,765                   | 1,743        | 2,144                                       | 2,609         | 4,471         | 4,973   | 2,125         | 1,637                             | 1,843                        |
| Deaths from                                    |               |               |  |                         |              |   |               |               |   |               |                                   |                              |
| Smallpox.....                                  | 27            | 51            | 46   | 55                      | 40           | 53  | 15            | 15            | 21  | 20            | 53                                | 89                           |
| Measles.....                                   | 493           | 338           | 432  | 403                     | 336          | 353   | 253           | 184           | 111   | 174           | 241                               | 344                          |
| Scarlet fever.....                             | 541           | 468           | 538  | 380                     | 450          | 596   | 488           | 421           | 525   | 596           | 613                               | 646                          |
| Diphtheria.....                                | 73            | 66            | 80   | 63                      | 60           | 67  | 57            | 60            | 91  | 78            | 92                                | 86                           |
| Whooping-cough.....                            | 817           | 1,021         | 926  | 575                     | 542          | 542   | 299           | 278           | 287   | 218           | 200                               | 354                          |
| Typhus, typhoid, and gastric fevers.....       | 138           | 173           | 164  | 151                     | 155          | 187   | 142           | 172           | 305   | 252           | 249                               | 192                          |
| Diarrhoea.....                                 | 115           | 133           | 168  | 138                     | 180          | 346   | 1,355         | 3,341         | 3,597   | 787           | 225                               | 132                          |
| Birth-rate per 1000.....                       | 36.8          | 37.2          | 37.4   | 38.8                    | 37.1         | 37  | 35.5          | 35.4          | 34.8  | 34.2          | 35.2                              | 33.8                         |
| Death-rate per 1000 inhabitants.               |               |               |  |                         |              |   |               |               |   |               |                                   |                              |
| In general.....                                | 26.0          | 29.0          | 22.3   | 21.9                    | 20.7         | 19.1  | 20.8          | 24.5          | 24.1  | 22.1          | 22.2                              | 20.5                         |
| Seven infectious diseases.....                 | 3.8           | 3.9           | 3.3  | 3.1                     | 3.0          | 3.0   | 4.5           | 7.8           | 6.9   | 3.7           | 2.9                               | 2.6                          |
| Acute diseases of respiratory or-<br>gans..... | 7.4           | 7.3           | 5.0  | 4.5                     | 5.4          | 2.8   | 2.5           | 2.2           | 2.3   | 4.3           | 5.8                               | 5.1                          |

TABLE II. (FROM IV., V., AND VI. OF EBERTZ.) COMPARISONS BETWEEN TWENTY TOWNS, LONDON, SUBURBS OF LONDON, AND SIXTEEN HEALTH RESORTS.

| Monthly Death-Rate per 1000 Inhabitants for the Year 1880. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Average for the Year. |
|--|------|------|--------|--------|------|-------|-------|------|-------|------|------|------|-----------------------|
| Twenty large English towns, London included.....           | 26   | 29   | 22.3   | 21.9   | 20.7 | 19.1  | 20.8  | 24.5 | 24.1  | 22.1 | 22.2 | 20.5 | 23.4                  |
| London.....  | 27   | 34   | 22.1   | 20.8   | 19.3 | 18.3  | 21.3  | 22.6 | 20.2  | 20.8 | 21.9 | 20.3 | 22.4                  |
| Suburbs of London.....                                     | 19.3 | 21.2 | 15.5   | 16.2   | 15.6 | 13.9  | 14.4  | 18.7 | 17.9  | 15.5 | 16.8 | 15.5 | 16.7                  |
| Sixteen health resorts (watering places).....              | 21.2 | 21.7 | 18.6   | 18.2   | 16.5 | 16.8  | 16.1  | 20.3 | 22.8  | 17.8 | 18.1 | 15.8 | 18.6                  |
| Death-Rate from Seven Infectious Diseases.                 |      |      |        |        |      |       |       |      |       |      |      |      |                       |
| London.....  | 4.3  | 4.6  | 3.4    | 3.1    | 2.9  | 2.8   | 5.1   | 6.4  | 4.3   | 2.9  | 2.8  | 2.7  | 3.8                   |
| Suburbs of London.....                                     | 2.0  | 2.0  | 2.1    | 2.0    | 2.1  | 1.9   | 2.8   | 5.7  | 4.5   | 2.1  | 1.6  | 1.6  | 2.5                   |
| Sixteen health resorts.....                                | 1.5  | 2.7  | 1.8    | 1.3    | 1.3  | 1.6   | 2.1   | 5.0  | 4.9   | 2.1  | 1.8  | 2.5  | 2.4                   |

TABLE III. (FROM XI. OF EBERTZ.) COMPARISON OF THE DEATH-RATES OF THE LARGE ENGLISH TOWNS AND THE RURAL DISTRICTS FOR THE YEAR 1880.

|                                 | General Death-Rate. | Death-Rate from Acute Diseases of the Respiratory Organs. | Death-Rate from Seven Infectious Diseases. | Infant Mortality. Deaths in the First Year among each 1000 Born. |
|---------------------------------|---------------------|---|--|--|
| Twenty large English towns..... | 22.8                | 4.5   | 4  | 170  |
| London alone.....               | 22.4                | 4.8   | 3.8  | 159  |
| Rural districts (151-214).....  | 21.7                | 3.9   | 3.8  | 173  |

TABLE IV. (FROM VII. AND VIII. OF EBERTZ.) MORTALITY OF CHILDREN UNDER ONE YEAR OLD TO EACH 1000 BIRTHS IN THE YEAR 1880.

|                                 | Jan.                       | Feb. | March. | April. | May. | June.       | July. | Aug. | Sept.       | Oct. | Nov. | Dec. | Yearly Average. |
|---------------------------------|----------------------------|------|--------|--------|------|-------------|-------|------|-------------|------|------|------|-----------------|
| Twenty large English towns..... | 161                        | 166  | 148    | 139    | 136  | 120         | 190   | 276  | 246         | 174  | 146  | 138  | 170             |
| London.....                     | 168                        | 178  | 142    | 128    | 109  | 115         | 207   | 245  | 189         | 157  | 137  | 131  | 159             |
| 151-214 rural districts.....    | 157                        | 171  | 160    | 141    | 131  | 115         | 159   | 276  | 290         | 186  | 149  | 144  | 173             |
|                                 | Over 7 million population. |      |        |        |      | 7½ million. |       |      | 7½ million. |      |      |      |                 |

TABLE V. (III. OF EBERTZ.) SMALL-POX IN ENGLAND IN 1880.

|  | Jan. | Feb. | March. | April | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. |
|--|------|------|--------|-------|------|-------|-------|------|-------|------|------|------|
| Admitted to the small-pox hospitals of London.....                         | 80   | 200  | 195    | 184   | 176  | 205   | 84    | 92   | 75    | 80   | 212  | 485  |
| The number of deaths from small-pox in London.....                         | 26   | 51   | 45     | 55    | 38   | 51    | 14    | 15   | 20    | 20   | 53   | 87   |
| The number of deaths from small-pox in the other nineteen large towns..... | 1    | 0    | 1      | 0     | 2    | 2     | 1     | 0    | 1     | 0    | 0    | 2    |

TABLE VI. (XII. AND XIII. OF EBERTZ.) A GENERAL MORTALITY TABLE FOR THE YEAR 1880 FOR THE ONE HUNDRED AND FORTY-NINE GERMAN TOWNS, INCLUDING BERLIN, AND FOR BERLIN ALONE.

|  | JAN.<br>4-31. | FEB.<br>1-28. | MARCH.<br>Feb. 29 to<br>April 3. | APRIL<br>4 to<br>May 2. | MAY<br>2-29. | JUNE.<br>May 30 to<br>July 3. | JULY<br>4-31. | AUG.<br>1-28. | SEPT.<br>Aug. 29 to<br>Oct. 2. | OCT.<br>3-30. | NOV.<br>31-27. | DEC.<br>Nov. 28 to<br>Jan. 1, 1881. | Yearly<br>Average. |
|--|---------------|---------------|----------------------------------|-------------------------|--------------|-------------------------------|---------------|---------------|--------------------------------|---------------|----------------|-------------------------------------|--------------------|
| Number born alive.....                     | 22,475        | 22,982        | 28,822                           | 22,725                  | 22,575       | 27,526                        | 21,777        | 21,234        | 27,389                         | 21,217        | 21,246         | 26,947                              | -                  |
| Berlin alone.....                          | 3,640         | 3,674         | 4,242                            | 3,371                   | 3,293        | 4,125                         | 3,336         | 3,415         | 4,348                          | 3,328         | 3,343          | 4,147                               | -                  |
| Died.....                                  | 15,421        | 16,035        | 20,741                           | 16,459                  | 17,002       | 21,430                        | 18,784        | 17,566        | 20,694                         | 13,842        | 13,623         | 16,947                              | -                  |
| Berlin alone.....                          | 2,137         | 2,176         | 2,642                            | 2,258                   | 2,399        | 4,537                         | 3,716         | 2,607         | 3,401                          | 2,253         | 2,012          | 2,427                               | -                  |
| General death rate.....                    | 26.3          | 27.2          | 28.0                             | 28.1                    | 28.7         | 29.0                          | 31.6          | 29.1          | 27.4                           | 23.4          | 22.8           | 22.9                                | 27.1               |
| Berlin alone.....                          | 25.8          | 26.2          | 25.4                             | 27.0                    | 28.6         | 43.3                          | 44.3          | 31.1          | 32.3                           | 26.7          | 23.7           | 23.2                                | 29.8               |
| Percentage of infant mortality.....        | 28.4          | 30.8          | 33.5                             | 33.6                    | 34.3         | 41.1                          | 51.5          | 50.2          | 46.2                           | 35.5          | 31.3           | 31.3                                | 37.3               |
| Berlin alone.....                          | 30.1          | 30.1          | 32.5                             | 33.8                    | 37.4         | 57.0                          | 61.2          | 49.3          | 46.9                           | 33.3          | 29.9           | 30.4                                | 39.3               |
| Deaths under one year to 1,000 births..... | 194           | 214           | 241                              | 243                     | 258          | 319                           | 444           | 414           | 348                            | 231           | 200            | 196                                 | 275                |
| Berlin alone.....                          | 174           | 177           | 202                              | 214                     | 274          | 643                           | 684           | 376           | 369                            | 226           | 180            | 180                                 | 308                |

TABLE VII. (XVI. OF EBERTZ.)

| Comparison of Mortality, 1880                         | In 149 German Towns. | In Berlin. | In Weimar, 20,130 Inhabitants. | Weilburg Village and Country, 5,781 Inhabitants. |
|---|----------------------|------------|--------------------------------|--|
| General death-rate.....                               | 27.1                 | 29.8       | 19.2                           | 16.1   |
| Percentage of infant mortality.....                   | 37.3                 | 39.3       | 31.2                           | 24.7   |
| Number of deaths under one year to each 1,000 births. | 275                  | 308        | 218                            | 147  |

TABLE VIII. (XVII. AND XIX. OF EBERTZ.) COMPARATIVE MORTALITY IN ENGLAND AND GERMANY IN THE YEAR 1880.

|                                  | Jan. | Feb. | March. | April. | May. | June. | July. | August. | Sept. | Oct. | Nov. | Dec. | Yearly Average. |
|----------------------------------|------|------|--------|--------|------|-------|-------|---------|-------|------|------|------|-----------------|
| England, twenty large towns..... | 26.0 | 29.0 | 22.3   | 21.9   | 20.7 | 19.1  | 20.8  | 24.5    | 24.1  | 22.1 | 22.2 | 20.5 | 22.8            |
| England, rural districts.....    | 24.2 | 23.8 | 21.8   | 21.6   | 21.1 | 18.9  | 18.7  | 24.4    | 26.2  | 18.0 | 21.4 | 19.9 | 21.7            |
| Germany, 149 towns.....          | 26.3 | 27.2 | 28.0   | 28.1   | 28.7 | 29.0  | 31.6  | 29.1    | 27.4  | 23.4 | 22.8 | 22.9 | 27.1            |
| London.....                      | 27.0 | 34.0 | 22.1   | 20.8   | 19.3 | 18.3  | 21.3  | 22.6    | 20.2  | 20.8 | 21.9 | 20.3 | 22.4            |
| Berlin.....                      | 25.8 | 26.2 | 28.4   | 27.0   | 28.6 | 43.3  | 44.3  | 31.1    | 32.3  | 26.7 | 23.7 | 24.2 | 29.8            |

TABLE IX. (VIII. AND XX. OF EBERTZ.) COMPARATIVE INFANT MORTALITY FOR THE YEAR 1880.

|                                  | Jan. | Feb. | March. | April. | May. | June. | July. | August. | Sept. | Oct. | Nov. | Dec. | Yearly Average. |
|----------------------------------|------|------|--------|--------|------|-------|-------|---------|-------|------|------|------|-----------------|
| England, twenty large towns..... | 161  | 166  | 148    | 139    | 136  | 120   | 190   | 276     | 246   | 174  | 146  | 138  | 170             |
| England, rural districts.....    | 157  | 171  | 160    | 141    | 131  | 115   | 159   | 276     | 290   | 186  | 149  | 144  | 173             |
| Germany, 149 towns.....          | 191  | 214  | 211    | 243    | 258  | 319   | 444   | 414     | 348   | 231  | 200  | 196  | 275             |
| London.....                      | 168  | 178  | 112    | 128    | 109  | 115   | 207   | 245     | 189   | 157  | 137  | 131  | 159             |
| Berlin.....                      | 174  | 177  | 202    | 214    | 274  | 613   | 684   | 376     | 369   | 226  | 180  | 180  | 308             |



TABLE X. (XI. AND XXII. OF EBERTZ.) COMPARATIVE MORTALITY, 1880, IN AN ENGLISH AND GERMAN MIDDLE-SIZED CITY, AND AN ENGLISH AND GERMAN TOWNSHIP WITH SIMILAR POPULATIONS.

|                   | Number of Inhabitants. | ENTIRE NUMBER OF |         | DEATH RATES.         |          |                            |                                     | Infant Mortality ; Deaths under 1 Year to each 1,000 Births. |
|-------------------|------------------------|------------------|---------|----------------------|----------|----------------------------|-------------------------------------|--|
|                   |                        | Births.          | Deaths. | Deaths under 1 Year. | General. | Seven Infectious Diseases. | Acute Diseases, Respiratory Organs. |  |
| Canterbury .....  | 20,962                 | 699              | 421     | 98                   | 20.0     | 1.9                        | 5.3                                 | 140  |
| Weimar .....      | 20,130                 | 554              | 387     | 121                  | 19.2     | 4.8                        | 1.7                                 | 218  |
| East Dereham..... | 5,791                  | 163              | 95      | 23                   | 16.4     | 2.0                        | 1.7                                 | 141  |
| Weilburg .....    | 5,761                  | 163              | 93      | 24                   | 16.1     | 1.2                        | 2.0                                 | 147  |

Bureau and the medical statement for the city of Berlin in Germany on the other hand.

Preventive medicine being already so important a part of the theory and practice of medicine to-day, and tending to become constantly more so, we make no apology for introducing to the notice of our readers an abstract of Dr. Ebertz's tables and conclusions, showing as they do how much may be done to lower the death-rate and diminish the frequency of certain classes of diseases, even under the unfavorable conditions engendered by large centres of population, through the efficient execution of sanitary measures. Moreover, the readers of the JOURNAL are in a position to verify or to continue most of the comparative tables given in Dr. Ebertz's article by the aid of the mortality tables published every week at the end of these pages.

Dr. Ebertz draws the following conclusions from his comparison of the mortality returns of the twenty large English towns with an estimated population in 1880 of seven and one half millions, and of the one hundred and forty-nine German towns with an estimated population of seven and three fourths millions, of London and Berlin, of individual small towns, and of rural districts in the two countries having similar populations:

(1.) A comparison of the relative mortality of England and Germany for the year 1880 is not favorable to the German cities. (2.) The mortality in general in Germany, and especially the mortality of children, was much higher in Germany than in England. (3.) The mortality of Berlin compared with that of London make an especially unfavorable exhibit. (4.) The mortality of children in Berlin in the summer months compared with that of children in London in the same months is enormous. (5.) The death-rate among children was smaller in London than in the other large English towns, and in these again than in the country districts, which is a striking example of the favorable results reached by London, particularly, and the other large towns in the domain of sanitary prophylaxis. (6.) No less forcible testimony to this is the fact, shown by the English tables, that not only in the country districts, but also in the large towns, and eminently in London, the mortality from infectious diseases was less than the mortality from diseases of the respiratory organs, even excluding phthisis.

These conclusions, Dr. Ebertz reflects, are of the

utmost interest to Germany, proving as they do, by figures, that the English sanitary organizations have contended more effectually against the dangers to health incident to life in large cities than the German have succeeded in doing, and he believes that a thorough study of English work in sanitation will bring his countrymen much nearer the greatly-to-be-desired end of reducing their still high death-rates at least to the scale of the English.

We have condensed some of the most interesting of the tables which Dr. Ebertz has worked out from the English and German reports; the results given by these reports are really of some positive value, as the death returns are under government control, the estimated populations are a near approximation to the actual populations, and similar quantities are, in nearly every case, used for purposes of comparison.

At the same time, in comparing the vital statistics of cities like London and Berlin with each other, and with those of small towns and country districts, it must not be forgotten that there are certain conditions which modify without reversing the general results arrived at. Berlin, for example, has certainly a much hotter and less healthy summer climate than London, the proportion of children to the total population is, we believe, larger; and, again, in all large cities, and especially in a place like London, the population is constantly recruited by the most active and vigorous young people from the surrounding country.

From Table 1. the following average rates per thousand for the English cities for the year 1880 result: the birth-rate was 36.1, the general death-rate, 22.8; the death-rate from acute diseases of the respiratory organs, 4.5, from the seven infectious diseases, 4.

The statistics of mortality in Germany, taken by Dr. Ebertz from the Weekly Statements of the Government Health Bureau for the Year 1880, and exhibited in Tables VI. and VII., apply to one hundred and forty-nine German towns with a population of fifteen thousand and over, and a total population of somewhat more than seven and one half millions; Berlin is included with a population of 1,080,000. In some points, for example the mortality from infectious diseases and acute diseases of the respiratory organs, a difference in classification renders a useful comparison with the English returns impossible, and therefore none has been attempted for these diseases.

Tables VIII., IX., and X. give comparisons in figures between English and German mortalities as deduced from the preceding. The twenty large English towns, population 7,500,000, the English rural districts, population 7,500,000, the one hundred and forty-nine German towns, population 7,775,000, London, population 3,600,000, and Berlin, population 1,080,000, are taken for comparison.

### JOSEPH PANCOAST.

JOSEPH PANCOAST, M. D., Emeritus Professor of Anatomy in the Jefferson Medical College, died at his residence in Philadelphia, Tuesday, March 8, 1882, in the seventy-seventh year of his age. For the last five years, on account of failing health, he had led a very quiet life, retiring entirely from professional and professorial duties. About two years ago he sustained a severe shock from a fall down stairs; injuries to the nervous system were then received which rendered him since that time an invalid, although not constantly confined to his room. A few days ago, from a sudden change in the weather, he caught a severe cold, and congestion of the lungs developed which was rapidly fatal.

Professor Pancoast, a native of Burlington, New Jersey, was born in 1805. He was graduated from the University of Pennsylvania in the Medical Department in 1828; soon afterward he entered the Philadelphia Hospital as resident physician. In 1831 he commenced teaching anatomy, and three years later was elected one of the physicians to the Philadelphia Hospital, and from 1838 to 1845 he served as a visiting surgeon in the same institution. He was also appointed surgeon to the Pennsylvania Hospital in 1854, a position he held for ten years, when his increasing duties compelled him to resign. Elected by the Board of Trustees of Jefferson College to fill the vacancy caused by the retirement of Dr. George McClellan in 1838, he filled the Chair of Surgery until 1861, when he took anatomy, dividing the surgical clinic with the Professor of Surgery; in 1874 he was elected Emeritus Professor of Anatomy. He took for thirty-six years an active part in the Faculty during the most important stage of the history of the school, adding greatly to its strength by the brilliancy of his operations, the originality of his methods, and the marvelous success he achieved in clinical surgery; he won a world-wide reputation and, probably more than any other individual, contributed to the remarkable success of the Jefferson Medical College. Dr. Pancoast had much artistic taste; he handled the brush as well as the surgeon's knife, and illustrated his lectures with large paintings by his own hand; it is difficult to realize, at the present time, the amount of enthusiasm that his clinical lectures excited; he delighted in obscure and apparently hopeless cases, and as he observed the rule of exhibiting the patients from time to time in order to demonstrate the progress of treatment, the greatest interest was excited in his class, and his clinic day often appeared like an ovation. He was greatly liked by the students, who,

recognizing his genius, took every opportunity of manifesting their appreciation of his ingenuity and originality.

Among the operations and surgical expedients devised by Professor Pancoast the one with which his name has been most intimately connected and best known is the improved abdominal tourniquet for compression of the aorta during amputations of the thigh or hip-joint. In the treatment of obstinate facial neuralgia he several times performed resection of the inferior branch of the fifth nerve at the point of emergence from the foramen ovale; and he was one of the first in this country to operate in cases of empyema by paracentesis.<sup>1</sup> In 1868 he devised his operation for extrophy of the bladder, which he performed with success; and good results have since been obtained from it by other operators both in Europe and America. An improvement in the rhinoplastic operation, which he termed the plough and groove suture; a modification in the treatment of cataract (soft and mixed), the introduction of a soft ivory tube in stenosis of the nasal duct; a plan in plastic surgery for restoring an eyebrow; and numberless other expedients showing his greatness as a surgeon, he brought to the notice of the profession.

He had considerable literary ability as well as great industry. In 1831 he translated Lobstein's Treatise on the Structure, Functions, and Diseases of the Human Sympathetic Nerve, to which he added notes; in 1844 he published his Treatise on Operative Surgery, which passed through three editions. He also remodeled and reissued Wistar's Anatomy in 1844, and edited Manec on the Great Sympathetic Nerve, and the Cerebro-Spinal System of the same author, and subsequently an American edition of Quain's Anatomical Plates, besides being a frequent contributor to the *American Journal of the Medical Sciences*, and the now defunct *American Medical Intelligencer*, and the *Medical Examiner*. His introductory addresses and other public lectures were numerous; after a tour of Europe in company with Professor Gross, where they received the highest honors, he embodied some of his reminiscences in an address delivered in 1856, entitled *Professional Glimpses Abroad*, which attracted much attention.

Professor Pancoast had many social ties and was fond of society; he was a prominent figure in the Wistar parties that are full of so many pleasant recollections to the older generation of physicians. He was a Fellow of the Philadelphia College of Physicians, and a member of the American Philosophical Society, of his County and State Medical Societies, and other scientific institutions, American and foreign. To properly estimate the character and attainments of such a man as Pancoast, and his influence upon medical thought and medical practice, is no easy task; he occupied a prominent place in surgical practice during the period of greatest activity and greatest growth of medical science that the world has ever known, and he filled it worthily.

<sup>1</sup> American Journal of Medical Sciences, 1829.

## MEDICAL NOTES.

— A sailor, recently from Philadelphia, was admitted to the Hospital, Monday, March 13th, with small-pox; but three other patients remain in Hospital, all considered well but not yet discharged.

— Meharry Medical College, the negro medical school of Nashville, Tennessee, graduated a class of eight at its recent commencement.

— A new street in the neighborhood of the General Hospital in Vienna is to bear the name of "Skoda Street" (*Skodagasse*), in honor of the celebrated physician and clinical professor.

## PHILADELPHIA.

— Professor Joseph Pancoast died at his house in Philadelphia, on Tuesday, the 7th inst. [A notice of his death appears in another column.]

— At the last meeting of the College of Physicians the death of Professor Robert Bridges was announced, and resolutions of respect entered upon the minutes of the meeting. Dr. Bridges, after lecturing in the Philadelphia College of Pharmacy for thirty-seven years, was obliged, from failing health, to resign the active duties in the Faculty in 1879, when he was elected Emeritus Professor of Chemistry, with a salary of one thousand dollars during his life, in recognition of his long, faithful, and valuable service. He took the position of librarian to the College of Physicians in 1868, which he held until December, 1880, when he had a severe attack of cystitis, which greatly undermined his strength; he never was able to resume his duties, and finally resigned the position in March, 1881. For a year his health has been precarious, and for the last few months it became evident that he was rapidly nearing the close of a long and useful life; he was in the seventy-sixth year of his age at the time of death, which occurred on the 20th ult. Dr. Bridges for many years was Assistant Editor of the *American Journal of Pharmacy*, and contributed, though rarely, to other journals. He was well known as the editor of the American reprint of Fownes and Graham's chemistries, and as the chemical editor of the United States Dispensary after the death of Dr. Baché. Besides being a Fellow of the College of Physicians he was a member of the American Philosophical Society, and also of the Philadelphia Academy of Natural Sciences, of which he was for many years the first vice-president, and frequently presided at its meetings. Though of kind and agreeable manners, he cared little for the claims of general society, and never married. He was universally respected and esteemed for his many excellent qualities of mind and heart.

— Small-pox is declining in this city; the total number of deaths from this cause for the first two months of this year was only 125, being a decrease of 271 from the corresponding period of last year; during the same time 605 cases were reported, a falling off of 991 from the record of last year.

— Dr. Lewis S. Pilcher, of Brooklyn, read a paper before the Philadelphia County Medical Society On the Ligation of Large Venous Trunks, on Wednesday

evening, March 8th. After the regular meeting a very pleasant social reception was held by the Society in honor of the lecturer of the evening.

— The College of Physicians has decided to open a registry for nurses upon the plan of that in Boston; it is expected that every required arrangement will be completed by the first week in April. At the March meeting of the college a paper was read by Dr. W. F. Atlee, in which he reported a rare case of fungosities of the bladder, where removal by scraping relieved all the urgent symptoms, and permitted re-establishment of health; there had been no evidence of a return of the disease although the operation was performed nearly two years ago. Through the energy of one member of the publication committee papers have been pledged sufficient to provide interesting material for discussion at the regular meetings for the next three years.

## Miscellany.

## ASYLUM STATISTICS. REPLY FROM DR. H. B. WILBUR.

MR. EDITOR. — In the number of your journal for February 23d I find an article headed *The Value of Statistics as to Insane Asylum Management*. As it contained some rather sweeping assertions about a table of statistics that was a part of a late paper of mine in the *Archives of Medicine*, I desire the use of your columns to make a brief reply. The table in question is spoken of as "entirely untrustworthy;" that "as a basis of comparison it is absolutely worthless."

As most of your readers have doubtless not seen the article criticized, and so cannot judge of the fairness of the criticism, my desire to set myself right before them will hardly be regarded as unreasonable.

The object of my paper may be summarily stated. To meet a statement often made in the United States, that in the British asylums for the insane the necessity for restraint by mechanical appliances is obviated by the free use of stupefying drugs, I prepared some comparative tables showing the relative use of mechanical restraint and the administration of soporifics and sedatives in the asylums of the two countries.

The British table referred intentionally to fifteen institutions where almost no mechanical restraint is used and very little seclusion, and where the reports of their superintendents show that very little recourse is had to the so-called chemical restraint. The American table, however, made up from the reports of the superintendents of twenty-six asylums, proves that a good deal of mechanical restraint is used in these, and also a very free use of soporific and sedative medication. I knew that this last table was, in a measure, imperfect, and I put a note to that effect at the bottom of it. If all of the American superintendents had been as frank and explicit in making their returns as some of them were the table would have been more complete and instructive, but the comparison, then, would have been worse for the American asylums. The same spirit that led some of the number to whom circulars were sent to refuse or withhold their statistics, prompted others to send only such as would be of little or no value. The imperfection of the table, however, was in part remedied by three pages of explanatory remarks

by the officers of fourteen of these asylums. It was also mentioned that in interpreting the term "occasions" of restraint or seclusion the reporter, as a rule, had called a week or month of continuous restraint or seclusion as seven or thirty occasions, as the case might be.

Statistics may not be strictly accurate and yet entirely adequate, as was the case in this instance. Thus, the table criticized was prepared, not for the purpose of comparing American asylums with each other in the matters under discussion, but to compare the general practice in the asylums of the United States with those of Great Britain and Canada. Now no candid reader, after an examination of the tables I furnished and the other statistics compiled from the English Lunacy Report for 1889, can fail to see, first, that the use of chemical restraint is not greater in Great Britain because of the disuse of mechanical restraint. Secondly, that there is a wide difference in the amount of mechanical restraint used in the insane asylums of the two countries. And, finally, the statistics that I presented prove conclusively that suicides are far more common in our institutions than in the British asylums.

But the statistics were the least valuable portion of my paper. Its value was more in the opinions given by leading specialists upon the subjects of restraint and the use of re-latives, in the remarks that accompanied the statistics. On the British side there was the evidence that the habitual use of drugs to allay maniacal excitement was regarded as somewhat hazardous, and that non-restraint is no bigoted dogma, but a principle that has been the outgrowth of the best medical experience in the management of the insane. On the American side it is equally obvious that there is a growing disposition to break away from the traditions of the past in order to reduce the use of mechanical restraint to a minimum. The "striking" evidence advanced by my critic is that "correct conclusions on the subject of restraint and" "conclusion made up from the records of asylums, are simply impossible," applies only to the statistics of the asylums of one State and the discrepancy there will admit of other explanations, which I need not offer.

H. B. WILKINSON, M. D.

H. B. W. <sup>1</sup> <sup>2</sup> <sup>3</sup> <sup>4</sup> <sup>5</sup> <sup>6</sup> <sup>7</sup> <sup>8</sup> <sup>9</sup> <sup>10</sup> <sup>11</sup> <sup>12</sup> <sup>13</sup> <sup>14</sup> <sup>15</sup> <sup>16</sup> <sup>17</sup> <sup>18</sup> <sup>19</sup> <sup>20</sup> <sup>21</sup> <sup>22</sup> <sup>23</sup> <sup>24</sup> <sup>25</sup> <sup>26</sup> <sup>27</sup> <sup>28</sup> <sup>29</sup> <sup>30</sup> <sup>31</sup> <sup>32</sup> <sup>33</sup> <sup>34</sup> <sup>35</sup> <sup>36</sup> <sup>37</sup> <sup>38</sup> <sup>39</sup> <sup>40</sup> <sup>41</sup> <sup>42</sup> <sup>43</sup> <sup>44</sup> <sup>45</sup> <sup>46</sup> <sup>47</sup> <sup>48</sup> <sup>49</sup> <sup>50</sup> <sup>51</sup> <sup>52</sup> <sup>53</sup> <sup>54</sup> <sup>55</sup> <sup>56</sup> <sup>57</sup> <sup>58</sup> <sup>59</sup> <sup>60</sup> <sup>61</sup> <sup>62</sup> <sup>63</sup> <sup>64</sup> <sup>65</sup> <sup>66</sup> <sup>67</sup> <sup>68</sup> <sup>69</sup> <sup>70</sup> <sup>71</sup> 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SEBASTIAN, N. Y. M. 1982.

Dr. Williams's letter is nothing to the discussion of the matter of our editorial of February 26, and, therefore, does not in any way the views which we stand expressed. Only one who has had experience in the treatment of the disease or in the management of the case, as you call it, are how differently facts appear to him, and in reality, especially when collated with several different persons.—L.H.C.

WAS IT VARGOLICH? WAS IT ROTHEN:

Mr. KIDDER—I read with interest the case reported in the JOURNAL of the 24 inst. by Dr. OLSON, of EXETER, N. H., on a case of Anomalous Case. With a few words, he has given a full and complete history of the case. The water of the pond where the water was taken from, he has not examined, and has not made any other examination, which I anticipated.

cases, but a day or two cleared them up. Some time afterward I called the attention of the members of our District Medical Society to the fact of the occasional occurrence of severe backache in the disease.

JOHN H. GILMAN, M. D.

LOWELL, March 6, 1882.

THE PEABODY DONATION FUND.

The annual report, for the year 1881, of the Trustees of the Peabody Donation Fund for providing lodging houses for the laboring classes in London has been lately made public, and presents some interesting items which we copy from the *Medical Times and Gazette*, February 26th. The report shows that the net gain of the year, from rents and interest, amounted to £23,751. Up to the end of the year the Trustees had provided for the artisan and laboring classes in London 6100 rooms, exclusive of bath-rooms, laundries, and washhouses. The rooms comprised 2787 separate dwellings, occupied by 11,459 persons. During the year 432 new dwellings had been opened, and for these rooms there were upwards of 3000 applicants. The death-rate in the Peabody Buildings for the twelvemonth "was 17.22 per 1000, about 3.98 in 1000 below the average of all London for the same period. The actual number of deaths is taken from returns furnished by the district registrars, and the calculation has been checked and confirmed at the General Register Office." The average weekly earnings of the head of each family in residence at the close of the year was, we are told, £1 2s. 7½d.; and the average rent of each dwelling was 4s. 5½d. per week, and each room 2s. The dwellings consist of from one to three rooms in most of the groups of buildings; but in two groups dwellings containing four rooms are provided. The average weekly earnings of each head of a family does not go very far, however, in showing that some of the dwellings are not occupied by families earning large wages; so the Trustees give also a table showing the employment of the tenants; and they further take the opportunity of answering objections that have been taken to their administration of the Trust. It has been objected, the Trustees remark, that "in following the system upon which they have acted for nearly twenty years they have departed from the expressed intentions of the founder, and that the benefits of the Fund are enjoyed by a class for which they were not originally intended;" and their reply is that Mr. Peabody fully knew and approved of all the proceedings of the Trustees, and was well informed as to the occupations and wage-earnings of the persons inhabiting those buildings that were finished and occupied before his death. The sums given and bequeathed by him were £150,000 in 1862, £100,000 in 1866, £100,000 in 1868, and £150,000 in 1873. The Spitalfields and Islington buildings were finished and occupied before the date of Mr. Peabody's second will; and in acknowledging to the Trustees the receipt of their report issued in December, 1865, he wrote:—"The capital will form a fund, the operation of which is intended to be progressive in its usefulness, as applied to the relief of the poor of London, as correctly stated in your report." In that report, the occupants of the then existing buildings were set forth as in the report now before us, and as including the same classes as now, namely, chamberwomen, monthly nurses, basket-makers, butchers, carmen, carpenters, firemen, laborers, and very large proportion to the other classes), porters

omnibus-drivers, sempstresses, shoemakers, tailors, smiths, letter-carriers, cab-drivers, coster-mongers, turners, policemen, warehousemen, waiters, and the like. Also, in the trust-deed, dated May 31, 1869, prepared under the personal supervision of Mr. Peabody, the following passages occur:—

"The operation of the Fund is intended to be progressive in its usefulness."

"It will act more powerfully in future generations than in the present. It is intended to endure forever; and it is the ardent hope and trust of the said George Peabody, that within a century the annual receipts from rents for buildings of the improved class, hereby authorized, may present such a return that there may not be a poor laboring man of good character in London who could not obtain comfortable and healthy lodgings for himself and his family at a cost within his means."

This hope and trust may appear Utopian; but, at

any rate, the Trustees have a right to hold that "Mr. Peabody fully understood and personally sanctioned the two leading principles on which his Trust has, since its origin, been administered—first, that the buildings shall be occupied by tenants of the working classes paying a reasonable rent; second, that the income thus obtained shall be applied to the construction from time to time of fresh buildings similar to those already existing, so that the operation of the Fund may admit of indefinite though gradual extension;" and a lasting benefit may thus be conferred on the working poor of London.

The sum given and bequeathed by Mr. Peabody was £500,000 and the added money received for rent and interest amounts to £280,418 4s. 9d., making the total Fund on December 31, 1881, £780,418 4s. 9d. — a magnificent fund of which to have the management for the benefit of the working-classes.

# REPORTED MORTALITY FOR THE WEEK ENDING MARCH 4, 1882.

| Cities.                         | Population by Census of 1880. | Reported Deaths in each. | Deaths under Five Years. | Percentage of Deaths from         |                |                       |                |            |
|---------------------------------|-------------------------------|--------------------------|--------------------------|-----------------------------------|----------------|-----------------------|----------------|------------|
|                                 |                               |                          |                          | The Principal "Zymotic" Diseases. | Lung Diseases. | Diphtheria and Croup. | Scarlet Fever. | Small-Pox. |
| New York.....                   | 1,206,590                     | 814                      | 388                      | 29.97                             | 20.02          | 7.98                  | 10.81          | 1.72       |
| Philadelphia.....               | 846,984                       | —                        | —                        | —                                 | —              | —                     | —              | —          |
| Brooklyn.....                   | 566,689                       | 248                      | 115                      | 24.59                             | 16.93          | 9.67                  | 9.27           | —          |
| Chicago.....                    | 503,304                       | 241                      | 110                      | 26.97                             | 19.50          | 7.05                  | 9.07           | 7.05       |
| Boston.....                     | 362,535                       | 169                      | 59                       | 10.64                             | 15.97          | 5.32                  | .59            | —          |
| St. Louis.....                  | 350,322                       | 115                      | 41                       | 8.69                              | 13.04          | .86                   | .86            | —          |
| Baltimore.....                  | 332,190                       | 147                      | 47                       | 17.00                             | 10.88          | 7.48                  | 2.04           | 2.04       |
| Cincinnati.....                 | 255,708                       | 116                      | 31                       | 32.75                             | 9.48           | 1.72                  | —              | 23.27      |
| New Orleans.....                | 216,140                       | —                        | —                        | —                                 | —              | —                     | —              | —          |
| District of Columbia.....       | 177,638                       | 102                      | 38                       | 15.68                             | 24.50          | 2.94                  | .98            | .98        |
| Pittsburgh.....                 | 156,381                       | 91                       | 33                       | 35.16                             | 20.88          | 2.19                  | 1.09           | 20.88      |
| Buffalo.....                    | 155,137                       | 98                       | 47                       | 23.46                             | 10.20          | 5.10                  | 6.12           | —          |
| Milwaukee.....                  | 115,578                       | 64                       | 29                       | 18.75                             | 15.62          | 4.68                  | 1.56           | 1.56       |
| Providence.....                 | 104,857                       | 50                       | 13                       | 20.00                             | 8.00           | 2.00                  | —              | —          |
| New Haven.....                  | 62,882                        | 33                       | 16                       | 21.24                             | —              | 12.12                 | —              | —          |
| Charleston.....                 | 49,999                        | 35                       | 11                       | 11.42                             | 5.72           | 5.72                  | 2.85           | —          |
| Nashville.....                  | 43,461                        | 15                       | 5                        | —                                 | 19.99          | —                     | —              | —          |
| Lowell.....                     | 59,485                        | 20                       | 6                        | 25.00                             | —              | 10.00                 | —              | —          |
| Worcester.....                  | 58,295                        | 17                       | 6                        | 5.88                              | 17.64          | —                     | 5.88           | —          |
| Cambridge.....                  | 52,740                        | 11                       | 4                        | 18.18                             | —              | —                     | —              | —          |
| Fall River.....                 | 49,006                        | 17                       | 9                        | —                                 | 11.76          | —                     | —              | —          |
| Lawrence.....                   | 39,178                        | —                        | —                        | —                                 | —              | —                     | —              | —          |
| Lynn.....                       | 38,284                        | 20                       | 8                        | 20.00                             | 15.00          | 10.00                 | 5.00           | —          |
| Springfield.....                | 33,340                        | 11                       | 3                        | 9.09                              | 18.18          | 9.09                  | —              | —          |
| Salem.....                      | 27,598                        | 13                       | 5                        | 7.69                              | —              | 7.69                  | —              | —          |
| New Bedford.....                | 26,875                        | 19                       | 7                        | 10.52                             | 26.31          | 5.26                  | —              | —          |
| Somerville.....                 | 24,985                        | 10                       | 3                        | 20.00                             | 40.00          | —                     | —              | —          |
| Holyoke.....                    | 21,851                        | —                        | —                        | —                                 | —              | —                     | —              | —          |
| Chelsea.....                    | 21,785                        | 8                        | 3                        | 12.50                             | 12.50          | —                     | —              | —          |
| Taunton.....                    | 21,213                        | 4                        | —                        | —                                 | 25.00          | —                     | —              | —          |
| Gloucester.....                 | 19,329                        | 3                        | —                        | —                                 | —              | —                     | —              | —          |
| Haverhill.....                  | 18,475                        | 6                        | —                        | —                                 | 16.66          | —                     | —              | —          |
| Newton.....                     | 16,995                        | 6                        | 4                        | 16.66                             | 16.66          | —                     | 16.66          | —          |
| Brookton.....                   | 13,608                        | 9                        | 3                        | 44.44                             | —              | 33.33                 | —              | —          |
| Newburyport.....                | 13,537                        | 6                        | 1                        | 16.66                             | 33.33          | 16.66                 | —              | —          |
| Fitchburg.....                  | 12,405                        | 3                        | 1                        | 33.33                             | —              | —                     | —              | —          |
| Malden.....                     | 12,017                        | —                        | —                        | —                                 | —              | —                     | —              | —          |
| Twenty Massachusetts towns..... | 145,221                       | 46                       | 14                       | 10.87                             | 10.87          | 2.17                  | —              | —          |

Deaths reported 2567 (no reports from Philadelphia and New Orleans); 1060 under five years of age; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and fevers) 596, consumption 338, lung diseases 436, diphtheria and croup 160, scarlet fever 134, small-pox 82, measles 45, diarrheal diseases 39, typhoid fever 31, cerebro-spinal meningitis 27, malarial fevers 27, whooping-cough 25, erysipelas 12, puerperal fever 12, typhus fever two. From measles, New York 23, Chicago seven, Brook-

lyn six, Pittsburgh four, Buffalo three, Milwaukee and West-borough one each. From diarrheal diseases, New York 10, Boston and Buffalo four each, Brooklyn, Chicago, Baltimore, and Providence three each, District of Columbia and Milwaukee two each, St. Louis, Cincinnati, New Haven, Lowell, and Brockton one each. From typhoid fever, Chicago six, New York, Cincinnati, Pittsburgh, and Buffalo three each, Boston, Baltimore, District of Columbia, and Lowell two each, Brooklyn, Milwaukee, New Haven, Charleston, and Plymouth one

each. From *cerebro-spinal meningitis*, New York 10, Chicago three, St. Louis, Cincinnati and Milwaukee two each, Baltimore, Worcester, Cambridge, Somerville, Chelsea, Fitchburg, North Adams and Peabody one each. From *malarial fever*, New York 13, District of Columbia five, St. Louis four, Chicago three, Baltimore, and New Haven one each. From *whooping-cough*, New York 12, Providence four, Pittsburgh three, Brooklyn two, Boston, Cincinnati, District of Columbia, and Cambridge one each. From *erysipelas*, New York three, Chicago two, Brooklyn, Boston, Cincinnati, District of Columbia, Buffalo, Providence, and Lynn one each. From *puerperal fever*, Chicago two, New York, Brooklyn, St. Louis, Baltimore, Cincinnati, Buffalo, Milwaukee, Providence, New Bedford, and Somerville one each. From *typhus fever*, New York two.

Ninety-two cases of small-pox were reported in Cincinnati, Pittsburgh 68, St. Louis 12, Baltimore seven, Brooklyn five, Buffalo three, Milwaukee three, and Boston one; diphtheria 28 cases, scarlet fever 16, typhoid fever eight in Boston; scarlet fever 14, and diphtheria 10, in Milwaukee.

In 38 cities and towns of Massachusetts, with a population of 1,015,711 (population of the State 1,783,086), the total death-rate for the week was 20.37 against 22.96, and 19.85 for the previous two weeks.

For the week ending February 11th, in 173 German cities and towns, with an estimated population of 8,456,206, the death-rate was 28.6. Deaths reported 4650: under five 2263; pulmonary consumption 607, acute diseases of the respiratory organs 535, croup and diphtheria 296, diarrhoeal diseases 117, scarlet fever 111, whooping-cough 79, typhoid fever 60, measles

and röteln 38, puerperal fever 36, small-pox (Dresden, Hof, Berlin, Aachen, Essen, Colden, Darmstadt) seven, typhus fever (Thorn, Grandzuc, Braumberg) three. The death-rates ranged from 17.9 in Metz to 42.1 in Dortmund; Königsberg 39.7; Breslau 31.5; Munich 37.5; Dresden 25.7; Berlin 25.3; Leipzig 27.3; Hamburg 50.2; Hanover 24.6; Bremen 23.1; Cologne 31.9; Frankfurt-on-Main 20.4; Strasburg 26.3.

[The arrival of the present English weekly return was delayed, and it is published now out of turn not to break the series. — Ed.]

In the 28 English towns, with an estimated population of 8,455,320, for the week ending February 11th, the death-rate was 29.8. Deaths reported 4832: acute diseases of the respiratory organs (London) 994, whooping-cough 336, measles 117, scarlet fever 93, fever 53, diarrhoea 31, small-pox (London) 17. The death-rates ranged from 14.5 in Birkenhead to 35.3 in London; Leeds 21; Birmingham 21.2; Sheffield 23; Bristol 24.1; Liverpool 27.3; Manchester 32.2. In Edinburgh 18.9; Glasgow 28; Dublin 33.6.

For the week ending February 18th in the Swiss towns, population 479,934, there were 43 deaths from acute diseases of the respiratory organs, pulmonary consumption 40, diphtheria and croup 18, diarrhoeal diseases 15, scarlet fever and whooping-cough five each, typhoid fever three, puerperal fever one. The death-rates were, Geneva 36.1; Zurich 31.7; Basle 34.2; Berne 39.1.

The meteorological record for the week ending March 4th, in Boston, was as follows, according to observations furnished by Sergt. O. B. Cole, of the U. S. Signal Corps: —

| Date.                        | Barom-eter. |    | Thermom-eter. |          |          | Relative Humidity. |            |             | Direction of Wind. |            |            | Velocity of Wind. |            |            | State of Weather. <sup>1</sup> |            |            | Rainfall.   |                       |                   |
|------------------------------|-------------|----|---------------|----------|----------|--------------------|------------|-------------|--------------------|------------|------------|-------------------|------------|------------|--------------------------------|------------|------------|-------------|-----------------------|-------------------|
|                              | Mean.       |    | Mean.         | Maximum. | Minimum. | 7.23 A. M.         | 3.23 P. M. | 11.23 P. M. | Mean.              | 7.23 A. M. | 3.23 P. M. | 11.23 P. M.       | 7.23 A. M. | 3.23 P. M. | 11.23 P. M.                    | 7.23 A. M. | 3.23 P. M. | 11.23 P. M. | Duration, Hrs. & Min. | Amount in inches. |
| February—<br>March,<br>1882. |             |    |               |          |          |                    |            |             |                    |            |            |                   |            |            |                                |            |            |             |                       |                   |
| Sun., 26                     | 30.252      | 34 | 49            | 21       | 70       | 35                 | 73         | 59          | W                  | SW         | SW         | 12                | 8          | 13         | C                              | C          | C          | —           | —                     | —                 |
| Mon., 27                     | 30.239      | 41 | 53            | 29       | 68       | 47                 | 73         | 63          | SW                 | NW         | N          | 9                 | 10         | 6          | F                              | C          | O          | —           | —                     | —                 |
| Tues., 28                    | 30.434      | 37 | 46            | 33       | 75       | 73                 | 84         | 77          | NE                 | E          | SE         | 4                 | 12         | 12         | F                              | C          | O          | —           | —                     | —                 |
| Wed., 1                      | 30.604      | 48 | 56            | 34       | 100      | 95                 | 100        | 98          | E                  | SE         | S          | 3                 | 16         | 8          | R                              | R          | O          | —           | —                     | —                 |
| Thurs., 2                    | 29.848      | 46 | 54            | 42       | 100      | 89                 | 73         | 87          | NW                 | NW         | NW         | 8                 | 12         | 12         | R                              | O          | C          | —           | —                     | —                 |
| Fri., 3                      | 29.732      | 40 | 47            | 36       | 79       | 70                 | 73         | 74          | W                  | W          | W          | 9                 | 20         | 12         | O                              | F          | C          | —           | —                     | —                 |
| Sat., 4                      | 29.722      | 38 | 41            | 35       | 61       | 57                 | 53         | 59          | W                  | NW         | NW         | 19                | 32         | 24         | C                              | O          | O          | —           | —                     | —                 |
| Means, the week.             | 30.033      | 41 |               |          |          |                    |            |             |                    |            |            |                   |            |            |                                |            |            |             | 21.25                 | 1.62              |

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., snow; R., rain; T., threatening; X., clearing.

# OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM MARCH 4, 1882, TO MARCH 10, 1882.

POWELL, J. S., first lieutenant and assistant surgeon, Fort Stockton, Texas. Granted leave of absence for one month. S. O. 19, Department of Texas, February 24, 1882.

NEWTON, R. C., first lieutenant and assistant surgeon. When relieved by Assistant Surgeon Conneys to proceed to Fort Cummings, New Mexico, and report to the commanding officer for duty. S. O. 40, C. S., Department of the Missouri.

ALEXANDER, R. H., major and surgeon. Now awaiting orders, to report in person to the commanding general, Department of the Missouri, for assignment to duty. S. O. 52, A. G. O., March 6, 1882.

BROWN, H. E., major and surgeon. Now awaiting orders, to report in person to the commanding general, Department of the South, for assignment to duty. S. O. 52, C. S., A. G. O.

DICKSON, J. M., captain and assistant surgeon. Now awaiting orders, to report in person to the commanding general, Department of the East, for assignment to duty. S. O. 52, C. S., A. G. O.

LAUDERDALE, J. V., captain and assistant surgeon. Relieved from duty in the Department of the South, and to report in person to the commanding general, Department of Dakota, for assignment to duty. S. O. 52, C. S., A. G. O.

FINLEY, J. A., captain and assistant surgeon. At expiration of his present leave of absence to be relieved from duty in the

Department of the East, and to report in person to the commanding general, Department of Texas, for assignment to duty. S. O. 52, C. S., A. G. O.

GARDNER, EDWIN F., captain and assistant surgeon. To report in person to the President of the Medical Examining Board, in session in New York city, for examination for promotion, and on its conclusion to report by letter to the Surgeon-General. S. O. 52, C. S., A. G. O.

ROBINSON, S. Q., captain and assistant surgeon. To report in person to the President of the Medical Examining Board, in session in New York city, for examination for promotion, and on its conclusion to report by letter to the Surgeon-General. S. O. 52, C. S., A. G. O.

FRANTZ, JOHN H., major and surgeon, died at Baltimore, Md., March 2, 1882.

BOOKS AND PAMPHLETS RECEIVED. — The Human Ear and its Disorders. A Practical Treatise upon the Examination, Recognition, and Treatment of Affections of the Ear and Associate Parts. Prepared for the Instruction of Students and the Guidance of Physicians. By W. H. Winslow, M. D., Ph. D., Oculist and Aurist to the Pittsburgh Homoeopathic Hospital. One hundred and thirty-eight illustrations. Boericke and Tafel, New York and Philadelphia. 1882.

Fifth Biennial Report of the Trustees, Superintendent, Steward, and Treasurer of the Iowa Hospital for the Insane at Independence (Iowa), for the Fiscal Years of 1880 and 1881. Printed by order of the General Assembly.

## Original Articles.

FOREIGN BODY IN ŒSOPHAGUS; ŒSOPHAGOTOMY; DEATH IN SIXTY HOURS AFTER OPERATION.<sup>1</sup>

BY D. W. CHEEVER, M. D.

C. A. G., forty-four years old, native of Connecticut and resident in Boston, single man, a seafaring man the most of his life, but for the past year or two a bar-keeper, came to the Boston City Hospital at noon of Tuesday, December 13th, giving the following history. While eating breakfast (halibut steak) the Saturday previous he got a fish-bone in his throat. Saw a physician within twenty minutes, who, after trying in vain to remove it, called a second and they, together, passed a bristle probing three times without removing the bone. From that time on pain and tenderness in the throat gradually increased. He soon became unable to swallow solids, and could swallow liquids only with extreme difficulty, taking no nourishment after the accident but a little milk and brandy. He gradually became unable to swallow even liquids, and, finally, saliva. Hoarseness and cough gradually became prominent symptoms.

When seen by Dr. D. W. Cheever, seventy-six or seventy-seven hours after the accident, he was evidently in great distress. Pulse 108; temperature not taken. Respiration rapid; hoarse; considerable cough; swelling and œdema of both sides of neck, a little above the level of the cricoid cartilage, but more marked on the right side. A feeling on pressure as if a sharp point was sticking into him on both sides of his throat. Inspection of fauces showed no disease or inflammation of any part in view. Passing the forefinger deeply into the throat, Dr. Cheever failed to reach any foreign body, although he could get beyond the tip of the epiglottis. Patient was a short, thick-set, full-necked man with a complete set of teeth, and, owing to the swelling of his neck, opened his mouth with some difficulty, so that it was impossible to reach beyond the larynx with the finger, as can be done on a favorable subject. The symptoms present indicated a foreign body still in the throat, but were not simply those of a foreign body in the alimentary tube; cough, hoarseness, laryngeal spasm, and rapid respiration giving some plausibility to the theory of a foreign body in the air-passages. When, however, the patient attempted to swallow a little water, he seized the back of his neck with both hands, put all the voluntary muscles in most rigid tension, and, finally, with a painful gasp, got the liquid down. This fact seemed entirely inconsistent with the presence of a foreign body in the air-passages. An additional reason for thinking the air-passages free was the fact that three days had elapsed without the occurrence of persistent croup (from œdema of the glottis) or constant bronchial cough, which Dr. Cheever had seen present in all other cases. The diagnosis of a foreign body in the upper part of the alimentary canal having been made, the length of time it had been there, the previous ineffectual attempts to remove it, the œdema and swelling of the neck, the rapid pulse and febrile condition of the patient, was thought to forbid any more active interference through the natural passages. Œsophagotomy

was proposed and the patient assented, it having been explained to him that he must run some hazard if he wished to save his life.

The patient was etherized with some difficulty owing to spasm. The tongue was threaded so as to be readily pulled forward, should occasion require, as was often the case. The patient was placed with his shoulders raised, head back, and face turned obliquely toward the right. Dr. Cheever began by an incision in the left superior carotid triangle, parallel with the sterno-cleido-mastoid and about three inches long. Then, the sterno-cleido-mastoid and the carotid sheath being drawn to the outer side, and the omo-hyoid and the larynx towards the median line, the section was carried down to the prevertebral space. Some trouble was experienced from the thyroid gland, which projected upwards to a level with the cricoid cartilage. It became necessary to cut around its upper edge and turn it down, the left superior thyroid artery being cut in so doing and tied. A bougie was then passed into the œsophagus by Dr. W. H. Thorndike, and an incision into the œsophagus made upon it. Then, the bougie being withdrawn, Dr. Cheever passed his forefinger into the wound and explored the œsophagus below, the finger reaching beyond the level of the sternum. Nothing could be found. But on turning the finger upwards, a foreign body was detected, behind and between the arytenoid cartilages lying obliquely, presenting a free end to the left side. After a good deal of ineffectual effort with finger and forceps, this was dislodged by the finger passed down from above through the mouth, meeting the fingers of the other hand passed upward from below through the wound. It was removed through the œsophageal wound in the neck and proved to be a fish-bone, one inch and three quarters long, about one eighth of an inch in diameter, with ragged ends. The operation lasted about an hour and a half and was greatly impeded by the patient's dyspnea, his throat being frequently obstructed by mucus, which collected in large quantities.

The patient recovered readily from ether and was put in a room by himself, which was kept full of steam, in the charge of a special nurse night and day. The wound was left open, with a single thickness of gauze laid over it; ice-water dressing. Nothing to be given by mouth till ordered. Hands and feet to be bathed in cool water to relieve thirst. Ice to be held to lips to moisten them. Ice-cap to head.

R Beef tea or egg nog . . . . . 3iv.

Brandy . . . . . 3ss.

M. et S. To be given per rectum every four hours.

Evening temperature 101.6° F.; pulse 98; respirations 25. Was somewhat restless during the night, but otherwise as well as could be expected.

*Wednesday.* — Morning temperature 103.1° F.; pulse 125; respirations 40. Patient complained much of thirst, but was perfectly obedient to orders and of good courage. At eleven a. m. was raised in bed by Dr. Cheever and given a drink of water. It excited such a spasm of cough and expectoration that the giving of nourishment by the mouth was farther postponed. His condition remained about the same through the day, evening temperature 101.6° F.; pulse 112; respirations 48. Was given a quarter of a grain of morphia sulphate by suppository at night and slept fairly.

*Thursday.* — Morning temperature 100.7° F.; pulse 125; respirations 36. During the morning he was

<sup>1</sup> Read before the Suffolk District Medical Society, February 18, 1882.

given a tumblerful of milk, which he drank with comparative ease, but little escaping through the wound. He was then ordered to have four ounces of milk every two hours by the mouth, the enemata, however, to be continued and the brandy in them to be doubled, making an ounce every four hours, as at this time the action of the heart and condition of the pulse at the wrist were rapid, dicrotic, and rather feeble. Patient remained comfortable during the day. Evening temperature 102.5° F.; pulse 96; respirations 46. At six p. m. Dr. Cheever saw him again and directed two drachms of rum to be added to each tumblerful of milk he swallowed. At this time he was given ten minims of tr. digitalis, and this was repeated six hours later. There was some diarrhoea, and some inability to retain the enemata, and they were reduced to once in six hours and five minims of tr. of opii ordered to be added to each. He took, however, but one enema containing laudanum, as to the enemata given at twelve fifteen grains of chloral hydrate was added instead. During the evening a quarter of a grain of morphia sulphate was given by suppository. At nine o'clock the pulse had much improved, was 110, of good strength, much less irregular. After this he was given milk every hour if he asked for it. About one o'clock the house-surgeon, Dr. R. A. Kingman, was called by the nurse, who had noticed a change in the breathing. The respiration was rapid, with tracheal rales. Pulse of good strength, rapid, slightly irregular. Patient was perfectly conscious. Half an hour later there was no change, but in a few minutes the respiration grew more shallow, more rapid, irregular, and soon ceased. There was no change in the pulse. Five grains of ammonium carbonate were given hypodermically without any effect, and death occurred at 1.40 A. M. Friday, about sixty hours after the operation. An autopsy was applied for in vain.

### CHRONIC HYDROCEPHALUS; PERMANENT ANTISEPTIC DRAINAGE.<sup>1</sup>

BY H. C. HAVEN, M. D.

This case is reported on account of the novelty of the method of operation employed by Dr. Bradford.

S. H., aged two years, entered medical wards at Children's Hospital July 4, 1881. Mother says he has had water on the brain since three weeks of age. Head has gradually increased in size. Has occasionally had convulsions, screaming, and foaming at the mouth; these convulsions were especially noticed when the child was held up or carried about. Has been tapped by Dr. Marion, the family physician, three times; mother thinks child intelligent, but admits his inability to express any wants.

On entrance: child well nourished, but anæmic. Skin very dark, approaching a bronzed hue. Shows no signs of intelligence; does not notice objects or a bright light; laughs occasionally in a vacant manner; tosses arms and legs about continuously.

| Measurements.                           | Cms. | or | Inches. |
|---|------|----|---------|
| Length of child . . . . .               | 84   |    | 33      |
| Largest cranial circumference . . . . . | 61   |    | 24      |
| From ear to ear . . . . .               | 30   |    | 12.25   |
| Occiput to glabella . . . . .           | 40   |    | 15.75   |
| Chest: expiration . . . . .             | 45   |    | 17.75   |
| Chest: inspiration . . . . .            | 47   |    | 18.50   |

<sup>1</sup> Read before the Suffolk District Medical Society, February 18, 1882.

Patellar reflex apparently normal; abdominal and cremasteric reflex absent.

After entrance cried continuously, and had a slight convulsive attack. The cry was so loud and continuous it was necessary to give morphia 0.002, or  $\frac{3}{32}$  of a grain, p. r. n.

Bowels constipated, and remained so throughout.

The eyes were examined by Dr. C. H. Williams, who reported discoloration of discs, with apparent loss of retina; vessels smaller than normal.

Iodide of potash was ordered, but discontinued in a day, the absurdity of medical treatment being most patent, and the case was transferred to the surgical side, where it came under the care of Dr. Bradford.

July 15th. Dr. Bradford inserted a trocar in the large fontanelle, just outside the median line, and a little behind the coronal suture; without pressure 100 cu. cm., or about three ounces, of clear fluid flowed. The patient became very pale, respiration fell to eight, pulse almost imperceptible; this state of collapse continued for some minutes, the patient lying quite motionless. After the operation the fontanelle was noticeably flattened; the reflexes not affected. Considerable fluid leaked away; soaking three towels the first day, two the second. The next day, July 16th, he seemed better; he ate his dinner with apparent relish.

July 18th. Nurse reports him much quieter than before tapping.

July 22d. Dr. Bradford inserted trocar in about same locality, with rigid antiseptic precautions (spray, etc.); 75 cu. cms. of fluid escaped. Horse-hair drainage inserted, and head inclosed in gauze and cotton dipped in thymol solution, oil-silk covering over all. During this operation tonic spasms of lower extremities and clonic of upper were present. An hour after operation pulse 144, respiration 30.

July 25th. Horse-hair drainage and antiseptic dressings removed; no fullness of fontanelle.

July 26th. Considerable serous discharge. Patient seems more natural; looks better; takes food with less reluctance; sleeps quite well. For two days after the operation the diapers were stained with a markedly blue urine.

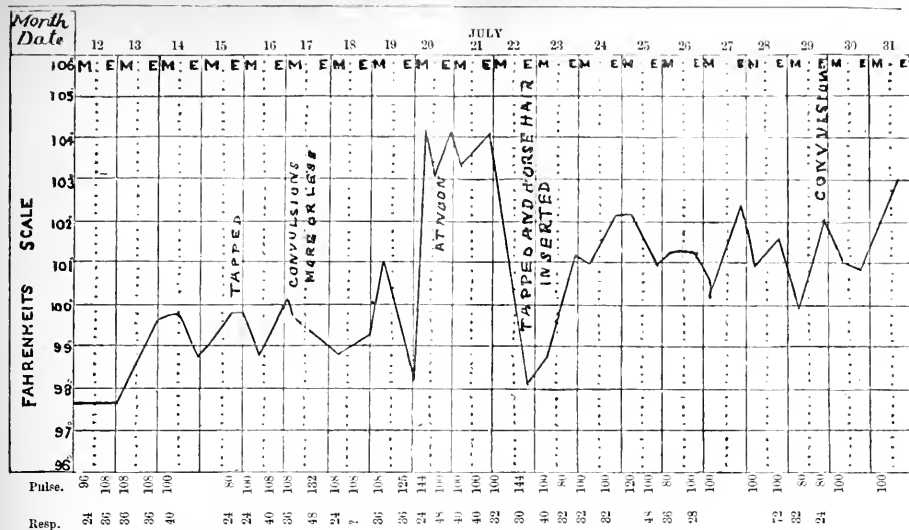
July 27th. Child seemed as usual during the morning; took nourishment freely. About three p. m. had clonic convulsion of right side, becoming tonic, and lasting half an hour. Three successive convulsive attacks, at intervals of half an hour, all limited to the right side, ensued. Death closed the last at about six p. m.

#### REMARKS BY DR. BRADFORD.

The patient, according to the mother's statement and that of the nurse, was more quiet and appeared more comfortable after each tapping and while fluid was leaking from the puncture than after the cessation of this discharge, and the consequent accumulation of fluid and increased pressure.

Horse-hair drainage was tried (under antiseptic precautions) to prevent this increased pressure; it being thought that owing to the ossification of the cranial bones and the impossibility of a collapse of the skull the danger of too great discharge of the cerebro-spinal fluid would be avoided. From the appearance of the child there was no evidence of greater disturbance from the presence of horse-hair than from the previous tapping. The hair drainage was taken out as the child was to be removed from the hospital by its mother.





July 15th. Soon after operation respiration 8; pulse 64. July 22d. Blue urine. July 24th. Light troubles him. July 25th. Dressing and hair removed.

## RECENT PROGRESS IN INSANE ASYLUM MANAGEMENT AND CONSTRUCTION.

BY WALTER CHANNING, M. D.

### LUNACY IN ENGLAND.<sup>1</sup>

DR. ROBERTSON finds that, according to the Commissioners of Lunacy, there are 71,000 insane persons of whom they have cognizance in England. This would make the ratio of about one insane person in 350 of the population. In America, Rev. F. H. Wines, superintendent of a supplementary branch of the census of 1880, having the statistics of the insane in charge, estimates the total number at 100,000, though his returns give a smaller number. This would give us a ratio of about one insane person to 500 of the population. In the older States the number is greater, in Massachusetts, for example, being not less than one in 350.

There are sixty English county and borough asylums containing upward of 40,000 insane persons, each asylum varying in capacity from 250 to 2000. The average cost per bed has been about £200. The average weekly cost per patient has been, exclusive of interest on the cost of construction and yearly repairs, ten shillings a week.

The plan of placing persons of small means in large public asylums is commended. Mention is made of the effort of Mr. Dillwyn to obtain a law with this end in view. One very important reason for taking this step is that the cheaper private asylums are so poorly managed. That such is *not* the case in this country must be remembered. Our cheaper private asylums are the McLean, at Somerville, the Hartford Retreat, Dr. Kirkbride's, the Butler Hospital, at Providence, etc. These institutions are fully as well superintended,

and much more comfortable in regard to surroundings and food, than most public hospitals can afford to be.

Of middle-class lunatic hospitals, there are in England thirteen, excluding two idiot asylums. These asylums have about 3000 beds and the average weekly cost of maintenance is £110. They receive thirty-six per cent. of all the private patients. In one of these asylums (St. Andrews Hospital at Northampton) a saving of £10,000 was made last year. Dr. Robertson thinks that this kind of hospitals affords the best means of treatment for private patients, and in thirty years thinks they would pay back the cost of construction. They will be of course public asylums for private patients. There are 3400, or forty-three per cent., of private patients treated in ninety-six private asylums. Most of these have grown up under a bad system and should cease to exist, but there should still be private asylums which may exist by the side of the public middle-class asylums. Dr. Mitchell, Commissioner of Lunacy, takes the same view. Dr. Robertson is in favor of small asylums for four to six patients. In reading the English view of private asylums, it must be remembered that it is influenced by the unfortunate system which has grown up in England. Under this system lunatics have been taken of all sorts and kinds by all sorts of persons and kept for the sole purpose of gain. This system having been inaugurated many years ago when the public were glad to find any one who would shut up their relatives, it is easy to see that many abuses might arise. Human beings were dangerous animals to be shut up, and to be treated like dangerous animals — and they were. To-day, therefore, England is struggling to throw off this incubus which she has on her hands. In America we are more fortunate. Here private asylums have started simultaneously with the public hospitals, and the larger ones have in almost all ways had a public organization. Our small private asylum system is in

<sup>1</sup> Lunacy in England (or England's Irrenwesen.) An address by Dr. C. L. Robertson, Chairman Section of Mental Disease, International Medical Congress.

its infancy, and is yet almost too small to furnish care for an appreciable number of insane persons; it seems to be wanted, however, and is growing rapidly.

Dr. Roberson speaks strongly in favor of the care of insane persons in private dwellings, and thinks that one third of the present inmates of private asylums can be placed under family treatment with safety. The experience of Scotland and the opinions of Drs. Bucknill and Maudsley all favor this plan of treatment.

Dr. Lawson<sup>1</sup> takes advanced ground on this subject. In one variety of cases, delusions and delusional methods of thought are superadded to the substance and methods of ordinary idealism and rarely we find here cases of real danger. In another variety, the workings of the mind become altogether delusional and here the abnormal elements and modes of thought virtually abrogate those which are normal, making the patient dangerous to himself and others by the supremacy of his mental aberration over his daily conduct. The first class are the most common, and it is only the second class that require care in an asylum. Residence in an asylum is apt to make a patient with mania, or melancholia, attended by suspicion, worse rather than better. A maniac of this class is only too ready to find in the expressed delusion of another the most satisfying conviction of the truth of his own fancies. In cases of recurrent mania also, Dr. Lawson has seen most excellent results from treatment in private dwellings.

#### IMPROVEMENT IN ASYLUM MANAGEMENT.

The Scotch Commissioners state at some length in their report the changes which have in recent years taken place in the management of their asylums. These changes have been in three directions, as follows: (1) In the greater amount of liberty accorded patients; (2) in the increased attention that is devoted to their industrial occupation; and (3) in the more liberal arrangements that are made for their comfort. As an example of the first change may be mentioned the abolition of airing courts. It used to be thought that an intensely excited patient could work off his excitement with safety in an airing court. But it was found that the quieter patients were irritated and made worse by association with such a patient. By placing patients in the companionship of judicious attendants, and allowing a wide range of the grounds, the results were better. So with the "open door system." Here again a patient was found to be better satisfied when he felt that the doors were unlocked and he could go out at will. The relations of an attendant to a patient assumed then less of the character of a jailer and more of the character of a nurse. Experience proved that a very much larger number could be trusted than had been supposed.

An immediate effect of thus removing restrictions was a renewed desire to take up some occupation, and this led to earnest study on the part of superintendents. It was found that a great variety of industrial pursuits were needed — of these, farm-work offered the greatest advantage. Here every grade of work, from simple spading to the elaborate care of flowers, could be found. The estate could be improved; there would be road-making, embanking, draining, fencing, plowing, digging, wheeling, and even building; in short, a little of all kinds of labor could be introduced. For one patient who would be stirred to ra-

tional reflection by such a thing as a picture, twenty ordinary inmates of asylums would be so stirred in connection with the prospects of the crops, the points of a horse, the growth of the trees, the sale of the pigs, etc. Very much was accomplished, too, in the way of providing work for female patients. Before these persons had often led idle lives in the wards, but gradually they also were stimulated to work.

To inaugurate these and other changes considerable courage and boldness on the part of the superintendent were necessary. "The superintendent who really takes most precautions against violence is not the man who applies the most complete restrictions on liberty, but he who weighs the general results of different modes of treatment and selects that which in practice proves most successful in decreasing the number of violent acts. . . . We cannot hope, in carrying out any system, to exclude the effect of mistakes in judgment and neglect of duty."

In America we do not, by any means, find that we have advanced to the position now occupied by Scotland in the treatment of the insane; perhaps we can never hope to reach the same point, as the conditions under which we work are different, but notwithstanding, very important progress has been made. At Danvers, for example, we find that unlocked wards are being tried on quite a large scale.<sup>2</sup> Dr. W. B. Goldsmith, the superintendent, says that the doors of five wards have been unlocked throughout the year, giving over one hundred patients (about one sixth of the whole number) full freedom of the hospital farm. Only five escapes occurred among this large number. Occupation was furnished for as many as possible, but owing to the small and badly arranged laundry only a comparatively small number of females can be employed. A new laundry building seems to be needed. If such is built it is to be hoped that the European fashion of having the washing done chiefly by hand will be followed. Under some circumstances it is an excellent thing to do all the laundry work by power machinery, but in a large asylum it is taking away the best form of occupation for a large number of the healthy, able-bodied, but demented or careless and unskilled female patients.

Under the head of attendants Dr. Goldsmith brings into view the *bête noir* of American asylum management. He employs sixty-three attendants; during the year there have been fifty-nine changes. Seventeen were discharged for cause. Such frequent changes "preclude the possibility of perpetuating an efficient organized system of training for attendants." On the attendants, principally, the success of the "open-door system" as well as the system of non-restraint depends. In England attendants are in service for many years, and with the sharp social distinctions can be much better disciplined than here, and they can be looked to for more intelligent cooperation. I do not, however, mean to say that attendants are perfect in England, or that the average in this country, considering the sources from which they come, are not better than would be supposed.

Perhaps the Government Hospital for the Insane at Washington, D. C.,<sup>3</sup> furnishes as good an example as any of the improved system of hospital treatment in many respects. At this hospital there has existed for a year past a continuous medical service during the

<sup>1</sup> Report Scotch Commissioners in Lunacy, 1880.

<sup>2</sup> Annual Report for 1881.

<sup>3</sup> Annual Reports for 1880-81.

entire twenty-four hours. As far as I am aware, this is an innovation on the usual medical system of management. The total insane population of the hospital is over nine hundred. With such a large number a considerable amount of night work was necessary, and with the terrible fire at Anna, Illinois, in view, it seemed to the hospital management that an efficient night medical officer might relieve the rest of the staff of arduous labor, and in case of an accident perhaps be the means of preventing serious disaster. The experiment has worked, so far, well, and probably has already saved several lives.

At this hospital during February (a month, of course, unsuited to farm labor) the superintendent, Dr. W. W. Golding, states there were employed, out of 706 males, 188. And out of 237 females, 97. In weather suitable for cultivation the number employed would exceed thirty-three and one third per cent. on the whole number. For females alone the percentage is about forty-one for February. The women work with the needle and in the domestic department. The men work at brush making, mattress making, hair picking, tailoring, stable, domestic labor, farm work, road building, etc.

The "open-door" system applies to more than one fourth of the male patients. In one cottage building there are sixty-five inmates and no window guards. In another two hundred patients and no guards on the lower floor, and very slight ones to prevent accidents on the upper stories. The doors of these buildings are unlocked, and patients can go from one part to another at will. Only one escape has so far occurred.

These figures may seem small to our Scotch and English brethren, but they show that some of our asylums are at least following in their footsteps. It must be remembered that the Government Hospital has a large proportion of negro patients, and among them many violent and difficult persons to manage.

#### HOSPITAL CONSTRUCTION.

In this direction, also, progress has been marked, for we find smaller buildings, better adapted to the needs of the patients, being erected, and at a very much diminished cost. At Washington the Relief Building connected with the Government Hospital for the Insane cost only two hundred and fifty dollars per patient, furnished.<sup>1</sup> This is a low estimate for the present high price of materials and labor, but five hundred dollars per patient would build and furnish a comfortable building for at least mild cases. At Kankakee, Illinois,<sup>2</sup> there is to be a small central building for acute cases and officers. There are then to be in addition cottages, as many as may be needed, and to contain from twenty-five to thirty patients. These cottages will be two stories in height, having day rooms on the lower floors and dormitories on the upper. They will be located on the streets, into which it is intended that the grounds shall, like a village, be divided. It is intended that these cottages shall be the permanent home of a chronic class of patients.

The managers of the Vermont Insane Asylum have recently purchased a boarding-school estate and building near the asylum, at which a suitable class of patients will be treated.<sup>3</sup> At Hartford a cottage has been erected by a gentleman for his insane daugh-

ter. This will eventually be used for other patients.<sup>4</sup>

As a result of the fire at the Illinois Southern Hospital for the Insane, at Anna, in April, 1881, it was found necessary to put up a temporary structure while rebuilding was in progress.<sup>5</sup> A one-story building, consisting principally of one ward on each side of a centre building, was found to answer the purpose admirably. There were numerous doors into large airing courts, which were kept open so that patients could wander out at will. The greater amount of freedom in this building had the effect of making the patients more contented, and they improved in health, and less restraint was necessary. At night, though large numbers were together, they were unusually quiet. This building worked so well that it will be used in the summer in future. Its cost, including hot and cold water and a system of sewerage and gas-light, amounted to only thirty-seven dollars per capita.

Dr. Bancroft<sup>6</sup> argues that patients should not be placed promiscuously together in the wards of an asylum, but in buildings especially adapted to their needs. "The great diversity of demand in the persons coming under asylum care and treatment, growing out of wide differences in temperament, forms of disease, natural tastes, and other circumstances, calls for a corresponding variety in situation and the influences needed to meet in the best manner the wants of the whole." There is always an important minority who do not require the amount of repression needed by the majority. There should be no radical departure from the customs of society unless necessary. General customs should be followed until disease renders a change imperative. The plan of varying the surroundings to suit the patient's case has been extensively carried out at the Morningside Asylum in Scotland, and at Cheddle in England. In these institutions all forms of insanity are treated, and every kind of building, from the close asylum to the common dwelling-house, is found. At Cheddle there are eight or more houses, and two at the seashore. Probably about one fourth of the patients live in these houses. One indirect result of adopting this modified plan of building will be to diminish the contrast between life in the institution and ordinary domestic life, and thus make the public less unwilling that their friends should be placed under treatment. There is now a very natural feeling of dread when one is called on to place a dear relative among a mixed mass of insane persons, to be completely deprived of liberty, and subjected to an annoying and often unnecessary discipline. By procrastination in treatment very valuable time is lost, and hence any changes which will bring the patient earlier under treatment will be a step in the direction of more frequent recovery.

#### PROVISION FOR INSANE CRIMINALS.

During the last year there has been renewed interest felt in this subject, and in Massachusetts, perhaps, more than elsewhere. This has been partly caused by the murder of the President, and the question, What shall be done with "cranks" of the Guiteau type? But in Illinois, New Jersey, and our own State, for example, the trouble caused to the insane asylum man-

<sup>1</sup> Annual Report 1881.

<sup>2</sup> Care of the Insane, by H. Wardner, M. D., Alienist and Neurologist.

<sup>3</sup> Report of the New Hampshire Asylum for the Insane. Dr. J. P. Bancroft, superintendent.

<sup>4</sup> Annual Report 1881.

<sup>5</sup> Sixth Biennial Report Illinois Board of State Charities.

<sup>6</sup> Address of the superintendent, Dr. J. Draper, before the New England Psychological Society.

agers by the large number of insane criminals under treatment has led them to a vigorous discussion of the question on their own account. In Illinois we find that an asylum for insane convicts is already under way on the State Prison grounds.<sup>1</sup> In New Jersey but little progress has been made. In Massachusetts progress has been made—in talking at least. The trustees of the State Insane Hospital at Taunton call attention to the law of 1874, providing that provision should be made for insane criminals in the new hospitals at Worcester and Danvers, and at the new State Prison in Concord.<sup>2</sup> That such provision has not been made they infer from the fact that none have been withdrawn from their hospital, but, on the contrary, they have increased in number until there are now twenty-seven. They say the subject is so important that it demands definite action. At the Worcester State Insane Hospital Dr. J. G. Park, the superintendent, states<sup>3</sup> that eleven convicts have been received from the State Prison, three females from the reformatory, and three men from Deer Island. Of a transfer from Taunton, two were from the State Prison, and six from the House of Correction. Ten men and one woman were received from jails and houses of correction. Here there are altogether thirty-six persons belonging to the criminal class, in one year entering this hospital. Probably some of them could be treated in an ordinary asylum, but the larger part should receive separate treatment in a special institution. Dr. Park thinks there is not a lunatic hospital in the State suitable for the safe custody of the criminal insane as a class. He would have the plan for their separate treatment include provision for dangerously homicidal patients who are not criminals. Some doubt might exist as to whether it would be constitutional, or, indeed, advisable, to treat with criminals persons of any other class.

The Massachusetts Legislature of 1881 passed a resolve requesting the Board of Health, Lunacy, and Charity to prepare a plan for separating insane criminals from the other insane in the public asylums. In their last Report the Board gave the results of their investigation of the subject.<sup>4</sup> The chairman of the Lunacy Committee, Dr. Edward Hitchcock, visited the English Criminal Lunatic Asylum at Bracknell, known as the Broadmoor Asylum, where he found five hundred and thirty-two patients. This institution has a prison-like appearance, and the clanking of keys and creaking of iron-grated doors are suggestive. There are numerous workshops, and the patients are allowed a small sum of money for good work and behavior, but it is a prison, and a very rigid one at best. The Earl of Shaftesbury, for fifty years or more connected with the English Lunacy Commission, warned Dr. Hitchcock against making an asylum so comfortable that convicts would be glad to be transferred to it. Shortly before, at a county asylum, a patient murdered a visitor in order to be transferred to the "farm," as Broadmoor is known to the convicts. On the whole, the English Lunacy Commissioners seemed satisfied with their method of treating insane criminals in separate institutions.

At a later period of the year, Dr. Hitchcock, Mr.

F. B. Sanborn, and the writer visited the Criminal Insane Asylum at Auburn, N. Y., at the request of the Board. At this asylum there were at the date of the visit one hundred and forty-two patients. This small number of inmates for a State of over five millions is explained by the fact that the period of detention of patients is short, and that there are, according to the statement of the superintendent, Dr. C. F. MacDonald, probably several hundred insane criminals scattered around through the State who would be fit subjects of treatment in the Auburn asylum. Dr. MacDonald thought that were the laws modified the number in his asylum might rise in a few years to five hundred. This asylum does not have a prison-like appearance, resembling closely the ordinary asylum, but convicts rarely feign to get in, and do not stay long if sane. Comfortable food and surroundings, and thorough medical care seem to exert a good effect on the inmates. The discipline is good, the amount of restraint one per cent., and the number of cures fully equal to that of Broadmoor. Hence it may be inferred that the asylum plan, rather than the prison plan, may be the more successful in America.

Drs. Orange and Nicolson, medical officers of Broadmoor, find a marked difference between convicted and unconvicted insane criminals, so that they would prefer a separate institution for each class.<sup>5</sup> In this country, so far as a smaller experience goes, while there is a difference in some cases, it is not so great as to call for distinct institutions for the two classes for some time to come.

The Board find three varieties of the "criminal insane," as they call them. First. There are those insane persons who have committed crimes, and have been adjudged lunatics by the court. Second. Those persons who have become insane in prison. Third. Persons obviously insane, and confined in asylums, who either commit offenses there or manifest such dangerous tendencies as to render them unfit for association with the ordinary insane. This class is, perhaps, more in need of separation than the others. As I have said before, I doubt the propriety of making these persons into criminals until they have committed a crime, making them properly amenable to the law. Perhaps the law could be so modified as to bring them within the desired category, for they are a troublesome class.

A certain number of the "criminal insane" can, under proper circumstances, be sent to an ordinary asylum for treatment, the Board thinks. There will be occasionally persons of good social standing, of upright character, and high attainments, who may have through insanity committed a crime. These persons, if any, can be made an exception.

The Board then goes on to propose four plans for separation from which the legislature can choose the best. The first plan is to take the eastern part of the State Reform School at Westborough, which is strongly built for prison purposes, and, tearing out the cells, adapt it to the purposes of a criminal asylum. This arrangement would allow room for one hundred insane criminals, with quarters for the necessary officers and attendants, and would cost about thirty thousand dollars. By adapting other portions of the buildings room could be found for about one hundred and fifty more patients of a more manageable class, epileptics, for example. A second plan is to build a "prison asy-

<sup>5</sup> A Chapter in the History of Criminal Lunacy in England.

<sup>1</sup> Sixth Biennial Report Board of Charities.

<sup>2</sup> Annual Report, 1881.

<sup>3</sup> Annual Report, 1881.

<sup>4</sup> Third Annual Report of the State Board of Health, Lunacy, and Charity.

lum" in connection with the State Prison. It seems quite feasible to use a portion of the prison, remote from the main prison, for the convict insane. There is also a space of four acres inside the prison enclosure where a building for one hundred insane persons could be erected at a cost of less than seventy-five thousand dollars. A third plan is to use certain wards connected with some State insane hospital where the insane criminal patients could be placed together. A fourth plan is to build a new and distinct asylum, which would cost from one hundred and fifty thousand dollars to two hundred thousand dollars, for one hundred and fifty persons.

The Board would on the whole give the preference to the first plan, and they add that the Westborough buildings could at a future time be used for some other class of the insane. The experiment would not cost much and the buildings could be got ready in a very short time.

It may be said, in considering these plans, that nearly all hospital superintendents, and others acquainted with insane criminals, would regard the fourth plan as the only one which, on scientific grounds, would be the most successful.

We find from the Report of the Board that our State will very soon be called on to provide room either for our chronic insane, who are more than nine tenths of the whole number, or for the recent and possibly curable insane. Now the question is: Will it not be better to use Westborough and its large farm for this great number who must be provided for within a year or two, rather than spend money on it for the benefit of a comparatively small number of insane criminals? We find that cottages can be built at Westborough, and at a cost not to exceed \$200,000; the Report states there will be room enough for five hundred chronic insane persons.

The best course would be to appropriate money for this change, as well as a moderate sum to begin a criminal asylum; should the legislature refuse, however, to do this, it will then undoubtedly be advisable to adopt Westborough for the criminal insane.

#### PREVENTION OF INSANITY.

Dr. Mary Putnam Jacobi has made a suggestive and interesting study of this subject.<sup>1</sup> She regards the three great elements in the moral substratum of a person predisposed to insanity, as first, the egotistical predominance of the instincts over the faculties of reflection and external relation; second, the ineffectiveness of the will even when this is impulsive, or violent; and third, the inaptitude for ideas resulting in their poverty and imperfect combination. To overcome these defects we need a strenuous educational system. "The acquisition of knowledge, the training in morals, the formation of habits of thought, must all be centred on practical activities. . . . In minds predisposed to insanity there is often, perhaps always, a marked deficiency of elasticity. An impression sinks and remains; the mind cannot disengage itself, or recover its tone; it cannot pass quickly enough into the contrasting mood; a capacity to do this is the natural provision against strain; it probably corresponds to a law of rhythmic action in the physical mechanisms of thought. This capacity should therefore be carefully cultivated

by encouraging alternations of attention on the first sign of fatigue. . . . Irritability always means the tension of nerves overcharged with impressions, which can find no issue in movements or actions. Movement is the physiological remedy for irritability. It is the remedy sought by nature in the higher grades of irritability, where the patient is no longer conscious of the tension, in maniacal excitement and mania."

The question of occupation is the great question of moral treatment of insanity. A new world should be built up around the patient. Palliation of symptoms is of great importance. The mere continuance of a morbid function may result in collapse by destruction of its mechanism.

The above examples give a slight idea of the accuracy and clearness attending this study of Dr. Jacobi. Though the writer may not agree with her in all her conclusions, he cannot help calling attention to the power of analysis she displays. It is to be regretted that want of space prevents a fuller abstract of the paper being given.

### Hospital Practice and Clinical Memoranda.

#### UNUSUAL OR ACCIDENTAL RESULTS OF VACCINATION.

BY ALFRED H. HOLT, M. D.

ONE of the principal arguments of the advocates of anti-vaccination is, that the operation is liable to introduce into the system some other disease than the one intended, or that the process it sets up may develop or set going a train of events more injurious than the disease it is intended to modify or prevent. However unsupported or absurd such a doctrine may be, its general discussion by those in the community who know nothing of the facts of the case has brought the people generally to look upon vaccination with great distrust, and a large part of them are constantly on the watch for some bad result to follow in those who have had the operation. When such a state of things exists it is certainly of the greatest importance for not only physicians, but the community at large, to know just what results are liable to sometimes follow vaccination when properly done. For this reason I relate the following cases. As far as I can learn by reading and inquiring none like them have heretofore been recorded.

December 3, 1881, a woman was removed from a house on Harvard Street, Cambridge, to the small-pox hospital; she was, at the time of removal, at the sixth day of the disease and at the fourth of the eruption. Her two children, one four and the other six, who had been vaccinated, had been constantly in the room with her, and up to the last night had slept in the same bed. These children and the other inmates of the house were at once vaccinated, and instructed to remain here that they might be under observation. Nine days after Dr. Turner, Assistant City Physician, and myself saw them. The girl, four years old, was sick in bed, with quick pulse, hot skin, flushed face, and some headache. She had two well-marked and in every way characteristic vaccination pustules on the arm. The boy, six years old, was about the house, although the vaccination had taken full as well as his sister's. The next day, or the tenth of the vaccination, I was called

<sup>1</sup> The Prevention of Insanity and its early and proper Treatment. A paper read before the American Social Science Association, September, 1881.

in great haste by the woman who had charge of the children to see the girl, she thinking she had the small-pox. I found that she had passed a restless night and that toward morning an eruption appeared which soon covered the face, body, and limbs. This eruption presented very much the same appearance as the so-called German measles; it was of a dusky red color, a little raised above the healthy skin, and was distributed in irregular patches; some of those on the body were as large as the palm of the hand, while those on the limbs, hands, and feet were smaller. The eruption covered at least seven eighths of the surface, it was a little rough to the touch, and with a lens there could be seen scattered over the patches a very few small cup-shaped vesicles. The temperature of the girl was a little elevated and she still complained of headache, but did not appear very sick. I saw her the next morning; she had passed a good night, sweating rather profusely in the last part of it. She was sitting up in bed playing, and was hungry. The eruption had faded a good deal and was much less elevated. The next day the eruption had wholly disappeared except that it had left a brownish tinge of the skin which also was gone in a day or two.

The next case was in a girl sixteen years of age who came from the British Provinces and had never been vaccinated. The ninth day after vaccination she had a slight headache, and that night was kept awake by an intolerable itching of the body and limbs; in the morning it was discovered that she was covered with an eruption. Dr. Turner was called, and at his request I saw her in the evening, when she presented the following appearance: the skin was dry and hot, the pulse quickened, and the temperature a little elevated, but she did not appear much sick; the eruption was much like that described in the first case in color and distribution, but was much more elevated and rougher to the look and touch; there were the same microscopic cup-shaped vesicles scattered over the patches, and some of the smaller patches themselves were more raised at the edge than in the centre. The next morning the girl looked bright, the skin was moist and she was improved in every way. The eruption was paler and less elevated. The next day, or the third after the full development of the eruption, it had disappeared, leaving the same brownish tinge to the skin observed in the first case. The vaccination had been successful and she had two well-marked pustules on the arm, which apparently were in no way modified either in their course or appearance by this eruption. The second time I saw this case I was requested by Dr. Turner to see two others, both in the same family: these children, aged respectively five and seven years, were primarily vaccinated twelve days before; the operation was successful in both of them and they had two pustules each, that in every way presented a normal appearance for this stage of the disease. Five days before one of the children, a girl, complained of not feeling well, and the next day an eruption appeared which, from the description of the father, was like that in the two cases above described. This at the time I saw her had disappeared, except there was a large, but not elevated, patch on the right cheek; the skin of the body at the site of the eruption had the same brownish tinge, while that of the face and arms was dry and cracked, and in many places peeling; this did not occur in any of the other cases. The eruption appeared on the other child a day later, and when I saw him it

had disappeared, leaving the same appearance of skin observed in the other cases. I am informed by Dr. Turner that he saw one other case, in a girl, primarily vaccinated at the same time these children were. These vaccinations were all done by Dr. Turner and myself and with the animal virus sold by Codman & Shurtleff.

As will be seen, all of the cases occurred in primary vaccination, all of them about nine days after a successful operation, and all ran through about the same course.

I am well aware that no definite conclusion can be drawn from so small a number of cases, but from the facts presented I think it a reasonable presumption that this eruption was in some way brought about by the vaccination. If such is the case and this result is going to occasionally follow vaccination with animal virus it is highly important that the fact be known.

As I have said at first, so far as I know, no such cases have been before described. They are certainly very different from the cases of vesicular eruption, described by Flint and other writers, that sometimes follow vaccination. I have seen a case of this kind within a week and there is no resemblance by which one could be possibly mistaken for the other.

## Reports of Societies.

### PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

H. C. HAVEN, SECRETARY.

#### SURGICAL SECTION.

FEBRUARY, 18, 1882. DR. R. M. HODGES presiding. Fifty members present.

DR. D. W. CHEEVER reported

#### A CASE OF OESOPHAGOTOMY, WITH FATAL RESULTS.<sup>1</sup>

The reader also spoke as follows:—

This patient, formerly a seafaring man, had of late been engaged in bar-tending; and the confinement, together with the probable abuse of stimulants, must have impaired the vigor naturally resulting from his former mode of life. Again, he did not enter the hospital until the third day, and was therefore already much exhausted. It is probable that respiratory trouble existed at the time of entrance. Lividity of hands and feet and marked failure of the heart's action were prominent symptoms throughout the last two days of his life. It was thought that an abscess had already formed, as experience in similar cases and experiments on animals both showed this to occur, as a rule, on or before the third day. At the operation, however, no pus was found, but great oedema around the foreign body. On the second day after the operation he was able to take some nourishment. The pulse and respiration, however, steadily went up. Death probably resulted from pneumonia of a low type.

In these cases of oesophagotomy death occurs where the foreign body has been present for some time. The danger increases in direct proportion to the number of days elapsing before operation. In twenty cases collected by Dr. Cheever there were four deaths; first, pneumonia, operation fifty hours after accident; second, collapse of lung with gangrene of oesophagus, and inflammation of the stomach; third, operation,

<sup>1</sup> Vide page 265 of this number of the JOURNAL.

nine days after accident, retropharyngeal abscess; fourth, operation ten days after accident, retroesophageal abscess, opening into pleural cavity. Abscess or the burrowing of pus is the usual cause of death. The operation has been done five times at the City Hospital with one death; the mortality being the same, twenty per cent., as in the series of twenty cases.

The bristle probang was used in this case before the patient's entrance; it failed because the foreign body was entangled in the arytenoid cartilages. This instrument is usually effectual, so that the cutting operation is of rare occurrence. The cases of foreign body in the oesophagus may be divided into three classes:—

(1.) The hysterical patients, who imagine the trouble where it does not exist, or, if it has existed, has passed away.

(2.) Those where the body may be removed through the natural passages.

(3.) Those where it is necessary to cut for it. These cases are rare; and, as has been said, the chance of recovery bears a strict relation to the time elapsing before operation. Secondary changes are very apt to be present after the third day; either pus formation or pneumonia.

In reply to a question by Dr. Hodges as to whether there was any theoretical or practical objection to feeding the patient through a soft bougie catheter introduced into the oesophageal wound, Dr. Cheever said he had no personal experience in the matter, but had seen a case reported where this method was adopted. In this particular case he thought the objection would have been the laryngeal spasm, which might have been increased. The patient, also, is usually able to drink on the second day, although a slight amount of fluid may escape by the wound. Again, we know that a patient can if necessary be amply nourished by rectal alimentation. A case has been reported where the wound was closed, and food introduced through a stomach tube; Dr. Cheever thought it better to leave the wound open, as the formation of abscess is the one thing to dread, and this gives the best chance of avoiding it by insuring perfect drainage. Another objection to the introduction of a tube into the wound was the mechanical difficulty, for the walls of the oesophagus being naturally in contact the introduction is not an easy thing. This might be avoided by stitching a long thread into either side of the oesophageal wound so that they could be drawn apart; this, however, might be a source of irritation. Dr. Cheever thought if the patient were greatly enfeebled, that it might be of considerable advantage to leave a soft tube in the wound for administering nourishment, which could be withdrawn when the patient had made a good start towards recovery.

Dr. MARCY asked what was considered to be the cause of the pneumonia in these cases, the laryngeal spasm, or the introduction of foreign matter into the bronchi.

Dr. CHEEVER thought it due either to the laryngeal spasm, or, on account of the intimate relation of the voluntary and sympathetic nerves of the neck, to defective innervation of the lungs.

Dr. H. C. HAVEN reported a case of

CHRONIC HYDROCEPHALUS, PERMANENT ANTISEPTIC DRAINAGE.<sup>1</sup>

Dr. H. J. BIGELOW spoke of a thin spina bifida he

had tapped many years ago, allowing the fluids to drain off through several punctures made with a drawing needle; the child died in convulsions in about eighteen hours. Seeing that it was essential to guard against the escape of the fluid, he operated in three other cases by first tapping the cyst and allowing it to collapse partially in order to wind a cord tightly around the base of the tumor and outwards for an inch; a pedicle was thus formed in which there was room for the adhesion of the serous surfaces. All of these three infants had convulsions; one died; two recovered. There was left at the site of the tumor only a pedicle or stump. But it is a question whether it is desirable to prolong the life of a child affected with spina bifida even if it be possible.

Dr. M. H. RICHARDSON asked if the reason was known of the blue color of the urine.

Dr. BRADFORD replied that it had not been possible to gather enough for examination. The color had been noticed on the diapers. It was not due to carbolic acid, for that was not used; it was probably due to some disturbance in the nervous system.

Dr. R. M. HODGES spoke of the experiments formerly instituted by Magendie, which demonstrated that the cerebro-spinal fluid could not be removed without fatal results. Yet in fracture of the base of the skull we often find it escaping from the meatus auditorius or elsewhere in considerable quantities without apparent serious result. Dr. Hodges cited one case where a large enough quantity was collected from the meatus for a chemical examination to determine the point as to whether it was the cerebro-spinal fluid.

The CHAIRMAN also spoke of the case of an epileptic girl, in whose vertex there seemed to be a depression of the bone. He determined to trephine. On cutting through the skin and turning it back, and scraping away the periosteum, he punctured the bone, which proved to be very thin only, and not a depression. About a drachm of the cerebro-spinal fluid escaped; the operation was suspended, and the wound sewed up. The patient died in convulsions shortly after.

Dr. BRADFORD said in the case operated on by him the child was evidently so much better when the pressure was removed, although only a small amount of fluid was withdrawn, that he could not help feeling it would be rational to provide for the escape of the fluid earlier in any given case, and thus probably increase the chance of recovery.

Dr. CHEEVER spoke of the remarkable amount of cerebro-spinal fluid which could be secreted in a short time. A boy was brought to the City Hospital with a gun-shot injury to the spine; a number of fragments of the vertebrae were removed, and the canal was found to be opened; during the next twenty-four hours a large quantity of the fluid leaked away, saturating cloths constantly. He died the next day in convulsions.

#### TWO CASES OF SUCCESSFUL LITHOLAPAXY.

Dr. D. W. CHEEVER reported the following successful case of litholapaxy.

A gentleman aged sixty had suffered for two years from symptoms of vesical and rectal irritation; thinking that the tenesmus was the result of the piles from which he supposed himself to be suffering, he was operated on for prolapsed rectum with but slight relief to his distressing symptoms. Finding that he was comparatively comfortable while in bed, he remained

<sup>1</sup> Vide page 266.

there, and had been bedridden for some months when I first saw him. Rectal examination revealed nothing abnormal, vesical examination showed a stone; at the operation, two days later, it was proved to be a mulberry calculus, composed of oxalate of lime, about the size of a large horse-chestnut. The stone being very hard, and not having one of Dr. Bigelow's improved and more powerful lithotrites, I prepared to cut if necessary. The operation lasted *three hours*, the patient being deeply etherized throughout. Both the straight and curved evacuating tubes of Dr. Bigelow were used. There was scarcely any hemorrhage. As a matter of precaution demulcent drinks and hot poultices to the abdomen were ordered. The patient made an uninterrupted recovery; he was kept in bed two weeks much against his will. I have seen the patient since; he remains perfectly well.

I think this case worthy of record, as being a thorough test of the value of Bigelow's operation, the stone being so hard and the time of the operation being so long, yet the recovery was complete and speedy, no evidence of irritation remaining.

The man's life was undoubtedly saved by the valuable method of operating given to us by Dr. Bigelow, and his chance of recovery at sixty years, after lithotomy, would have been much less.

Dr. G. W. GAY reported a case of successful litholoxpy.

Mr. B., sixty years of age, had suffered for several years from frequent and painful micturition, resulting in loss of sleep at night, and inability to work in the day. For upwards of two years he had been compelled to pass water at periods varying from fifteen minutes to an hour and a half. Prolonged straining in these efforts had produced several large hemorrhoids, with some prolapse of the rectum. The urine was alkaline, cloudy, and scalded severely when passed. Numerous calculi, some of which were half an inch in length, had from time to time been evacuated. The patient was haggard, emaciated, and presented the appearance of having endured great suffering.

Two or more calculi were readily detected in the bladder with the Thompson sound. The viscous was so contracted that it seemed to contain but little else than foreign bodies.

June 4, 1881. The patient having been etherized, the calculi were crushed and evacuated by means of Bigelow's lithotrite and evacuator. The largest stone seized by the instrument was nearly an inch and a half in diameter.

We were an hour and forty-five minutes in removing eight hundred and forty grains (one and three fourths ounces) of phosphatic calculi. Considerable time was required in finding and seizing the last fragment, which was small, and easily floated away from the jaws of the lithotrite. The bladder was finally completely freed from the detritus, and the water returned nearly colorless. There was very slight hemorrhage at any time, much less, in fact, than is often met with in forcibly dilating a stricture of the urethra.

Convalescence was easy and rapid. There were no chills, fever, nor pain. The only opiate administered was given before he came out from the ether. The urine was tinged with blood for two or three days, when it became clear, and could be retained from one to three hours. Three weeks after the operation he was walking and riding about town, and was engaged in some light employment.

Our experience in this case taught us the importance of the principle laid down by Dr. Bigelow, which is that a stone should be comminuted, and *not* pulverized. We were unable to entirely avoid impaction of the lithotrite, but it is very much diminished if the male blade is not driven home, except when the instrument is to be removed from the bladder. A fragment having been seized, force is applied until the first resistance is overcome. That comminutes the stone. If the blades are forced together then the fragment is pulverized, and the jaws soon become so choked with *détritus* that it is not only difficult to seize and hold a stone firmly enough to crush it, but great difficulty may also be experienced in removing the instrument from the bladder.

As our patient had a capacious urethra we were enabled to use the evacuating tubes of No. 30 calibre, and found that the detritus came more readily through the straight than through the curved one, and by giving the former a cork-screw motion it was introduced with little difficulty.

We experienced no trouble from the bladder walls being drawn into the catheter, but we were delayed somewhat by fragments too large to enter the tube getting into and blocking up the opening. One piece in particular got wedged into the orifice, and not being able to dislodge it with the stream of water, we had some little difficulty in removing the tube. Such an occurrence could probably be overcome with a firm stylet without removing the catheter.

The slight amount of pain, hemorrhage, irritation of the bladder, and constitutional disturbance attending and following our operation was as surprising as it was satisfactory. It serves to establish the fact that the urethra and bladder are very tolerant of prolonged manipulation, provided that no foreign body is left behind to act as a constant source of irritation. It is a noteworthy fact that Mr. B., an old man, had been an invalid for years; he was entirely unfitted for business of any sort, and almost constantly suffering from the pain of an irritated bladder. He undergoes this comparatively safe operation; has a comfortable convalescence, and is practically well in a fortnight.

Dr. BIGELOW, in opening the discussion, said he had been much interested in the cases reported. Dr. Cheever's was a hard stone. Dr. Gay's a large one. The results which they had reported might be expected as a rule.

In reply to questions from Dr. Cheever as to how often it was necessary to slit the meatus, Dr. Bigelow thought the necessity to be only exceptional. If the meatus is small, and the operation is to be a long one, it is a convenient and harmless expedient; it is well to take a little care afterwards not to engage the mucous edge upon the catheter and strip it up.

Air in the bladder does no harm. The amount contained in the catheter is legitimately there. Beyond this amount no air can enter the apparatus unless from leaky joints. A little air is often as comfortably trapped for a time in the top of a large bladder as in the evacuator. The only harm the air does is to take up room which is better occupied by water if the bladder is not a capacious one. It is easy to remove it from the evacuator through a stop-cock and small hose at the top of the bulb, through which, also, the amount of water can be regulated.

Dr. MARCY asked how long cystitis lasted after the operation.



Dr. BIGELOW replied that it depended on the relation it bore to the stone; that is, if the stone were the disease, and the cystitis were dependent on its presence, it would be cured. If on the other hand there were a previous cystitis with enlarged prostate, and the stone were the result of these conditions, the relief, though often considerable, is partial. Cystitis with a large secretion of mucus is a troublesome complication. The mucus plugs the urethral orifice, causing painful tenesmus, until the tenacious mucus comes away in a mass, and the bladder is relieved.

In answer to further inquiries Dr. Bigelow said that perhaps the most difficult part of the crushing operation is picking up pieces behind the vertical wall of certain forms of enlarged prostate. As a rule the stone is easiest secured by pressing down the floor of the bladder with the heel of the lithotrite, which then occupies a pocket into which the stone gravitates, or by carrying the instrument well back, opening it, turning it to one or the other side, and closing it. A stone or fragment behind the prostate can be usually caught by depressing the floor beyond it, although if the perpendicular wall of the prostate is high it may be difficult to reach it even by inverting a short blade. One difficulty with the old lithotrite was the obliquity of the heel, so that when the crushing force is applied the stone is urged forward in the blades. The matter of clearing out an obstruction in the tube can easily be provided for by using an ordinary tin sound for the cavity of the straight tube. A curved tube sometimes gives more trouble, but can be freed by an elastic catheter. Any resistance, however slight, in withdrawing the tube should lead the operator to suspect a dangerously large fragment in the extremity of it.

In reply to a question as to whether Dr. Bigelow had ever known injury to result from nipping the walls of the bladder, he replied that he knew of one case in which he believed a fatal issue was due to that accident. In the ordinary instrument, with blades fitted at their extremities as accurately as forceps are, and with a female blade having no projection to keep away the wall of the bladder, the latter must often be seized. If only the mucous membrane were torn no serious effect might ensue, but if, in a thin bladder, the whole thickness of the walls were pinched he thought there must be danger. For this reason he himself felt easier in using his own instrument, which guards against this accident. The long female blade is especially useful to those not operating habitually.

In regard to the choice of a straight or curved tube, Dr. Bigelow thought neither was safer; the danger depends on the relation in size between the catheter and urethra. The tube, if large, must be introduced with great care, and with a perfect understanding of the anatomy of the parts, directing it downwards until it reaches the layer of fat lying between the urethra and the rectum, then coaxing it through the hole in the triangular ligament, and finally reaching the bladder by a corkscrew motion of the straight tube in the axis of the body. In only two or three cases had Dr. Bigelow found any trouble in introducing a straight tube. Sometimes the curved tube can be easiest introduced by hugging the pubes, and thus passing the upper instead of the lower part of the hole in the triangular ligament. The introduction of the straight tube is usually easier to the surgeon, but perhaps not quite so comfortable to the anesthetized patient. After the curved tube has entered the bladder the shaft occupies the urethra, and is of course straight.

Aided by the blackboard Dr. Bigelow described a some length the difficulties of attaining a perfect and convenient evacuator, and explained the faults of all those now in use. The question is one of physics, and involves the separation of air, water, and fragments in the most effectual way by the simplest means. He believed that he had at last devised a satisfactory instrument. To suppose that experiments to this end, out of the bladder, have no value is like supposing that the edge of a surgical knife can be tested only on the living tissues.

#### PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

T. M. ROTCH, M. D., SECRETARY.

MARCH 13, 1882. DR. J. C. WARREN presided.

#### ACUTE DISEASES OF THE LUNG.

DR. JOHN G. BLAKE opened the discussion on the treatment of acute diseases of the lung by saying that the prevalence of acute pulmonary diseases during our trying winter and spring months renders consideration of the subject at this time opportune. The variety under which these affections present themselves calls for an equal variety in treatment which shall be efficient, and appropriate to the pathological conditions; it requires special consideration of each particular case, and forbids any following out of routine. While varying but little in the later stages, the early manifestations and complications developing during the course of the disease differ materially in many cases, and when recognized in time assist in modifying or averting danger. Examples of this will suggest themselves to most present.

It may be of interest to compare notes in these exceptional cases, and learn from mutual experience which of the measures adopted in such emergencies are best. In our progressive profession the reliable remedy of to-day may be replaced by a new-found drug to-morrow, and in the search for improvement we are sometimes liable to be blown about by every wind of doctrine. Often the old means of relief is discarded for one whose scope of action it will require years to determine accurately. With the elders of the profession there is not much danger of this; they have been disappointed too often to fly by preference to every new remedy or method. *Experientia docet*: the physician of many years learns to sift chaff from wheat, and thus it is generally admitted that the older a man grows in practice the smaller becomes his *matéria medica*. It does not follow that his success becomes less, or his results not as satisfactory. He has by a process of elimination come down to the best of each class, and his patients receive the remedies only which time and experience have proved most reliable in obtaining the desired result.

#### PNEUMONIA.

Pneumonia, the most frequent of acute pulmonary diseases during the wet and cold season, and the most dreaded, of late years, by the community, offers a theme for careful consideration. Attacking all classes and ages, varying in its onset and complication, it affords occasionally opportunities for prompt action, which we should always be prepared to adopt. Venesection, that old remedy, the abuse of which in the past we have

heard and read so much about, is now reckoned, among the seniors, as one of the reliable helps they are unwilling to discard simply because it has become, from causes beyond its control, unpopular or unfashionable. That a practice which had rendered so much benefit to our predecessors, and which we are obliged to admit is so potent for good in proper cases, should have, within a quarter of a century, become so nearly obsolete, is one of the things it is hard to reconcile with common sense. Venesection might almost be reckoned among the lost arts, so rare has its use become, and notwithstanding the fact that its wise application in the treatment of special forms of disease forms the boast of some of our most successful and valued practitioners. Indeed, I doubt whether more than a dozen of my hearers ever performed or have any other than a theoretic knowledge of it. Yet any one who has seen its application in the early stage of sthenic pneumonia will admit that no remedy now in use is capable of accomplishing so much in affording present relief and future benefit. The objections to it are not easily stated nor very valid. The loss of a pint of blood, more or less, from the system when a vital organ is engorged is one that can be easily borne, and quickly recovered from. Its history in the past, showing the almost universal resort to its help in all cases that could be classed as purely inflammatory would certainly have been more brief had evil results followed. Every day experience of the effect of loss of blood from injuries or from natural processes is sufficient evidence of its harmlessness.

#### CONGESTION AND OEDEMA.

Congestion and oedema of the lungs, whether as a primary or secondary disease is sometimes met with. Perhaps no other condition is more dangerous if not promptly and actively treated. I know of no measure offering such prospects of successful results as speedy venesection. The following cases bear upon this point:—

A young man in Oneida Street, the subject of mitral regurgitant disease, was attacked with severe dyspnoea after unusual exertion and excitement. When I reached the house he was livid, almost foaming at the mouth, with labored and panting respiration. The lungs were full of moist râles, and the heart's action irregular. Here was a case calling for instant and decisive measures. I performed venesection, allowing the blood to flow until he began to feel faint. In a few hours he was decidedly better, recovered well, and is still living. I have always felt that the loss of blood saved him.

In the complications of Bright's disease we sometimes are met by alarming conditions resulting from pulmonary oedema, in which venesection may be relied upon to give prompt relief either as a first resort or after other measures fail. Such a case occurred several years ago at the City Hospital. Suffocation being imminent recourse was had to apomorphia to produce vomiting, which it did successfully, but ineffectually; stimulation, both external and internal, also failing, venesection was resorted to, and the patient saved for the time.

Dr. E. W. Cushing related to me a case of pneumonia in a young man in one of the Roman Hospitals, where bleeding was carried to fainting. At the time he considered this little less than barbarous, and intended writing home warning his friends against such practice, but he was greatly astonished on visiting the

place next day to find the patient up and about the ward.

Dr. Lyman, in case of sthenic pneumonia, a couple of years ago, bled with very marked effect in the early stage of the disease, at the City Hospital.

These cases are alluded to to indicate to some degree the class and variety which we may reasonably expect to relieve. Probably each member can recall occasions on which he regrets not having made use of the operation. In my own mind there is the memory of a pneumonia developing suddenly and unexpectedly after three days of intercostal pain, which had been unattended with physical signs of lung complication, and in which the marks of congestion, with livid lips, etc., were prominent. Dr. Bowditch, who saw the case in consultation, immediately advised venesection, but the husband would not consent. As the lady was not robust I did not urge the subject strongly, but under similar circumstances I would insist hereafter. The case terminated fatally.

When the acute stage is passed I am inclined to believe that the treatment best adapted to obtain good results is the so-called supporting treatment. A variable amount of stimulant, with milk, meat broths for nourishment, *ad libitum*, carbonate of ammonia and antim. tart. in small doses, varied according to age, strength, and severity of the disease, and jacket poultices or oiled silk, sheet rubber, or cotton-wool jackets, outline this method. Under such treatment the results of 1262 cases from the records of the City Hospital show eighty per cent. of recoveries. A glance at the table appended shows a wide divergence between the mortality of different years, 1873, for example, giving only three deaths in fifty-four cases, while 1880 has thirty-two in a hundred.

#### PLEURITIC EFFUSION.

In acute pleuritic effusion, where the symptoms were severe, I should aspirate without regard to the age of the effusion. I saw such a case with Dr. Gavin, of South Boston, where fluid rapidly collected, and the patient, a strong, vigorous teamster, showed dangerous symptoms. A gallon of serum was removed, and rapid recovery followed; no repetition of the operation was necessary.

I have been surprised to find this operation less frequently resorted to in chronic pleurisy, and that some physicians are of opinion that it often causes empyema. I think this idea erroneous if proper care is taken in its performance. We are all aware that the character of fluid in the thoracic cavity may be purulent from the beginning, and also that in a strumous constitution the change from serous to purulent may go on without operative interference as a cause. But while undoubtedly in a small number of cases there may be a change from serum to pus, I don't admit that the operation, in skillful hands and surrounded with proper precautions, is responsible for it. I fear that sometimes the manner of doing is more in fault than the simple withdrawal of the fluid. It is to be regretted that operators do not observe more care in the small details of antiseptic precautions. Experience shows that the more slowly the fluid is drawn off the less danger there is of distressing or dangerous symptoms following. In my own cases I use a small trocar, bright and clean, thoroughly washed in carbolic acid, and exercise only sufficient suction to draw off in a moderate stream, or simply to allow the fluid to run away through a tube, the

end of which is placed under water. I always terminate the operation when coughing or a sense of constriction and distress show themselves. With these precautions I can positively state that no bad result has attended or followed the operation in a single instance. This has been corroborated by Dr. A. L. Mason, in an examination of seventy cases in which the operation was performed a hundred and twenty times, in a paper he has prepared for the volume of City Hospital reports now in press. I quote his words: "The operation of *paracentesis thoracis* was performed one hundred and twenty times with no unfavorable result which could be attributed to the operation in any instance, but usually with great and permanent relief. The quantity varied from a few ounces to eleven pints." It is unnecessary to say that no death as the immediate result of the operation has occurred, nor have I been able to learn of any in private practice.

TABLE OF CASES OF PNEUMONIA.

|      | Total. | Died.   |
|------|--------|---------|
| 1865 | 13     | 2       |
| 1866 | 21     | 4       |
| 1867 | 26     | 6       |
| 1868 | 31     | 7       |
| 1869 | 58     | 3       |
| 1870 | 115    | 23      |
| 1871 | 59     | 16      |
| 1872 | 65     | 15      |
| 1873 | 54     | 3       |
| 1874 | 92     | 11      |
| 1875 | 79     | 25      |
| 1876 | 70     | 23      |
| 1877 | 82     | 16      |
| 1878 | 62     | 17      |
| 1879 | 80     | 25      |
| 1880 | 100    | 32      |
| 1881 | 135    | 33      |
|      | 1262   | 251=20% |

To sum up: I assume in the treatment of pulmonary diseases that (1) congestion of the lung, whether as a primary or secondary disease, is best treated by venesection; (2) sthenic pneumonia in its first stage demands the same remedy; (3) aspiration for pleuritic effusion is admissible at all times, and when properly done is not only harmless, but an indispensable means of shortening the duration of disease, and saving life.

These few remarks, echoing the opinions of Drs. Bowditch, Austin Flint, and other representatives of medical thought in this country, are simply intended as introductory to a general discussion of the subject, and are not intended either to indicate or limit the scope.

Dr. H. I. BOWDITCH said that although venesection had formerly been carried to an absurd extent, yet that physicians of the present day did very wrong to lay aside the lancet entirely; he then cited as instances of the early practice regarding venesection, a young anæmic woman who entered the Massachusetts General Hospital when he was house officer there, wishing to be bled, although she had previously been bled ninety-three times. Dr. Bowditch protested against the operation, but was ordered by the visiting physician to bleed the patient for the ninety-fourth time; also the case of a young, full-blooded man who came into his office with a request to be bled, as he

had been every spring, a proceeding which Dr. Bowditch refused to repeat. Dr. Bowditch then said that the time had come for our young men to take up the lancet and make a rational use of a most beneficial remedy, and he spoke especially of the relief given by venesection in those cardiac cases where there is great distention.

Dr. S. CAROT agreed with Dr. Bowditch that it was a pity that our young men did not use the lancet, and said that though rarely needed it was a most valuable remedy.

Dr. LYMAN agreed with Dr. Bowditch that venesection had been too much neglected, and spoke of the great relief experienced by him from bleeding during an attack of pneumonia which he had when he was a medical student. Referring to the subject of thoracentesis for effusion, he spoke of a case where, having decided to postpone the operation until the following morning, the patient died during the night. Dr. Lyman also said that he had almost always found that where a second tapping was necessary the fluid obtained was more purulent.

Dr. BLAKE thought that Dr. Lyman had been peculiarly unfortunate in his finding pus at the second tapping, and asked Dr. Mason to report the result of his investigation on the cases occurring at the City Hospital.

Dr. MASON stated that an analysis of two hundred cases of *primary* pleurisy at the Boston City Hospital, in a considerable proportion of which the fluid effusion was very large, showed that seventy, or about one third, required tapping. In twenty-eight cases the fluid was withdrawn more than once, and in six of these it became purulent. Cases of pyo-thorax were not included in the analysis.

Dr. KNIGHT said that he had never happened to see a man bled, but that he had no doubt that the idea of the reader was correct in a certain number of cases, especially in sthenic pneumonia, and that the only reason that he had not bled in these cases was that he not seen them early enough for bleeding to be of any avail. In cases of pulmonary oedema from cardiac and renal disease it is of less importance in comparison with a number of other remedies, and especially in the renal cases pilocarpine appears to give as good results as venesection. Regarding thoracentesis, he said that possibly the fatal cases reported may have occurred from the operation having been improperly performed, but that the operation could not be considered innocuous, as in some of the fatal cases it had been properly performed. He also said that most of the fatal cases of effusion were where the fluid was on the left side, and that thoracentesis should be performed where the effusion was large, causing dyspnoea, or where the fever pointed towards an empyema.

Dr. WELLINGTON said that he had bled in cases of pneumonia, but had not seen any benefit from it, and that he was surprised to hear that patients with pneumonia should, after venesection, be up and about in a few days, as he had always supposed pneumonia must run a staled course.

Dr. AYER said that he always carried a lancet in his pocket, and that he believed that bleeding freely was of great benefit in pneumonia, and that it was an error of the present day to leave these cases too much to themselves.

As regards the danger of the fluid becoming purulent after the operation of thoracentesis, Dr. DOE re-

marked that one would suppose such a result would certainly take place if air should enter the pleural cavity during the operation. He recalled to mind one occasion when, by mistake, air was injected into the pleural cavity when the fluid had been only partly withdrawn. Subsequent aspirations showed no ill effects from the accident, as the fluid continued to be serous in character.

DR. PORTER said : Mr. President, — As the discussion for the evening has closed, and the advantage of venesection has entered largely into it, I should like to ally myself with its advocates. Though I have had no experience in its employment in sthenic pneumonia I have used it a number of times in cases of cerebral congestion, which were marked by intense headache and flushed face. I call to mind two cases in women who were passing their "climacteric," in which venesection gave the greatest relief. The first was that of a lady not strong nor of plethoric habit, who had missed her "periods" for four months. I was called to her and found her complaining of intense headache, her face was flushed, her pulse full and slow, and the pupils uneven, the right apparently natural, and the left widely dilated. I bled her at once a number of ounces, and to the point of relief from her headache, her pupils became even, and she was entirely relieved of all symptoms. Her "period" came on a few days subsequently. The second case was also that of a lady at her "climacteric;" she was, however, naturally plethoric, with florid complexion. She had been suffering for a number of days from intense headache, could not tolerate the light, and the least noise disturbed her, so that she could not bear the presence of her husband or an only child in her room, though usually fond of having them about her. Her pulse at the wrist was weak though not rapid, and she complained that she could feel the pulsation in her head aggravated by the least exertion or excitement. I bled her freely, to her complete relief. A few months afterward I was sent for to repeat the venesection from which she had received so much benefit. I have also bled for intense persistent headache in young adults, and always to the satisfaction and great relief of the patient. I always carry a lancet.

DR. F. C. SHATTUCK said that seven years ago one of the physicians of St. Bartholomew's Hospital in London, in speaking to him of paracentesis thoracis, expressed the same fear in regard to the operation as is entertained by Dr. Lyman, namely, that a serous is often converted into a purulent effusion as a direct consequence of tapping. Dr. S. had himself, however, seen nothing in practice to lead him to adopt this view, provided, of course, that the instruments are clean.

And in this connection he alluded to the case of a young man whom he had sent from the out-patient room into the Massachusetts Hospital. There was a very large left effusion of some months' standing, and the cardiac impulse was to be seen and felt outside of the right nipple.

The fluid withdrawn at the first tapping was thin, but so purulent as to be perfectly opaque, and this fact led him to think that a permanent opening would prove necessary sooner or later. This fear was not, however, realized. Five or six times during some three months a moderate amount of fluid was withdrawn, and its character remained the same, neither more nor less purulent, throughout. When the patient was last seen the heart had returned to its normal position. It

would seem that if aspiration really involves great risk of favoring the development of pus in the pleural cavity, a fluid already so purulent as that in the case described would have become *pus pur et simple* between some of the repeated tapings.

DR. BLAKE, in opening the discussion, incidentally mentioned the skepticism in regard to drugs which comes with age and experience.

DR. SHATTUCK could not forbear the remark that among the younger members of the profession the change is rather from skepticism to belief than the reverse. Under the nihilistic teaching of the present day students graduate from the schools in profound disbelief as to the real value of any, or only half a dozen, drugs. For his own part, experience is teaching him that the list of active and useful drugs is far longer than he had at one time believed, and that the fault often lies, not in the drugs, but in our failure to make a proper application of them.

DR. WARREN spoke of the value of emetics in oedema of the lungs, and referred to a case already reported by him at a previous meeting, January 9, 1882; he also spoke of the case of a robust young man who was seized with pneumonia and where, from the extreme lividity and the full pulse, he had wished to bleed but was deterred by the advice of an older physician; the patient died, and Dr. Warren believed that his life might have been saved if he had been bled.

DR. S. CABOT reported the case of a clergyman who was attacked with pneumonia and in an hour and a half was livid and suffering from dyspnoea and pain in the chest. Dr. Cabot immediately bled him, and before the operation was over the patient felt relieved and the severe symptoms did not return; he thought that the course of the disease had actually been shortened by the venesection.

#### UTERINE FIBROID.

DR. F. H. DAVENPORT reported a case of sloughing fibroid, and showed the specimen.

The patient, forty-two years of age, was well until four years ago. Then had some increased pain and flow at the menstrual period, which were the only symptoms until last December. Then a week after the regular menstruation began to have severe labor-like pains, accompanied by profuse metrorrhagia. These symptoms lasted four weeks when the pains ceased, and the flowing was replaced by a watery discharge. In two weeks this began to be very offensive and profuse, and led her to apply at the Out-Patient Department of the Free Hospital for Women. A large mass the size of an orange was found filling the upper part of the vagina, the surface as exposed by the speculum breaking down, covered with brown shreddy material and secreting a foul-smelling discharge. The finger passed into the vagina showed the thinned-out cervix encircling the pedicle, and its character was clearly made out.

As the patient's general health had begun to deteriorate it was thought best to operate immediately, which was done by Dr. Baker. Under ether, the tumor was seized and drawn down by vulsellum forceps, and, with the finger as a guide, the pedicle divided with scissors. There was very little hemorrhage. As a precaution, a large tent of iron cotton was passed into the uterine cavity, and the vagina was plugged with cotton.

The dressings were removed in forty-eight hours,

and the vagina was washed out with carbolized injections twice daily. The patient made an uninterrupted recovery.

The interesting points in the case were the mild character of the symptoms until the expulsion of the tumor, slight dysmenorrhœa, and menorrhagia, and the quick expulsion of the growth.

#### PERIPLEURITIC ABSCESS.

DR. LYMAN read the following paper:—

James McDonough, a lamplighter, aged 30, entered the City Hospital October 24, 1881, with a supposed pleural effusion. The following notes of the case are mostly from the hospital records, but as these records were not complete, I have recently (February 25th) been able to supplement them by such additions as the patient's memory would supply.

His vocation necessitates a daily walk of twelve miles. In addition to this he is occupied during the day in loading heavy teams, a labor involving severe and long-continued lifting. He is of a healthy family, rugged, and was never sick until September 19th, about five weeks before entrance, at which time, without any especial exposure or any other known cause, he was attacked with symptoms, as was supposed, of pleuritis, namely, pain in the left side in the axillary line, chilliness, dyspnoea, cough and vomiting, followed by night sweats and general weakness.

Physical examination October 24th revealed flatness over the lower left back, with almost entire absence of respiration, diminished vocal fremitus and bronchophony. Three days later, the 27th, he began to complain of pain in his back, which interfered with his movements and prevented sleep. Upon examination a doubtful, deep-seated fullness was observable (see diagram) below the ribs, close to the spine, some three or four inches in diameter, and tender on firm pressure. He thought he was obliged to evacuate the bladder more frequently at night. No other renal symptoms; urine free from albumen or sediment. Specific gravity 1026.

November 1st. The swelling having become decidedly more prominent, an exploratory deep incision was made and an ounce of thick, greenish, inodorous pus evacuated; the probe subsequently passing upward and anteriorly four inches.

November 5th. There has been an abundant and continuous discharge of bloody, inoffensive pus from the wound, accompanied for the past three nights by profuse sweats.

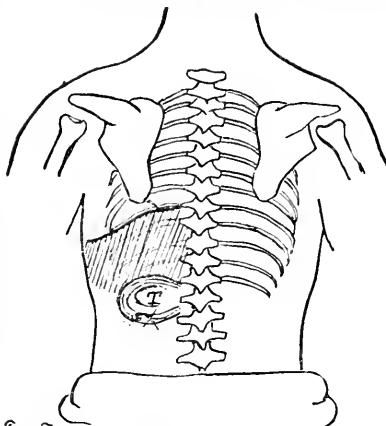
The discharge gradually diminished, and on the 10th had ceased entirely, with closure of the wound. There being no sweating or pain remaining and no signs of reëfilling, the opening was not meddled with. The line of dullness on percussion of the chest was found to have descended one and a half inches during the ten days. On the 22d the respiration was good throughout the whole left lung, although there was still comparative dullness at the base beginning two and one half inches below the angle of the scapula. No signs of the abscess remaining, he was discharged.

Three months later, February 25th, I had the curiosity to hunt up the patient and found that the remaining dullness had entirely disappeared and he was performing his usual work without pain or any embar-

assment of respiration, and feeling as vigorous as ever.

The only point of especial interest and justifying a report of the case is as to the origin of the abscess. Was it a case of empyema, the pus escaping from the pleural cavity and finding its way below the diaphragm, or was it primarily a peripleuritic abscess burrowing its way into the latus and by its presence giving rise to a secondary pleuritis or to the symptoms simulating that affection?

For our present purpose we may exclude all considerations of organic pulmonary disease, as well as caries



/// = Flatness - aegophony - absence of respiration and of vocal fremitus  
 T = Tumor found on 27<sup>th</sup> Oct. by palpation and inspection  
 X, point where abscess

or fracture of the ribs, as there was evidently no such complication.

The fact is well established of the occasional bursting of an empyema into the lungs or the mediastinum, or its spontaneous exit between the ribs—and so, also, rare cases are met with of actual perforation of the diaphragm. Andral<sup>1</sup> gives such a case verified by autopsy. Fraentzel<sup>2</sup> also speaks of an ulcerative process through the costal pleura, the pus either perforating the intercostal muscles or making its way down beneath the ribs until, getting below the diaphragm, it may migrate almost anywhere.

For an interesting case occurring in Dr. Minot's service I am indebted to Dr. Rotch. A lad of sixteen with empyema had a large quantity of pus removed by aspiration and incision. A month later, after some intermediate abdominal pain and tenderness, two quarts of sero-purulent fluid were aspirated from near the umbilicus, and subsequently large amounts were discharged from both openings for nearly two months, the boy ultimately recovering. Andral gives still another case (page 510) where the pus following the psoas down behind appeared in enormous quantity below the diaphragm. In the *Gazette des Hôpitaux*, May, 1870

<sup>1</sup> Clinique Médicale, vol. iv., page 471.

<sup>2</sup> Ziemssen, vol. iv., page 620.

(page 237), Courbon relates a case of empyema which occurred in the hospital at Tours. The patient was pregnant. The abscess pointed, as in the case which I report, below the ribs and near the spine. Owing to aortic impulse it was supposed to be aneurism, but a large amount of matter escaped externally by a spontaneous opening and the patient recovered.

In the *Medical and Surgical Journal* of November, 1877, page 587, Dr. Fitz calls attention to "peripleuritis, a suppurative inflammation of the fibrous tissue beneath the costal pleura which arises independently of traumatic causes or a preceding pleurisy, and first noted by Wunderlich in 1861 and subsequently by Billroth, Bartels, and Riegel."

In the *Archives Générales* 1865, vol. i., pages 403, 565, I find an exhaustive article by Leplat, agrégé at the Val de Grace, upon these peripleuritic abscesses and their relation to antecedent pleuritis. In opposition to Wunderlich, Leplat argues that they are always (excluding, of course, carious or traumatic cases) secondary to pleuro-pneumonia or pleuritis; and from the details which he gives (page 570) of the cases of Wunderlich and Billroth, it seems at least probable that their cases were also secondary, and not, as claimed by them, of independent origin. I think, also, that it may be said of Bartels' cases as reported by Dr. Knight (*Boston Medical and Surgical Journal*, October, 1875, page 437), that it is not clear that the abscess was not due to caries of the rib, instead of being a primary suppurative inflammation of the subpleural fibrous tissues.

In the case which I report the diagnosis clearly lies between primary pleuritis followed by empyema on the one hand and primary peripleuritic abscess, as described by Wunderlich with either simple compression and displacement of the lung or secondary pleuritis, on the other.

The probabilities seem to me to be in favor of the peripleuritic origin of the abscess. The patient was an intelligent man and able to answer as to his antecedents. He was young, exceptionally well nourished, of vigorous muscular development, never sick before, with no history of pulmonary diathesis or hereditary predisposition to it, and engaged in an occupation requiring heavy lifting and straining. He gives no history of any initiatory rigor or of any definite cause in unusual exposure. There was no albumen in his urine. The pus obtained, though not tested for its specific gravity, was thicker than is usual in empyema. The line of dullness in the chest upon percussion fell rapidly when the abscess was evacuated. In ten days the discharge ceased entirely and there was no recurrence of it, and a fortnight later no sign remained of pleuritic or pulmonary irritation, with the exception of a limited dullness readily accounted for by adematous thickening or unabsorbed lymph. Three months later he reports himself as well as ever, walking fast for two hours morning and evening, often, indeed, running a good deal when delayed, and in the intervals of the day doing heavy work, all without pain in his side or any embarrassment of respiration.

Dr. BOWDITCH said that the main point to be insisted upon in these cases, as well as in cases of perinephritic abscess, was that a free opening should be made at once, and he cited a case where, from postponing the operation, the patient was now incurable and had an intestinal fistula opening into the cavity of the abscess.

## Recent Literature.

*Percussion Outlines.* By E. G. CUTLER, M. D., Assistant in Pathological Anatomy, Harvard Medical School, etc.; and G. M. GARLAND, M. D., Assistant in Clinical Medicine, Harvard Medical School, etc. Boston: Houghton, Mifflin and Company.

We are informed in the preface of this valuable little work that it is intended to teach students the anatomical position of the thoracic and abdominal viscera, chiefly with reference to the normal condition, without a full description of the abnormal deviations. This study of external or regional anatomy is one of great interest and importance clinically, and it is also one which in most medical courses the student is expected to pick up for himself without much systematic or accurate instruction. The book under consideration is filled with data drawn from the best sources and verified by the careful researches of the authors, supplemented also by their own original observations, for which they have had exceptionally good opportunities. It may be accepted as a strictly accurate and concise authority with regard to the boundaries of the lungs, heart, diaphragm, and pleura, also of the liver, stomach, bladder, kidneys, and other abdominal organs. The pathological conditions within the lungs, pleura, and pericardium have been the subject of special study by the authors, whose remarks on these points are prompted by experience at the bedside and autopsy table.

The diagnosis of peritoneal effusions, uterine and ovarian tumors, is briefly discussed, and at the end are nine excellent reproductions of Weil's plates, alone worth the price of the volume, which in style and appearance is unexceptionable.

However valuable metres and cubic centimetres may be to science, they would be more satisfactory to many physicians still in the habit of thinking in the old-fashioned measures if they were translated parenthetically into inches and fluid ounces.

*The Prevention of Stricture and of Prostatic Obstruction.* By REGINALD HARRISON, F. R. C. S. London: J. and A. Churchill. 1881. 28 pages.

Every one familiar with Mr. Harrison's *Surgical Diseases of the Urinary Organs* will be sure to turn with interest to any article on the same subject which bears his name. This little book is composed of two essays, of which the first, or at least its substance, on the Prevention of Stricture, was published some months ago in the *Lancet*. It proposes the treatment of long-standing gonorrhoea and gleet by a system of irrigation which appeals strongly to one's common sense. A little experience in its use shows that extreme care must be exercised in the choice of subjects, as the irritation caused by its too early employment brings on an exacerbation of the trouble. Its exact value has yet to be determined. The second essay treats of the Prevention of Prostatic Obstruction, and is first published in its present form. It is exceedingly interesting, and gives us reason to believe that early treatment may ward off the evils of an enlarged prostate, and perhaps prevent their increase even after some slight degree of obstruction has already taken place.

# Medical and Surgical Journal.

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## THE PRIZES FOR ESSAYS ON THE PROBABILITIES OF A CURE FOR MALIGNANT DISEASE.

REFERENCE to our advertising columns will show our readers the decision of the gentlemen selected to judge of the merits of the essays on the radical cure of malignant disease, presented in response to the offer of prizes published to the medical profession in November last, and will give them the details of a new announcement. We feel assured that the decision not to award a prize is as disappointing to the gentleman who made the proposal as it can possibly be to any one of the three unsuccessful writers. It is not worth while to speculate at any length concerning the cause of the lack of interest manifested in the offer: the matter of practical indifference in prize-essay writing in this country has been already commented on by us, as well as by other American medical journals. The fact has been attributed by a contemporary to the "comparative barrenness of American researches in the field of medical science;" but the particular offer which is the subject of this article called not so much for the result of original scientific research, as for practical suggestions evolved from thought upon work already done, and experiences already noted. A record of such reflections America ought to be as well able to furnish as any other country.

Some criticism has been made of the brevity of the time allowed for the preparation of the essays. Whatever force the objection may properly have, the criticism will not be applicable to the period of time given in the new announcement: twenty months is surely a sufficiently long period in which to prepare an essay not necessarily involving original histological investigations.

As regards also the value of the new prize, it will be conceded that the amount is really generous. There are, we believe, about half a dozen prizes offered altogether in the three large Eastern medical centres of this country, New York, Philadelphia, and Boston, the sum total of which does not exceed, if it even reaches, one thousand dollars annually. In the recently published list of prizes proposed for the year 1882, by the French Academy of Medicine, there are fourteen different sums. The largest amount is \$5000; there are two prizes of \$1000 each, and one of \$600; while the remaining ten are about equally divided between prizes of \$250, \$300, and \$400. The total amount thus offered is something over \$10,000, mak-

ing the average amount of each prize a little over \$700. It will therefore be a marvel to us if the generous award of one thousand dollars proposed in the new announcement does not elicit an essay quite worthy of the bestowal of such a prize. And it ought not to be said that America shows signs of less activity than other countries in the effort to advance the cause of practical medical science. Twice in later years has the Boylston prize been borne off by English writers; and we may add that, in the case of the essays of which we write, there was external evidence of foreign competition, and to quite a disproportionate degree.

## VENESECTION.

THE report, which will be found on another page, of a discussion upon the treatment of pneumonia, is only another evidence of the constant revolution going on in the methods of medical treatment.

Real medical science advances, with more or less of rapidity to be sure, but always gaining something from decade to decade, every new discovery whether physiological, pathological, anatomical, chemical, or microscopical, giving a firmer foothold for the progressive elevation of art into science, and so permitting the student of preventive medicine to avail himself of hygienic laws more and more positive and demonstrable; but notwithstanding this encouraging outlook, the general practitioner feels constantly how much is yet to be attained, and must still avail himself, to a certain extent, of procedures which are taught him by experienced art rather than by exact science.

It is only those who have passed middle age who can adequately realize how continuous is the revolution of the wheel, though not always in the same plane. As beginners they heard the same story of previous professional progress, though certainly to a less marvelous degree, and in the pride of the scientific vista opening to them fancied that they were greatly wiser than their predecessors. So, doubtless, will their successors in another third or half century turn and say to the generation following, we also have learned a few things, but in the marvelous whirl of scientific progress and discovery of which we have been favored witnesses we have forgotten or neglected many which possibly might be remembered to advantage.

It is only forty years or so ago that venesection, in acute diseases, was the solid shot always first fired to sink the enemy, to be actively followed up by grape and canister at close quarters. Every student was expected to be skillful with the lancet if nothing else, and in his professional quandaries, like the frishman with his shillalah, wherever he saw a head he hit it unhesitatingly. Nowadays there are men well advanced in years who have never performed this bit of minor surgery, and one such, an experienced practitioner, avowed in fact that he had never even *seen* a man bled! We ourselves well remember a consultation with three medical gentlemen, but a few years since, where venesection was decided to be necessary in an urgent case of eclampsia — one of them only had the neces-

sary lancet, and even that, though carried many years, had never before been baptized.

The question may well occur to thoughtful minds, are we not in danger, while pursuing so ardently the scientific aspects of our calling, of overlooking or slighting some remedial measures which experience in the art has demonstrated to our predecessors as certainly beneficial? The scientist may certainly fail of success without the assistance of the artisan who can sometimes achieve results by rude processes which the former finds to be impossible of present mathematical demonstration. We know that the loss of blood, either in its quality or its quantity, tends to fatal results, and for physiological reasons which can be demonstrated now as never by our fathers: but until science can give us a substitute, there are cases in which art must step in with its ruder process and put off the fatal day until Dame Nature can have at least a chance to try her hand.

Such at least seemed to be the opinion of some of the gentlemen, as given in the discussion which we publish, — a discussion which was intended to cover much more generally the treatment of pneumonia, but which for lack of time was confined chiefly to venesection as one of the lost arts. Moreover, its application was limited emphatically to that smaller number of cases strictly sthenic, the more common asthenic cases not entering into the question.

The sentiment, so far as expressed, was pretty decided that there were a certain number of these sthenic cases occurring in strong and vigorous subjects, almost apoplectic, fondroyantes in character, where temporizing, expectant treatment, under the idea that the disease must run its definite course, would surely run that course too speedily for the sufferer. As with superheated steam, the valves must be opened at times, or the boiler gives way before you can lower the fire. In other words, let off enough to relieve the tension, and give the patient a chance for the restorative processes of nature, aided by good nursing and such expectancy as circumstances might afterward indicate.

It is well worth while in medicine, as in the other pursuits of life, for us to show occasionally the courage of our convictions, and, regardless of Mrs. Grundy, do the best thing we can under the circumstances, though it may not be the best we could wish.

There is little danger of venesection being too much practiced in these days. There is great danger that here and there a valuable life may be lost from timidity, — the want of prompt and decisive action in this direction. Every practitioner knows of such cases, while many of those present were able to speak of the prompt and gratifying results of this operation in cases otherwise apparently hopeless.

At all events, the subject is worth occasional revival, if only as a reminder to the younger men that there are some remedies of the past age which are worthy of their attention and renewed examination.

— The Boston Board of Health is now publishing a monthly statement of the mortality of the city.

# MASSACHUSETTS GENERAL HOSPITAL AND OUT-PATIENT ABUSE.

EVERY ONE in New England interested in medicine takes an interest in the Massachusetts General Hospital. To many its Annual Reports bring reminiscences of pleasant student days when the professional cares and anxieties were only potential, or were borne for the most part by broader shoulders than their own. Of the many who read the annual report with pleasure we venture to say, that the great majority will turn, this year, to the portions that relate to the experiment, now going on, in regard to the restriction of the Out-patient service to the really needy.

Our readers will doubtless recall the paper, published in the JOURNAL something over a year ago, on Out-patient Abuse, by Dr. Whittemore, Resident Physician and Superintendent of the hospital, in which he proposed a remedy for the crowding of the Out-patient Department. This paper was incorporated in the report of last year. The plan was adopted by the trustees, and for the past nine months has been in operation. The time is as yet too short to judge fairly of its merits, and the scheme seems to be regarded by the authorities as on trial simply. We therefore allow the report to speak for itself: —

"The Trustees have continued their efforts to restrict the service in the Out-patient Department to the class of suffering poor whom the hospital was founded to relieve. The practice of exacting a nominal fee from all applicants save the very poor was discontinued early in the year, as it was found not to accomplish the good it was intended to effect, and to be productive of positive ill results. In April an experienced person was appointed to examine all applicants, in order to ascertain whether their circumstances entitled them to the benefits of a gratuitous charity. The results of his investigations will be found embodied in the report of the Resident Physician. It will be seen that, of 1,250 cases visited at the addresses given, 545 were pronounced undeserving of charitable aid. It is no doubt true that, to a large number of these, the term impostor would be a harsh and unjust one to apply. It may well be feared that the past practice of the hospital and of similar institutions has tended to disseminate the belief that whatever the means of the sufferer, sickness entitles him to free advice and treatment. The managers of such institutions in this country and in Europe are now fully awakened to the dangerous influence of such a belief in its tendency to impair the spirit of providence and self-dependence so essential to good citizenship. The aim of such an investigation of cases as that now in force in our Out-patient Department should be rather to prevent than to detect improper applications for treatment. It is probable that the result will be to diminish in some degree the number of those annually treated, but it is well to remember, that to judge of the success of an institution by the number of its patients is to apply the easiest but not the most adequate test. The Trustees feel it to be their duty to check, so far as they may, the further spread of a tendency which they believe



already to have assumed the proportions of a great evil."

The report of the Resident Physician reads as follows:—

"Acting upon instructions received from the Board of Trustees, I employed, on the 1st of April, a competent and experienced man to investigate the condition of every person who applied for admission to the Out-patient Department for treatment, and with the following results:—

|  |        |
|--|--------|
| Number of applications for admission . . . . . | 10,612 |
| Number admitted . . . . .                      | 9,220  |
| Number refused . . . . .                       | 1,392  |
| Number of visits of investigation . . . . .    | 1,250  |
| Number found deserving of charity . . . . .    | 705    |
| Number found undeserving of charity . . . . .  | 545    |
| Number sent to physicians' offices . . . . .   | 791    |

"The greatest consideration for all applicants has been exercised, and no one excluded who did not themselves give sufficient proof that they were not objects of charity."

In addition we are given the total number of new patients in the Out-patient Department, namely, 18,443, a decrease from last year of 2123.

We had hoped for some statement as to the value of the method in the eyes of those who have watched its workings, and we still hope such a statement will be given when a full year has elapsed. Meanwhile our interest in the subject has led us to inquire how the method has affected various classes.

The following table, the figures being taken from the printed reports of the two years, shows some interesting particulars.

| OUT-PATIENTS.   | 1881.  |        | Percent-<br>Increase. |
|---|--------|--------|-----------------------|
|   | 1881.  | 1880.  |                       |
| Number of new patients . . . . .                        | 18,443 | 20,566 | 10+                   |
| Men . . . . .   | 6,745  | 7,809  | 14—                   |
| Women . . . . .   | 7,770  | 8,568  | 10—                   |
| Children . . . . .                                      | 3,968  | 4,189  | 05+                   |
| Americans . . . . .                                     | 10,128 | 12,328 | 18—                   |
| Foreigners . . . . .                                    | 8,315  | 8,138  |                       |
| Residents of Boston . . . . .                           | 12,088 | 13,519 | 11                    |
| Of other places . . . . .                               | 6,325  | 7,059  | 09                    |
| Medical department for women . . . . .                  | 3,462  | 3,971  | 12                    |
| Medical department for men and children . . . . .       | 3,454  | 4,181  | 17                    |
| Surgical department . . . . .                           | 4,559  | 4,590  | 03                    |
| Ophthalmic department . . . . .                         | 402    | 404    | 04                    |
| Dental department . . . . .                             | 4,018  | 4,217  | 04                    |
| Department for diseases of the skin . . . . .           | 1,082  | 1,339  | 18                    |
| Department for diseases of the nervous system . . . . . | 420    | 453    | 08                    |
| Department for diseases of the throat . . . . .         | 993    | 1,199  | 24+                   |
| Total attendance . . . . .                              | 35,136 | 37,215 |                       |
| Average daily attendance . . . . .                      | 114    | 120    |                       |

\* Increase .02.

This table presents matters somewhat more vividly than a plain statement of facts, and if we may trust the figures the comparison brings out some interesting points.

The decrease is greatest among men, occurs in the same proportion as the general decrease, among the women, and is least among children; it is manifest in the medical department rather than in the surgical, while the greatest diminution takes place in the special departments for diseases of the throat and skin. Exceedingly interesting is the fact that the entire decrease has taken place among the native born re-

cipients of the charity while a slight increase is noted among the foreigners.

A question yet to be settled remains, as to whether the falling off in the attendance at this one charity will be followed by a proportionate increase in the other charities.

#### MEDICAL NOTES.

—The Committee on Public Health of the Massachusetts Legislature have reported the following act for the preservation of the health of females employed in manufacturing, mechanical, and mercantile establishments:—

"Section 1. Every person or corporation employing females in any manufacturing, mechanical, or mercantile establishment in this Commonwealth, shall provide suitable seats for the use of the females so employed, and shall permit the use of such seats by them when they are not necessarily engaged in the active duties for which they are employed, to such an extent as may be reasonable for the preservation of their health.

"Section 2. A person or corporation violating any of the provisions of this act shall be punished by a fine of not less than ten dollars nor more than thirty dollars for each offense."

—A colored physician has been appointed an assistant in the Central Lunatic Asylum for colored people in Richmond, Virginia. The designation was made by a board of directors appointed by the governor, and this assignment by State authorities to a public institution is an event worthy of special comment. For the first time in Virginia, a colored man is now to fill a prominent office. The doctor is a graduate of a Western medical college.

—Dr. Dolan (*Medical Press and Circular*, May 18, 1881) comes to the following conclusions respecting venesection: (1) venesection has no direct influence over external or internal inflammation; (2) it is useless in external inflammations; (3) it is useful in those external inflammations which affect the cardiac and respiratory functions; (4) local bleeding has a potent, useful effect in external inflammations; (5) local bleeding, in cases of internal inflammation in which a direct capillary circulation exists between the skin and the part affected, is of decided benefit; (6) the value of local bleeding when these indications are not present is doubtful.

—According to the present arrangement the students at the Boston Dental College attend lectures during the first year as follows: on Inorganic Chemistry, Physiology, Therapeutics and Materia Medica, Operative, Clinical and Mechanical Dentistry; they must also pass a written examination in the first three chairs.

In the second year they attend lectures on Surgery, Organic Chemistry, Anatomy, Pathology, Microscopy and Dental Histology, Operative, Clinical, and Mechanical Dentistry, and pass written examinations in all these branches.

The working of this new régime is said to have been most satisfactory to professors and students.

—A case of very low temperature following exposure to cold during drunkenness is reported by De Gastel in *La France Medicale*. The temperature in the rectum was 26.5° C., about 79° F., when taken about six hours before death. The autopsy revealed the fatty degeneration of the tissues usual in alcoholism, but no lesions in themselves fatal. Dr. F. C. Shattuck reported a case brought into Traube's ward in the hospital in Berlin, under similar conditions, with a temperature of 76° F., which recovered.

#### NEW YORK.

—The forty-first annual commencement of the University Medical School was held at the Academy of Music on the evening of March 7th, when diplomas were conferred upon two hundred and thirteen graduates, and the usual prizes were awarded. The class valedictorian was John Culver Beckman, and the address to the graduates was made by the Rev. Dr. Richard S. Storrs, of Brooklyn. There being no chancellor of the University at present, Dr. John Hall having declined the position (which was offered him after the resignation of Dr. Howard Crosby), Prof. Alfred C. Post, of the medical department, discharged the chancellor's functions on this occasion.

—The commencement exercises of the Bellevue College came off at Chickering Hall on the 16th. Dr. James W. McKean delivered the valedictory, and Dr. J. S. Billings, of Washington, the address to the graduates. There were one hundred and sixty-three in the class. The alumni of the college had their annual dinner at Delmonico's in the evening, and Dr. Billings was among the guests present.

—At the last meeting of the Academy of Medicine, March 16th, Dr. H. G. Piffard exhibited a medical battery designed by Dr. L. P. Felton, after which came a paper by Dr. Frank H. Hamilton, entitled, *The Struggle for Life against Civilization and Aesthetics*, which had been prepared as a supplement to the recent discussion on plumbing and sanitation before the Academy. As Dr. Hamilton was indisposed, the paper was read by Dr. Edward Bermingham. After reviewing the points brought out in the previous discussion, the writer of the paper arrived at the conclusion that none of the remedies for existing evils which had been suggested by the various speakers were altogether satisfactory. Sanitary science, he believed, had not kept pace with the advance of civilization, the term civilization being used in its broad and legitimate sense as including not only mental culture, with progress in science and art, but also the comforts, luxuries, and aesthetics of life, which were its natural and inevitable concomitants. If certain of the latter elements of civilization could not be dispensed with, it would be found impossible, he feared, to contend successfully with many of the diseases which now contributed so largely to the increase of the mortality rates.

The means employed to light and warm (or, as was often and more correctly said, to "heat") our houses having already deprived us of a large propor-

tion of our oxygen, Dr. Hamilton went on to say, the plumbers had at last rendered actually poisonous what remained by connecting the interior of almost every room in our dwellings with the sewers. Possibly nothing would so forcibly illustrate the magnitude of the evil under consideration as the fact that it had given birth to a new profession, that of the sanitary engineer. Up to the present time, however, the sanitary engineers had only succeeded in mitigating the evils they had been asked to remove, and in some notable instances had not even accomplished as much as this. It had been shown conclusively that, no matter how perfect the system of plumbing was, the water in the traps of sewerage pipes would sometimes be syphoned out and sometimes evaporated, and, except where there was a constant flow of water, was always foul. The ventilation of soil pipes by air openings into the street and to the roof was of great value, but it was not invariably a protection. In New York the foul gases were largely due to an imperfect street sewerage system, and these gases he believed to be the most frequent cause of diphtheria, typhoid fever, and other zymotic diseases. It was now so well recognized that all known means of protection against these deadly gases sometimes failed, that a number of wealthy gentlemen who were now building residences had had all pipes connecting with the water and sewer systems put in annexes, and he was convinced that the only solution of the house sanitation question was to keep all such pipes out of the dwelling apartments. In the removing of the unwholesome atmosphere of our houses the concessions demanded were summed up as follows: First, that all plumbing having a direct or indirect communication with the sewers should be excluded from those portions which were habitually occupied. Second, that we should return to the open fire or the grate as a means of warming our private houses. Third, a diminished consumption of oxygen by gas burners. The remainder of Dr. Hamilton's paper was devoted to an enumeration of other evils characterized by a disregard for the laws of hygiene, which were incidental to our modern civilization.

Among those who took part in the discussion which followed the reading of the paper were Professor Chandler, President of the Board of Health, Professor Doremus, and Dr. Billings, of Washington. The latter stated that a series of careful experiments had shown that the popular opinion in regard to the amount of gases in sewer pipes was greatly exaggerated, and that he thought it extremely improbable that such gases produced specific diseases, although they no doubt did undermine the health and predispose the system to such diseases.

—The first annual meeting of the New York Medical Mission was held on the 14th of March, at the Broadway Tabernacle. Dr. William H. Thomson, who is its president, in his address stated that city hospitals, as at present conducted, were apt to do as much harm to the moral character of inmates as they conferred benefit upon the body, and that these institutions were to no small extent homes for tramps and an encouragement to vagabondage.

## Miscellany.

## THE CASE OF GUTEAU.

NEW YORK, March 18, 1882.

MR. EDITOR, — The letter relating to the mental state of Charles J. Guiteau, published in your issue of March 9th, contains certain statements conflicting with what I believe are the established facts of the evidence taken during the trial of the assassin. It is stated by the writer that the counsel for the defense resorted to the "trick" of placing the diagrams of the *conformateur* tracing offered in evidence by Dr. W. Kempster, over that obtained by bending a piece of lead pipe around the head, offered in evidence by Dr. McLane Hamilton, and the writer adds that "of course" they did not agree.

On page 1523 of the printed report of the trial, Dr. Kempster is reported, and no doubt substantially correctly, as saying: "There is a very decided difference between the *shape of the skull* of these two — between Nos. 1 and 2. Here these *centres of ossification*, as we call them, are very prominent, very well marked (holding up two other cuts). There, again, are two shapes taken from two heads; one being long and narrow, and the other broad." On the same page the witness repeatedly speaks of his cuts and tracings as representing the "shapes" of heads of certain prominent men. On page 1633, the same witness, submitting papers to the jury, is reported as saying: "You will also find upon one of the charts an outline of the head of the prisoner." Again and again he speaks of this chart as indicating the *shape of the prisoner's head*; and he swore, as Mr. Scoville says (2180), that the diagram he submitted was a correct representation of Guiteau's head. Dr. McLane Hamilton also submitted a diagram, and in order to test the correctness of these alleged representations of the assassin's head, Mr. Scoville laid them over each other. The prosecution, seeing the precarious position in which their medical witnesses, or at least one of them, was being placed, endeavored to prevent Mr. Scoville from making the comparison and from submitting a chart, showing the gross discrepancy (nearly an inch and a half) between the diagrams of Drs. Hamilton and Kempster; but it passed in evidence, and is on record (p. 2176). If he was not justified in applying such accurate tests as the foot-rule and compass to prove that one of the witnesses at least had offered an inaccurate diagram, for the purpose of contradicting my statements, then I agree with Dr. McLane Hamilton that it was a "trick" to venture to test the veracity of a medical witness by the testimony of his partners in the unfortunate transactions at Washington.

It would be easy to demonstrate a very unsymmetrical head to be symmetrical, and *vice versa*, by measuring the head in a certain way. It is still easier to cause slight disparities to disappear by using as thick lines in making the traces as are found in the diagrams on page 236 of the JOURNAL. Unless a large number of traces are taken, measurement by palpation and the artist's eye are far more reliable than contour diagrams. The cast of Guiteau's head, which was admitted to be a correct one, was recently exhibited at a meeting of the New York Medico-Legal Society; its

deformity was unquestioned, and recognized by every one present, yet not one of the traces of Dr. Hamilton is taken in such a way as to show it. With your license, I shall submit to your readers a series of correct outlines taken from this cast, on a future occasion, and then they may judge for themselves on this point, as did the members of the New York Medico-Legal Society, who regretted that notwithstanding the abundant notice given, the experts for the prosecution absented themselves from a meeting where the scientific discussion would have developed their opinions and exhibited the value of the latter under far better auspices than a jury trial.

When Mr. Scoville handed Dr. Kempster the cast, and asked him, on the doctor's stating that it represented a very well-shaped head, to look around the room and show him a single head as much out of proportion as Guiteau's, the witness was silent, not even casting his eyes around; although Mr. Corkhill, of whose head he had obtained a tracing by the *conformateur*, claimed that his was more unsymmetrical than Guiteau's, and he was sitting right in front of him. Was it not considered safe to risk a genuine comparison?

No scientific anthropologist employs the latter's *conformateur* to delineate cranial contours. This instrument, while fulfilling its functions sufficiently well for a tradesman, yields the most ridiculous projections of the skull shape; an example of this is to be found on page 1526, the tracing of Jno. P. Foley, offered in evidence by Dr. Kempster, has the shape of a peanut, and presents the remarkable proportion 100:45; almost the same remarks apply to the tracings of Isaac Johnson, and Colonel Wyman. Dr. Hamilton is under a misapprehension if he believes that brachycephaly and dolichocephaly constitute atyp; a head may be at either extreme and yet be typical. But flattening of either end of the cranial ovoid, ridges and promontory-like extensions of the cranial vault, and marked asymmetry, these are atypical. Guiteau's occiput is flattened (as those of thirteen subjects of *manie raisonnée* described by Campagne), there is a bold jutting out on the left side, and no fair measurement can be taken in a frontal plane two inches behind the ears without showing an unusual degree of asymmetry.

Still, the whole question of the cranial contour is a subsidiary one. He who cannot recognize that Guiteau is insane on the strength of his mental manifestations will naturally fail to appreciate the significance of a cranial anomaly, as well as of other physical signs; while he who does recognize the clinical evidences of a well known form of insanity in the prisoner will not require such collateral support, although the existence of somatic evidences which cannot be shammed, associated, as they are in Guiteau's case, with a specific family history of heredity and degeneration, cannot fail to be a welcome supplementary proof.

I differ from Dr. Folsom in the interpretation of the motor disturbances. Recognizing on the one hand that monomania may be in itself associated with various defects and anomalies of innervation, and on the other that, as in one case under my own observation,<sup>2</sup> and in others described by Hoestermann and Meyner, parietic dementia may complicate monomania,<sup>3</sup> being then of very slow growth and insidious approach, I cannot deny

<sup>2</sup> And another within my knowledge.

<sup>1</sup> Referring to tracings obtained from the heads of various persons by the latter's *conformateur*. Italics mine.

<sup>3</sup> As I have proposed to term the "Originaere" and "Primaere Verrichtheit" of the Germans.

the possibility of its development on the one hand, while I see no positive grounds for anticipating it.

As Dr. McLane Hamilton states that Guiteau, in his opinion, presented no evidences of any known mental disease, I may be permitted to direct the attention of the reader to a few standard works which no one could read without finding as fair counterparts of Guiteau's whole history, nay, even of his crime or attempts at such, as one can expect to find in text-books: Krafft-Ebing, *Lehrbuch*; Schuele, in *Ziemssen's Cyclopædia*; Bucknill and Tuke, *Manual of Psychological Medicine*; Campagne, *Traité de la manie raisonnée*; Dagonet, *maladies mentales*, etc., etc.

I refer to these works, because I do not believe it to be either necessary or allowable for a writer in a medical journal to recapitulate what should be at the fingertips of every one qualified to speak on a subject, and to retail the A B C of Psychological Medicine. Very respectfully yours,  
EDWARD C. SPITZKA.

### ASPIRATION OF THE CHEST.

MR. EDITOR.—I am very desirous of learning whether any well-authenticated case of death *immediately after, and apparently solely dependent on, aspiration of the chest* has occurred in the United States or Canada. May I ask, through you, any one of my professional associates upon this continent to notify me by postal card of such fact, sending the address to which I can write for fuller information.

Respectfully yours, HENRY I. BOWDITCH.  
113 BOYLSTON STREET, BOSTON, MASS.,  
March 13, 1882.

### LETTER FROM ALBANY.—PROPOSAL FOR A HARVARD ALUMNI ASSOCIATION.

MR. EDITOR.—A medical alumnus of Harvard lately went to Commencement, at Cambridge, and found himself, by mere superfluity of numbers, left out in the cold. As he stood and saw the last graduated class file in to dinner in the grand old Memorial Hall he had a kind of lonesome feeling come over him, as if the medical graduate was of not much account to his prolific Alma Mater. To be sure she gives him a sheepskin as an undergraduate,—still, as things now are, Harvard Medical Alumni have, as such, no place assigned by their Alma Mater in the family gathering around the *lures* and *penates*. The only way this alumnus did get in to the dinner was by the courtesy of a personal invitation of one of the corporators after waiting one year. Not so with Union University. She has an Association of her Medical Alumni, nine years old, in full organization, and successful working. The meetings are held in connection with the Medical College Commencement at Albany, and the occasions are of great interest to those concerned.

The meeting to-day was one well attended, well managed, and full of *esprit de corps*.

The proceedings were of course most of them of more interest to the participants than to a looker on; still the report of the prize committee of the alumni was a paper of a high tone and beautiful spirit. It was a complete, graphic digest of the successful and unsuccessful papers submitted, with such kind words

for the writers of the latter as must have soothed their feelings and stimulated them to greater exertion. The McNaughton prize of \$100 was awarded to Dr. James H. Salisbury, of New York, for an original essay on Malaria.

The March Memorial Prize of \$100 on morbus coxarius was awarded to Dr. C. C. J. Schuyler, Troy, N. Y.; the Armsby Memorial Prize to Dr. Clinton B. Herrick, of Troy, N. Y.

The exercises graduating fifty-four students were held at eight, p. m., in Tweddle Hall. The two addresses by the students were on Medical Sociology or ethics from a neophytic standard. We hoped to have heard something in the line of original research from the theses.

The address of Dr. S. O. Vanderpool, LL. D., to the class, was a masterpiece of advice as to the sociological and subjective relations of the class in the future. It was good enough for any professional man. There was a purity of tone, an elevation of taste, in the clear, concise, elegant prose that charmed like a poem. It was decidedly the effort of the occasion, and is something for the graduates to cherish in their memories through life. The practical hints, not given in the published account, were as follows: "Do not sit on the bed of your patient." "Do not talk 'horse' to patients." "Attend to the professional part of your visit; be as deep, kind, thorough, and long as you please; but when through, *leave*." "Don't try to be a 'good fellow,' I am sick and tired of the words." "Never expect to attain professional eminence by being 'hale fellow, well met'." Many physicians socially on good terms with a family lose it professionally, since 'familiarity,' etc." "Don't be politicians, speculators, or anything else but *doctors*. On questions of public health and State medicine interfere ever and always." "Study the physical characters of your locality, and sooner or later your study will bear fruit for the good of all concerned." "If you are of medium capacity and gifted with industry, application, and honesty, you will eclipse more gifted men in your profession."

The speeches of the Alumni dinner at the Delavan were a treat. Solid, substantial, honest, sturdy Dutch *hits* really enlivened the scene, and kept an undivided attention up to 2.30 A. M., March 2d. The usual complimentary tilts between the different professions were admirable, and I must say went ahead in some respects of the remarkable efforts of wit exhibited at the annual dinner of the M. M. S. in Music Hall, Boston. The quiet humor of the Dutch character, stirring up and giving thrusts that tickled but did not sting, was finely brought out here. Though the hour was very late and time to be a-bed, still every speaker had a hearty, respectful hearing, considerate and humoring. I never saw such attention given in Boston to after-dinner talk. I can easily see now how guilds and debating societies flourished in Holland three centuries ago.

Now, why cannot Harvard Medical Alumni have an Association?

It need cost but one dollar a year, and there are plenty of Alumni in Boston to be the executive committee.

To make a beginning, I ask all *Harvard Medical Alumni* who wish to form such an organization to send their names to the Medical Library Rooms, 19 Boylston Place, Boston. When a sufficient number

have signified their interest in the matter it will be possible to call them together and organize duly, if it is so desired.

The example of the Albany Medical College is an excellent one, and nothing but good can follow the

perpetuation of the influence our own noble Alma Mater has had in forming and sustaining a high medical *morale* among her Alumni.

ALUMNUS OF 1856.

ALBANY, March 1, 1882.

REPORTED MORTALITY FOR THE WEEK ENDING MARCH 11, 1882.

| Cities.                           | Population by Census of 1880. | Reported Deaths in each. | Deaths under Five Years. | Percentage of Deaths from       |                |                       |                |            |
|-----------------------------------|-------------------------------|--------------------------|--------------------------|---------------------------------|----------------|-----------------------|----------------|------------|
|                                   |                               |                          |                          | The Principal Zymotic Diseases. | Lung Diseases. | Diphtheria and Croup. | Scarlet Fever. | Small-Pox. |
| New York.....                     | 1,206,590                     | 800                      | 384                      | 31.00                           | 21.12          | 8.25                  | 9.87           | 1.37       |
| Philadelphia.....                 | 846,384                       | 386                      | 143                      | 12.96                           | 10.10          | 3.89                  | 1.81           | 1.81       |
| Brooklyn.....                     | 566,689                       | 267                      | 114                      | 24.71                           | 15.70          | 10.11                 | 10.58          | .71        |
| Chicago.....                      | 503,304                       | 209                      | 100                      | 30.00                           | 17.23          | 11.00                 | 1.91           | 6.21       |
| Boston.....                       | 362,535                       | 131                      | 39                       | 19.83                           | 11.45          | 6.86                  | .76            | —          |
| St. Louis.....                    | 350,522                       | —                        | —                        | —                               | —              | —                     | —              | —          |
| Baltimore.....                    | 332,100                       | 140                      | 48                       | 17.14                           | 10.71          | 7.14                  | 2.86           | .71        |
| Cincinnati.....                   | 335,708                       | 115                      | 38                       | 32.17                           | 5.21           | .86                   | —              | 26.95      |
| New Orleans.....                  | 216,140                       | —                        | —                        | —                               | —              | —                     | —              | —          |
| District of Columbia.....         | 177,638                       | 98                       | 39                       | 12.24                           | 15.30          | 9.18                  | —              | —          |
| Cleveland.....                    | 160,140                       | —                        | —                        | —                               | —              | —                     | —              | —          |
| Pittsburgh.....                   | 156,381                       | 88                       | 40                       | 28.40                           | 19.31          | 4.54                  | 3.40           | 9.09       |
| Buffalo.....                      | 155,137                       | 83                       | 35                       | 32.53                           | 18.06          | 7.22                  | 4.82           | —          |
| Milwaukee.....                    | 115,578                       | 56                       | 28                       | 17.85                           | 17.85          | —                     | 1.78           | 1.78       |
| Providence.....                   | 104,857                       | 40                       | 14                       | 17.50                           | 20.00          | 5.00                  | —              | —          |
| New Haven.....                    | 62,882                        | 29                       | 7                        | 20.68                           | 13.79          | 3.44                  | —              | —          |
| Charleston.....                   | 49,999                        | 24                       | 9                        | 12.50                           | —              | —                     | —              | —          |
| Nashville.....                    | 43,461                        | 17                       | 2                        | 11.76                           | 5.88           | —                     | —              | —          |
| Lowell.....                       | 59,485                        | 22                       | 4                        | 13.63                           | 9.09           | —                     | —              | —          |
| Worcester.....                    | 58,295                        | 24                       | 4                        | 16.66                           | 12.50          | 8.33                  | —              | —          |
| Cambridge.....                    | 52,740                        | —                        | —                        | —                               | —              | —                     | —              | —          |
| Fall River.....                   | 49,006                        | 21                       | 7                        | 14.28                           | 9.52           | 14.28                 | —              | —          |
| Lawrence.....                     | 39,178                        | —                        | —                        | —                               | —              | —                     | —              | —          |
| Lynn.....                         | 38,284                        | 10                       | 2                        | 10.00                           | 10.00          | 10.00                 | —              | —          |
| Springfield.....                  | 33,340                        | 14                       | 6                        | —                               | 21.42          | —                     | —              | —          |
| Salem.....                        | 27,598                        | 17                       | 7                        | 5.80                            | —              | —                     | —              | —          |
| New Bedford.....                  | 26,875                        | 11                       | 5                        | —                               | 27.27          | —                     | —              | —          |
| Somerville.....                   | 24,985                        | 16                       | 7                        | 18.75                           | —              | 6.25                  | —              | —          |
| Holyoke.....                      | 21,851                        | 10                       | 4                        | 30.00                           | 30.00          | 20.00                 | —              | —          |
| Chelsea.....                      | 21,785                        | 7                        | 2                        | 14.28                           | 28.57          | 14.28                 | —              | —          |
| Taunton.....                      | 21,213                        | 9                        | 4                        | 11.11                           | —              | —                     | —              | —          |
| Gloucester.....                   | 19,329                        | 3                        | 1                        | —                               | —              | —                     | —              | —          |
| Haverhill.....                    | 18,475                        | —                        | —                        | —                               | —              | —                     | —              | —          |
| Newton.....                       | 16,995                        | 6                        | 3                        | 16.66                           | —              | —                     | —              | —          |
| Brookton.....                     | 13,608                        | —                        | —                        | —                               | —              | —                     | —              | —          |
| Newburyport.....                  | 13,537                        | 3                        | 0                        | —                               | —              | —                     | —              | —          |
| Fitchburg.....                    | 12,405                        | 4                        | 1                        | —                               | —              | —                     | —              | —          |
| Malden.....                       | 12,017                        | 3                        | 2                        | 33.33                           | —              | 33.33                 | —              | —          |
| Nineteen Massachusetts towns..... | 138,918                       | 51                       | 17                       | 7.84                            | —              | 7.84                  | 3.92           | —          |

Deaths reported 2714 (no reports from St. Louis, New Orleans, and Cleveland): 1116 under five years of age; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and fevers) 631; consumption 395, lung diseases 415, diphtheria and croup 181, scarlet fever 133, small-pox 74, measles 50, typhoid fever 42, whooping-cough 36, diarrheal diseases 32, cerebro-spinal meningitis 27, erysipelas 24, puerperal fever 17, malarial fevers nine, typhus fever three. From *measles*, New York 31, Chicago eight, Philadelphia and Milwaukee three each, Pittsburgh and Buffalo two each, Brooklyn one. From *typhoid fever*, Philadelphia 14, New York five, Chicago and Boston four each, Baltimore, Cincinnati, Pittsburgh, and Buffalo two each, Milwaukee, Providence, New Haven, Charleston, Nashville, Taunton, and Waltham one each. From *whooping-cough*, New York 20, Pittsburgh four, Brooklyn, and Boston three each, Philadelphia, Chicago, Buffalo, Milwaukee, Salem, and Newton one each. From *diarrheal diseases*, New York 13, Boston four, Cincinnati three, Brooklyn, District of Columbia, and Lowell two each, Chicago, Baltimore, New Haven, Somerville, Holyoke, and Spencer one each. From *cerebro-spinal meningitis*, Buffalo six, New York five, Chicago three, Philadelphia, Baltimore, New Haven, and Worcester two each, Pittsburgh, Milwaukee, Providence, Charleston, and Nashville one each. From *erysipelas*, New York six, Brooklyn and Providence three each, Chicago, Boston, and Baltimore two each, Philadelphia, District of Co-

lumbia, Pittsburgh, Buffalo, Charleston, and Somerville one each. From *puerperal fever*, Buffalo five, New York seven, Boston three each, Baltimore and Milwaukee two each, Chicago and Lowell one each. From *malarial fevers*, New York seven, Chicago and New Haven one each. From *typhus fever*, New York two, Chicago one.

Eighty-six cases of small-pox were reported in Cincinnati, Pittsburgh 44, Baltimore 12, Milwaukee five, and Buffalo one; diphtheria 20 cases, scarlet fever 16, typhoid fever eight in Boston; scarlet fever 22, and diphtheria three, in Milwaukee.

In 36 cities and towns of Massachusetts, with a population of 973,586 (population of the State 1,783,086), the total death-rate for the week was 19.34, against 20.37 and 22.96 for the previous two weeks.

For the week ending February 18th, in 173 German cities and towns, with an estimated population of 8,397,701, the death-rate was 27.8. Deaths reported 4488: under five 2075; pulmonary consumption 648, acute diseases of the respiratory organs 540, croup and diphtheria 233, scarlet fever 99, whooping-cough 72, typhoid fever 53, measles and rotheln 42, puerperal fever 29, typhus fever (Erling two, Thorn, Tilsit, Graudenz, Heilbrunn) six, small-pox (Königsberg, Mulheim two) three. The death-rates ranged from 15.1 in Weisbaden to 50.5 in Dortmund; Königsberg 26.6; Breslau 32.1; Munich 39.5; Dresden 25.9; Berlin 23.7; Leipzig 21.7; Hamburg 50.7; Hanover 28.8; Bremen 22.2; Cologne 33.3; Frankfurt-on-Main 26.6.

In the 28 English towns, with an estimated population of 8,455,320, for the week ending February 25th, the death-rate was 25.4. Deaths reported 4118: acute diseases of the respiratory organs (London) 545, whooping-cough 265, measles 148, scarlet fever 101, fever 57, diarrhoea 33, diphtheria, 22, small-pox (London eight) 13. The death-rates ranged from 16.2 in Cardiff to 40.5 in Brighton; Leeds 22.3; Birmingham 23.7; Bristol 23.3; Sheffield 26; Liverpool 25.1; London 26; Manchester 27. In Edinburgh 21.8; Glasgow 24.8; Dublin 33.6.

For the week ending February 25th in the Swiss towns, population 479,934, there were 59 deaths from acute diseases of the respiratory organs, pulmonary consumption 33, diphtheria and croup 16, typhoid fever four, peritonsillar fever three, measles and scarlet fever each two. The death-rates were, Geneva 30.1; Zurich 33.0; Basle 13; Berne 37.9.

The meteorological record for the week ending March 11th, in Boston, was as follows, according to observations furnished by Sergt. O. B. Cole, of the U. S. Signal Corps:—

| Date.            |    | Barom-eter. | Thermom-eter. |       |          |          | Relative Humidity. |            |             |       | Direction of Wind. |            |             | Velocity of Wind. |            |             | State of Weather. <sup>1</sup> |            |             | Rainfall.             |                   |
|------------------|----|-------------|---------------|-------|----------|----------|--------------------|------------|-------------|-------|--------------------|------------|-------------|-------------------|------------|-------------|--------------------------------|------------|-------------|-----------------------|-------------------|
|                  |    |             | Mean.         | Mean. | Maximum. | Minimum. | 7.23 A. M.         | 3.23 P. M. | 11.23 P. M. | Mean. | 7.23 A. M.         | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.        | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.                     | 3.23 P. M. | 11.23 P. M. | Duration, Hrs. & Min. | Amount in inches. |
| March, 1882.     |    |             |               |       |          |          |                    |            |             |       |                    |            |             |                   |            |             |                                |            |             |                       |                   |
| Sun.,            | 5  | 30.083      | 36            | 51    | 33       | 71       | 72                 | 89         | 77          | NW    | SE                 | S          | 8           | 11                | 8          | C           | O                              | O          | —           | —                     |                   |
| Mon.,            | 6  | 29.843      | 43            | 48    | 36       | 82       | 85                 | 74         | 80          | S     | W                  | W          | 8           | 2                 | 16         | O           | R                              | C          | —           | —                     |                   |
| Tues.,           | 7  | 30.218      | 32            | 44    | 22       | 61       | 69                 | 67         | 66          | W     | NW                 | NW         | 14          | 18                | 17         | C           | F                              | C          | —           | —                     |                   |
| Wed.,            | 8  | 30.639      | 28            | 36    | 20       | 58       | 46                 | 64         | 56          | NW    | SE                 | SW         | 12          | 6                 | 4          | C           | F                              | C          | —           | —                     |                   |
| Thurs.,          | 9  | 30.170      | 33            | 45    | 23       | 77       | 100                | 100        | 92          | S     | SE                 | W          | 6           | 12                | 3          | H           | S                              | R          | —           | —                     |                   |
| Fri.,            | 10 | 29.660      | 40            | 52    | 30       | 100      | 44                 | 60         | 68          | N     | W                  | NW         | 5           | 24                | 15         | G           | F                              | O          | —           | —                     |                   |
| Sat.,            | 11 | 30.096      | 35            | 43    | 29       | 62       | 32                 | 68         | 54          | NW    | NW                 | W          | 8           | 12                | 7          | C           | F                              | C          | —           | —                     |                   |
| Means, the week. |    | 30.101      | 35            |       |          |          |                    |            |             |       |                    |            |             |                   |            |             |                                |            | 9.45        | .75                   |                   |

<sup>1</sup> O, cloudy; C, clear; F, fair; G, fog; H, hazy; S, snow; R, rain; T, threatening; X, clearing.

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM MARCH 11, 1882, TO MARCH 17, 1882.

BROWN, H. E., major and surgeon. Having reported at these headquarters, will proceed to Jackson Barracks, La., and report to the commanding officer for duty. S. O. 32, Department of the South, March 14, 1882.

PORTER, JOSEPH Y., major and surgeon. Granted leave of absence for one month, with permission to apply for an extension of one month. S. O. 32, C. S., Department of the South.

The following-named officers of the Medical Department will report in person to the President of the Medical Examining Board, in session in New York City, for examination for promotion, and on its conclusion return to their stations:—

Captain WILLIAM H. KING, assistant surgeon, Fort McHenry, Md., Captain H. S. TERRELL, assistant surgeon, Madison Barracks, N. Y., Captain O. REED, assistant surgeon, Washington Barracks, D. C., Captain H. S. KILBOURNE, assistant surgeon, Fort Porter, N. Y., Captain M. W. WOOD, assistant surgeon, Fort Brady, Mich., Captain R. W. SHUFELDT, assistant surgeon, Washington, D. C., Captain H. O. PERLEY, assistant surgeon, Fort Columbus, New York Harbor, Captain H. G. BRISTON, assistant surgeon, Fort Hamilton, New York Harbor, Captain L. M. MAYES, assistant surgeon, at expiration of his present leave of absence, and then to return to his proper station, David's Island, N. Y.

Captains WILLIAM H. CORNELLER and WILLIAM B. DAVIS, assistant surgeons, at the expiration of their present leave of absence, and upon conclusion of their examination, to report by letter to the Surgeon-General. S. O. 58, A. G. O., March 13, 1882.

#### APPOINTMENTS.

MASSACHUSETTS GENERAL HOSPITAL.—Dr. John Hennessey, Senior Surgeon to Out-Patients, has been appointed Visiting Surgeon, to fill a vacancy caused by the resignation of Dr. Samuel Cabot.

Drs. Maurice H. Richardson and G. W. West have been appointed Surgeons to Out-Patients.

HARVARD MEDICAL SCHOOL.—Dr. William L. Richardson has been appointed Assistant Professor in Obstetrics.

Drs. Charles B. Porter and John Collins Warren have been appointed Assistant Professors of Surgery.

THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT will meet March 27th, at 7.45 P. M. in the Medical Library. Dr.

Porter will report some cases of Popliteal Aneurism, and there will be a discussion on the Surgical Treatment of Aneurism.

BOOKS AND PAMPHLETS RECEIVED.—Stretching of the Facial Nerve for the Relief of Spasm of the Facial Muscles. By W. Allen Sturge, M. D., and Rickman J. Godlee, M. S. (Reprinted from the *Clinical Society's Transactions*, Vol. XIV.)

Eleventh Annual Report of the Board of Directors of the Children's Hospital of the District of Columbia, W Street, between 12th and 13th Streets, N. W.

The Trance State in Inebriety; its Medico-Legal Relations. By T. D. Crothers, M. D., Superintendent Walnut Lodge, Hartford, Conn., with an Introduction on the Nature and Character of the Trance State, by George M. Beard, M. D. A Paper read before the New York Medico-Legal Society.

Notes of Hospital Practice. Part I. Philadelphia Hospitals. Edited by Samuel M. Miller, M. D. Philadelphia, Pa.: Samuel M. Miller, Publisher. 1882.

Reports of the Trustees and Superintendent of the Butler Hospital for the Insane, presented to the Corporation at their Annual Meeting, January 25, 1882. Providence: Angell & Co. 1882.

Serofula and its Gland Diseases. An Introduction to the General Pathology of Serofula, with an Account of the Histology, Diagnosis, and Treatment of its Glandular Affections. By Frederick Treves, F. R. C. S. Eng. London: Smith, Elder & Co. 1882.

Croupous Pneumonia: Is It a Zymotic Disease. By D. W. Prentiss, A. M., M. D. (Extract from *Transactions of the American Medical Association*, 1881.)

The Use of Constitutional Remedies in the Treatment of Ear Diseases. By Samuel Theobald, M. D. (Reprint.)

Case of Obliteration of the Portal Vein (Pylephlebitis Adhesiva). By William Osler, M. D., M. R. C. P. Lond. (Reprint.)

On Some Points in the Etiology and Pathology of Ulcerative Endocarditis. By William Osler, M. D., Montreal. (International Medical Congress.)

On the Brains of Criminals. By William Osler, M. D., Montreal. (Reprint.)

On Cancer of the Breast. With Colored Illustrations. By Thomas William Nunn, F. R. C. S., England, Consulting Surgeon to the Middlesex Hospital. London: J. & A. Churchill. 1882.

Twenty-Ninth Annual Report of the Pennsylvania Training School for Feeble-Minded Children, Elwyn, Delaware County, Pennsylvania. 1882.

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## Original Articles.

A CASE OF FUNGOSITIES OF THE BLADDER CURED BY SCRAPING WITH THE FINGER; WITH SOME REFERENCES TO THE LITERATURE OF THIS AFFECTION.<sup>1</sup>

BY WALTER F. ATLEE, M. D., PHILADELPHIA.

This case is reported because it is a rare one, because it is instructive in a practical point of view, and because consultation with most of his works of reference would not assist the surgeon in benefiting a similar case as much as can be done by following the course pursued here.

Miss S. B. consulted me in the summer of 1880, on account of painful and frequent micturition, with hæmaturia. She was born in April, 1861; her father is a large, strong, and healthy man; her mother died when she was a child, after having suffered from many manifestations of scrofula.

She said she remembered to have felt, occasionally, a slight pain in passing urine, from her earliest recollection. When seventeen years of age she first suffered severely; her urine was then very light in color, with no sediment, but with a strong odor. The pain was while passing the urine and after it had passed; after the emptying of the bladder there was a constant desire to pass something more. She became thin, pale, and haggard. When eighteen years of age some pus appeared in the urine, and occasionally a little blood. These symptoms increased to such an extent that she was obliged to keep her bed for several months. This rest, aided, perhaps, by medical treatment, for she had always enjoyed the care and attention of our most experienced physicians and nurses, made some improvement in her condition, so that she was able again to go out. All the worst symptoms, however, soon returned, and when I saw her, in September, 1880, her state was a very serious one; there was constant inclination to empty the bladder, which could not be resisted oftentimes for more than a half hour, and the loss of blood was considerable.

The urine, when examined at this time, showed pyoid bodies, epithelium from the bladder, and crystals of triple phosphate, together with blood corpuscles in abundance. The blood was of a bright-red color, showing that the urine had not had time to produce those changes in color always produced by long contact with the hæmoglobin of the corpuscles.

With such symptoms, this case seemed clearly to be one of foreign body in the bladder, and the advice given was to attempt its removal without delay. For this purpose the patient was put under the influence of anesthetics, and the urethra was dilated by means of a pair of ordinary dressing forceps, introduced, opened, and withdrawn as often as necessary — this being, in my experience, the best way of effecting this dilatation.

When the finger was then passed into the bladder nothing abnormal was felt, no calculus nor distinct tumors, except that about the fundus were a number of fungosities or soft growths, some of them more than a half inch in length, and about one line in thickness. These were carefully scraped off by the end of the finger and by the finger-nail. This simple operation resulted in the perfect cure of my patient, and until the present time there has been no symptom of a return of her disease.

I call the growths thus removed fungosities, and not villous growths, inasmuch as that they were not like tufts of fine hair (*trilli*), but resembled rather *fungi*, or certain mosses. I have several times seen similar growths removed from the cavity of the uterus, in cases where for years they had been the cause of alarming hæmorrhage. They have, anatomically, the same fundamental structure as the mucous membrane whence they spring; they are simple excrescences of this membrane; they are formed of granular amorphous matter, of cellular tissue in small quantity, and of fibro-plastic elements; almost all have a large number of capillary vessels ramifying through them, and some are covered by epithelium. This epithelium is on the surface, *homologous*, and not *within* the subjacent connective tissue, *heterologous*, which is characteristic of epitheliomatous growths.

I said that one reason for reporting this case to the College was that consultation with most of his works of reference would not enable the surgeon to benefit his patient as much as was done in this case. In Holmes's System of Surgery it is said: "The indications are to allay pain, to subdue spasmodic action of the bladder, to prevent hæmorrhage by internal remedies, and to counteract its effects on the system by chalybeates and nutritious diet. Astringent injections very carefully introduced into the bladder, such as weak solutions of acetate of lead or of nitrate of silver, may be tried; they are, however, not to be repeated more than once or twice, unless marked benefit is observed, and signs of vesical irritation have not been produced by their employment." This is the advice given in almost all surgical works, not only general but special. Even in Coulson's excellent work on Diseases of the Bladder and Prostate Gland, of which a sixth edition was published in 1881, we find nothing but a similar plan of treatment recommended. Though quite out of place, I will cite here the diagnostic symptoms given in Coulson's work between villous growths and calculi as being the best and clearest I have ever met with. In all works the diagnosis of these growths is said to be extremely difficult; for example, in the Dictionnaire de Médecine it is said, "Fungus of the bladder may be suspected, but a precise diagnosis cannot be established."<sup>2</sup> "The pain in calculus is most severe after the urine has been passed, but in villous tumors the discomfort is aggravated by fullness of the bladder, and relieved by its evacuation. The pain in calculus is relieved by rest, which has little or no effect upon the symptoms of tumors of the bladder. The hæmorrhage also in the latter affection is neither decidedly aggravated by movement nor relieved by rest. In villous growths, the blood is generally pure; in hæmaturia, due to calculus, there is generally more or less pus mixed with the blood. Examination by the rectum, or with a sound in the bladder, causes pain in cases of villous growth, and increases the hæmaturia, whereas the symptoms of calculus are not necessarily aggravated by these manipulations."<sup>3</sup>

To return to treatment, Nélaton says: "In women it is sometimes possible to reach the fungus by dilating the urethra and the neck of the bladder. The case of Warner tying a polypus of the bladder in this way is recorded above, and in case of a fungous growth, an analogous operation should be done."<sup>4</sup>

<sup>1</sup> From advance sheets of the Transactions of the College of Physicians of Philadelphia. Read March 1, 1882.

<sup>2</sup> Tome xxx., page 744.

<sup>3</sup> Pathologic Chirurgicale, tome v., page 301.

In Warner's case, above referred to, a polypus penetrated into the urethra of a young woman, and pushed out of the meatus. An incision was made, dividing the half of the urethra, the rest was dilated, and also the neck of the bladder, the tumor was drawn out, and a ligature applied to the pedicle.

In the Principles and Practice of Surgery of Professor Agnew, and in the third edition of Professor Gross's treatise on Diseases of the Urinary Bladder, revised by Dr. Samuel W. Gross, we are advised when symptoms of papillary and polypoid fibromas are seen in women to dilate the urethra by special instruments, and remove them as may be found best under the circumstances of the case. Some eighteen cases altogether are recorded in these works where vesical growths were removed by various operations. Of the prognosis in such cases, Dr. Gross forcibly and truly says: "It is of the worst possible description. Death almost invariably follows from sheer loss of blood or the combined effects of hæmorrhage and pain." Of the treatment, he says, "Surgical interference is demanded imperatively, since without it a fatal issue is almost the inevitable result."

The best account I have met with of the flocculent excrescences or fungosities in the bladder is contained in the Lectures on the Surgical Disorders of the Urinary Organs, by Reginald Harrison, second edition, London and Liverpool, 1880. Mr. Harrison refers to the paper of Robert S. Hudson, in the *Dublin Journal of the Medical Sciences* for June, 1879, to that of Prof. G. Murray Humphrey in the *Medico-Chirurgical Transactions* for 1879, which contains probably the best account to be found of the pathology of growths into the bladder, to Mr. Norton's cases in volume xii. of the *Clinical Society's Transactions*, and to a paper of J. H. Roberts and C. De Morgan in volume xxi. of the *Transactions of the Pathological Society*, where the microscopical appearances are very beautifully represented. He also relates a case (page 359) communicated to him by a Dr. Alexander, where chloroform was given, and the urethra dilated; a wire *Crasen* was passed, and a large growth was removed; smaller growths were removed by the finger. Fifteen months afterwards it was necessary to remove some more by the finger, after which the patient remained well.

This case of Dr. Alexander is doubtless the same as that related in great detail in the *London Lancet* for August 17, 1878. The writer says he cannot find any other case recorded of removal of a villous growth from the female bladder, and quotes from *Virgini's Surgery* "that there is no cure for this affection; the surgeon can only relieve symptoms. The disease usually destroys life in about two years."

Enough has been said to show that cases such as I here report are rare; that they cause great suffering, and, eventually, loss of life, that the means usually recommended fail in giving relief, and that an operation, easily performed, attended by no risk, and followed by no bad consequences, does cure such cases, and that this operation appears to be very generally unknown.

One more observation may be permitted, indeed, seems called for, in this rather desultory paper. This is, that the history of a case such as is here related justifies us in looking favorably upon the resort to a similar proceeding in cases of similar disease in the male patient. An incision into the neck of the bladder, when so much suffering and so great danger to life

are present, is surely justifiable. It is a matter of neither great difficulty nor danger. Even if it was found, after the making of this opening, that the diseased tissues could not be taken away, the patient would, in all likelihood, obtain some relief, from the free passage afforded to the purulent and bloody discharges. There is a case recorded<sup>1</sup> where Billroth did this, and encountering a fibrous tumor, the size of which was such that it could not be extracted through the perinæum, he cut through the recti muscles above the pubic bone, made a transverse incision into the bladder, and then tore through the tumor near its base with the finger, and dissected out the pedicle; the patient was perfectly cured.

## THE MENTAL STATUS OF GUTEAU, THE ASSASSIN OF PRESIDENT GARFIELD.<sup>2</sup>

BY WALTER CHANNING, M. D.

THE question of the mental condition of Guitau on the 2d of July last, when he murdered President Garfield, is one that requires concentration of mind, and freedom from the common sentiments of humanity, to discuss with perfect impartiality. There is an unconscious tendency in the mind to be influenced by a sense of what is right, which may at times mislead well-meaning and truthful men. Connected with this sense of the eternal fitness of things, still further, is a desire to punish wrong or make the guilty suffer for their crimes, and this feeling also distorts and perverts a sound judgment. Perhaps there has been no instance in the civilized world, where, combined with such universal sympathy for the victim, there has been so little feeling for the doer of the foul deed as in this.

It would seem as if every voice in the country had been lifted up in execration against the miserable Guitau, and had made us blind to the ordinary dictates of humanity and dumb to the voice of reason. As a consequence we have been over nice in our discriminations between this point and that, and have thrown aside any testimony possessing the smallest evidence of doubt. In an ordinary case doubt would tell in favor of the prisoner, — in this case it has told against him.

The verdict shows how uncertain the boundaries are to the disease called insanity. In a case where the symptoms are at all obscure we can almost make ourselves believe anything that we choose to. The theory of insanity has seemed to most intelligent persons with whom I have talked, the easiest and most natural way of explaining the crime of Guitau, but at the same time, while these persons said he must be of unsound mind, "off his base," etc., they were not in favor of absolving him from punishment. "Crazy, perhaps, but not so crazy that he should not be hung."

The impartial onlooker in the recent trial must have been struck with the fact that a great effort was being made to prove sanity, the presumption being in favor of insanity. The prisoner's conduct in court was so extraordinary and unlike that known of any sane man under similar circumstances, that it seemed inexplicable on any ground other than insanity, unless it were simulation, a belief in which was not generally credited. Had the actors in the tragically occupied different positions and to such an extent that the public feeling

<sup>1</sup> See *British Medical Journal*, vol. ii., 1875, page 493.

<sup>2</sup> Read February 25, 1882, before the Suffolk District Medical Society.



had not been aroused, and had the prisoner been examined by a Commission in Lunacy, or defended by able counsel, I, myself, do not doubt that he would at least have escaped the gallows.

In this paper I shall endeavor to briefly group together such data as go toward showing insanity, leaving out of consideration all arguments in favor of sanity, out of which the utmost has already been made.

In some ways even the investigation of the case of Guiteau is hedged in with difficulties; particularly is this so at the time of the commission of the homicide, for during its preparatory stages Guiteau was secretive and reticent, and no one was so placed as to be able to intelligently study his mental operations. The case was not one, however, of "transitory," epileptic, or other form of suddenly developed mania, but a form of insanity of long standing, and the cumulative evidence is therefore sufficient in itself. There are long periods when we know little of Guiteau. These periods no doubt might be much cleared up if it were not for the fact that but few persons have been found who, considering Guiteau of unsound mind, have been willing to come forward and boldly testify to that belief. Several persons testified to Guiteau's apparent sanity not long before the murder, but as these persons were laymen, of common intelligence, strongly biased by the general public feeling, and who had had only casual opportunities to talk with Guiteau, their evidence is not of great weight.

To begin at the beginning of the case, it is necessary to first look into Guiteau's heredity. We find one paternal uncle who died in an asylum and another who was a weak-minded drunkard. We find also two paternal cousins, one of whom died in an asylum. His mother had an acute brain trouble at the time of his birth and for several years after suffered from a nervous complaint. Several of his near relatives died of consumption. His father was a man of very marked peculiarities, in some ways perhaps overstepping the limits of sanity, and it is to the father that we may look as, in part, the cause of mental irregularity in the son. He was an unreasonable, exalted, religious fanatic, and early inculcated the vile and dangerous doctrines of the Oneida Communists in his son. Had his wife been willing he would have joined the Community himself. Though a man of honesty and principle in ordinary affairs, in religion he lost his power of sound judgment and common sense, and was willing to encourage and practice habits of gross immorality. It can be imagined that the religious instruction the son received from the father was not calculated to lift up or purify the soul.

The sister and brother of Guiteau, who were present at the trial in Washington, possess also a temperament in many ways similar to his father's and his own.

The sister has had attacks of *petit mal* and is said to have also had attacks of actual insanity. She is very emotional, rather exalted in religion, and lacking in tact and good judgment. She is possessed of the family volubility, and several times during the trial interrupted the proceedings, losing entirely for the moment her power of self-control. The brother possesses more common sense, but also at times loses self-control. For a man, he is unusually emotional and somewhat of a religious fanatic. When giving his religious ideas in court he rattled on with extraordinary volubility, and gave utterance to some remarkable doctrines about the seed of God and the

devil. His brother he thought belonged to the latter. Almost with tears in his eyes, he said that he had not treated his brother like a Christian, and would take that public opportunity to ask to be forgiven! Both brother and sister seemed to quite lose sight of the fact that their testimony might injure their brother, and, while many witnesses very evidently colored their testimony, they spoke directly from the bottom of the heart with intense earnestness. "Dead earnest" seems to be a general family watch-word.

Guiteau obtained a good common-school education, and at an early age helped his father, drinking in all the time his father's austere and licentious fanaticism. During early youth he practiced masturbation. For a few months in his nineteenth year he studied at Ann Arbor, there the teachings of his father had taken such hold of his mind that he renounced his books and in his twentieth year entered the Oneida Community.

At this time he was a quick-witted, sensitive, nervous, half-educated, vacillating, over-religious boy, knowing but little of practical life and ambitious to do great things. At the Community he absorbed everything that was bad, but found nothing to develop good. There he learned to believe he had found the kingdom of heaven on earth, and was taught that fornication, sexual indulgence, and yielding to the passions, if done with the sanction of the leader, Noyes, would be approved by God. Any education more calculated to destroy a correct moral sense and respect for society it is hard to imagine. At times Guiteau worked in the trap-shop and did fairly well, but he did not enjoy it, preferring reading and study. After a while he aspired to be a "Community leader," and usurp the power of the others. Finally, he found the Community too small for him, and in 1865 left and went to New York.

It was at this time he was filled with his wild scheme of starting a "Daily Theocratic Press." The publication of a little sheet called the "Circular," issued at the Community, and the religious life there, may have had something to do in originating the project in his mind. This plan resulted, of course, in utter failure, and he returned to Oneida, as he could find no employment in New York. Soon, however, he became disgusted with the Community again, and the Community also found him intolerable, and he returned to New York. There he at once sought a position as editor on the *Independent*; failing in this, he sought a similar position on the *Tribune*. Failing in this, he began to read vigorously on theology, law, and kindred sciences.

Finally he went through the farce of an examination in Chicago, and turned up as a lawyer. For the next two or three years he did well, earning a fair living, and supporting a wife. Then, however, he got tired of Chicago, and went to New York, where he espoused religion, committed adultery to get rid of his wife, brought a heavy suit against the *Herald*, and got finally thrown into jail for debt. Leaving New York and going back to Chicago, he again did well in law, but soon his mind became fixed on another grand newspaper enterprise. He proposed to buy the *Chicago Inter-Ocean*, and to put into it "the advertising patronage of the *Chicago Tribune*, the Republicanism of Horace Greely, and the enterprise of James Gordon Bennett." He wished to raise seventy-five thousand dollars to start the paper with, and applied to a man in Freeport for it, offering as an inducement to make

him governor of Illinois if he would let him have it. He was, of course, refused, but explained the refusal satisfactorily to himself by saying that this man had no political aspirations.

In 1876, after the failure of his last newspaper scheme, Guiteau turned his attention to religion, it seeming to be the only thing that was large enough to interest him. The New Testament was just the sort of reading that suited him, for he found in Christ an example in which poverty was glorified, and I have no doubt that he honestly excused himself for not paying his board bills on the ground that the Saviour had not where to lay his head, and paid no bills.

In the summer of this year Guiteau diligently studied the Bible, and prepared himself for his holy work, at the house of his brother-in-law. It was this summer when he seems to have shown symptoms of insanity, particularly in the direction of religion, and the case seemed such a clear one that the family physician advised sending him to an insane asylum, in which plan the family joined, and he would have gone had he not run away.

In October of the same year he joined Moody and Sankey, and was worked up to a high pitch of religious exaltation. During the following winter he wrote his lecture on the second coming of Christ. The idea of his lecture was that the second coming occurred on the destruction of Jerusalem, in the year 70, in the clouds directly over Jerusalem. The churches have been in error for eighteen centuries in supposing the second coming to be in the future. Guiteau, in his lecture and in his book, called *Truth*, and written some time afterward, apparently wishes to have these ideas considered as original. They are, however, quite similar to the views of Noyes, the Oneida leader, as expounded in the book called *The Berean*. As far as I could see Guiteau did not fraudulently use these ideas, but supposed that he had at least shared in their discovery.

With the utmost faith in his opinions, he went about lecturing, the laughing-stock of all his audiences, failing everywhere, and paying rarely a hall rent, few board bills, and no railway fares. Yet all the time he kept resolutely on, unconscious of the absurdity of his lecture, as well as of his daily dishonesty, and satisfied that he was working in the vineyard of the Lord, and teaching inspired truth. The exaltation and expansiveness of ideas of Guiteau were well shown in his announcement of his lecture in Boston in 1879: "Do not fail to hear the Hon. Charles J. Guiteau, the little giant from the West. He will show that two thirds of the race are going down to perdition." At this time Guiteau said he had challenged Ingersoll to debate, but he had not the courage to meet him. He stated that he belonged to the firm of Jesus Christ and Co., and God was his direct counsellor, and he did nothing wrong. His lecture was disconnected and rambling, and seeing that he was only laughed at he finally left the hall in disgust.

In 1879 he wrote *Truth, a Companion to the Bible*. He sent copies of this to prominent clergymen and editors, and sold copies in the street for about anything he could get.

In January, 1880, he became tired of "theology," and turned his attention toward politics. About this time he prepared his celebrated speech on Grant *versus* Hancock, changing the former name after the Chicago Convention into Garfield, and slightly altering the text.

This speech, which was six or eight small pages of trash, worthy only of a second-class pot-house politician, he sent to all the prominent politicians and editors in New York, and delivered in part to a crowd of colored men on one occasion. During the campaign in New York Guiteau was very familiar with the "big men," he says, and when they saw him they "pricked up their ears, and complimented him on his speech." It was on this miserable speech that he based all his important claims for preferment by the Republican party.

As early as October he began to clamor for his reward with as much assurance and complacency as if he had been a United States senator, and had stumped several States. He wrote to General Garfield that he was an applicant for the Austrian mission, and "expected to marry a lady of great wealth in a few days." This latter statement was a lie, but, taking into consideration the character of the man, was not surprising.

After the appointment of Blaine, Guiteau supposed he could not get the Austrian mission, and therefore, with his usual mental obliquity, decided that he would apply for the Paris consulsip. He called on the President, and with great satisfaction presented his speech to him, marking "Paris" at the end. The President would, of course, understand the extraordinary nature of his claims, and would be equally as keen in deciphering the meaning of "Paris." From this time he importuned both Blaine and Garfield, receiving nothing but evasive and discouraging messages, yet just as assured in his own mind that he should finally attain his end. He was totally blind to his own position in the matter, for the very simple reason that his power of reasoning was too defective to appreciate it. On his last visit to the White House the doorkeeper brought him word that it would be impossible to see the President "to-day." He regarded the word "to-day" as very significant, for if the President said he could not see him "to-day," he meant that he would see him some other time, and that was as much as to say, "and then we can arrange matters."

Shortly after this last visit his conception to remove the President came. This was at the time the rupture in the Republican party seemed the most serious. Guiteau industriously read all the papers, and felt convinced in his own mind that war was imminent, and possessing himself, as he thought, such vast political importance, he was greatly distressed. For a time his whole mind became absorbed in this great issue. Here was a President he had been particularly influential in getting elected actually proving a traitor to his own party. It showed the basest ingratitude, and was to him almost a personal insult. Thus it was that, aroused, exalted, stimulated by the outpourings of the press, he tried to solve the question, What should be done, and how could he aid in it? Suddenly there flashed into his weak, demoralized mind the idea of removal,—the "conception," as he always called it. Garfield out of the way, the field would be clear. Not only was there here an opportunity to restore the lost harmony to the country, there was also an opportunity to make himself a patriot equal to Washington and Grant. Such was the false reasoning upon which he proceeded to arrange for the terrible deed.

From the time of the "conception" down to the time the deed was done, there is, to my mind, no indication of malice, but all the evidence goes to show that there was in Guiteau's mind one grand, false idea of the

existence of a "political necessity," added on to which was the idea, not one necessarily of a simple craving for notoriety, that so great a deed would, as a matter of course, deserve the gratitude of the whole country. Having once established these false, or, to call them by their correct name, *insane* premises, Giteau calmly went to work, as most maniacs would under such circumstances, to arrange the details of the murder. It may be said here that during the trial Giteau's motives were very imperfectly analyzed, and attention was principally directed to the *details* of the crime. It should have been strongly brought out, as it has been on a hundred other occasions, that the lunatic's *premises* are generally what is wrong, his mode of reasoning or working on these premises may be absolutely perfect. Giteau was no exception to this rule. He worked at his plans in a business-like manner, slept well, ate well, and took his customary exercise. He recognized clearly what a storm of public indignation there would be immediately after the murder, and so made his arrangements to go to the jail. These arrangements were very simple and even boyish, and the only wonder is that he was *not* seized by a mob. He, however, arranged many details not directly concerned in the murder, which would serve as an explanation of his motives, or help to establish his patriotism. The newspaper clippings and his Address to the American People were for this purpose. "Nothing but the political situation last spring," he said, "justified the removal. The break in the Republican party was widening week by week, and I foresaw a civil war." The deed itself was the best proof of his patriotism, and to show how firmly he believed in it, he refused to take a quiet opportunity, when he would probably have escaped unharmed, but chose a most exposed place, and called on General Sherman for protection. Buying the ivory-mounted pistol instead of a wooden one, so that it would look better on exhibition with other important relics in the Patent Office (where articles belonging to Washington and other great characters are stored), was what the Germans would call a "colossal" belief in his importance as a patriot.

It will be remembered that Giteau had saved with his newspaper clippings a revised copy of his wretched little book called Truth. The revisions were simply a few alterations and additions that might easily have been made in a few hours. He saved this book, it seemed to me, partly as an evidence of his attainments, and partly as an evidence of his piety. Furthermore, he thought that the "removal" would enhance its value, and it would meet with a large sale. Any work of the *patriot* would become very valuable.

Better evidences of insanity than these just described, we imagine, it would be hard to find, but the courage of Giteau should not be overlooked at this time. Ordinarily, though he is an earnest, persistent man, he has lacked personal courage, unless, perhaps, as in his lecturing, when he acted more or less under the guidance of insane ideas. He states himself that he has dreaded street crowds, and has turned away when there seemed any indications of trouble arising. But in the removal of the President he had a courage he had never known before. He was "nerved up," as he thought. The true explanation seems to be that he was acting under the pressure of a delusion so strong that it carried him tranquilly on to its consummation.

Giteau is a man a trifle below medium size, weigh-

ing in perfect condition one hundred and forty pounds. He is pallid and rather delicate looking, though his health, he says, is good. He states that he has had syphilis and gonorrhoea, but this statement lacks verification. His pupils are unequal in size; the axes of the eyes are a little dissimilar, giving the eyes a vacant, glassy stare, which makes the expression of the face unnatural, suggesting to many persons depravity. His hair cut close to the head, and the moustache also cut short, and the beard worn long, give him an unshaven, unkempt look. Formerly he wore his hair long, and shaved smooth, *a la* Beecher, but having lost his confidence in Beecher, he now trims his hair in the opposite fashion. There is some asymmetry of the head, not, however, ordinarily noticeable. On the whole the *toute ensemble* of head and face is rather repulsive, suggestive to my mind of insanity rather than depravity. His smile is pleasant, even amiable. His teeth are quite regular, and well-cared for. His tongue presents nothing abnormal. His expression, when angry, is bad, reminding one of a wild beast. He talks very volubly, and gives the impression of frankness and honesty. When seen in the jail, and flattered a little, and made to feel his importance, his manners are polite and agreeable, but the quiet manner is quickly changed into one of excitement by the slightest reflection on his motives or character.

He told the experts, when they examined him in the jail, that he wanted to give them all the assistance in his power, and he seemed to actually have the power to look at himself as a third person. He had a certain chain of events in his past life arranged in his mind, which he thought had a bearing on the case, quite ready at his tongue's end. These events he would narrate willingly, but he would not for any one branch off on to a side subject. He felt that he had performed a noble act, and, in the same sense of the word, had been inspired to commit the deed for the good of the country. Though he was a patriot he must present some sort of a defense for the sake of appearances. At one time, I do not doubt, that he had thought that public opinion would exonerate him, and he would go free without a trial, but as this had not proved to be the case he must accept the defense suggested to him. All this, as a lawyer, he appreciated, and consented tacitly to another lawyer aiding him in court.

He gathered much information from questions asked him by the experts, which he made use of afterward as original. He would, however, in talking with them, angrily, as said before, disclaim anything which tended to belittle him or make him insignificant. He had been a friend of Conkling and Arthur, he was to be ranked with them; he might some day be president. He had been inspired on various occasions. He was a patriot suffering for his party, but glorying in his deed, which all stalwarts secretly applauded. He was much pleased with the idea that he was like St. Paul, and afterward likened himself to the apostle. He was willing and even anxious to be found insane, though not believing that he actually was insane. Looking impartially at the case he would say, "If the jury believe that I believed that I had a special inspiration to remove the President, then they must find me insane. I believe I was insane in law, but not in fact."

Giteau had in some manner conceived the idea that a "special inspiration" might be insanity, and he was willing to have what he called inspiration, which was the Oneida Community idea of inspiration, pass for

insanity. It was, however, a sane inspiration, the inspiration which he had been taught to use as a cant phrase to explain many acts of his past life. He well understood the limitations of such an inspiration, and could grasp the idea of using it as a defense. Guiteau said that he needed collateral evidence of his inspiration. Thus, if he prayed for something and got it, or prayed for strength to carry out some plan, and did so successfully, it was proof that God had given his sanction, or had *inspired* the work. The insane inspiration needs no proof. If it exists it is sufficient, and anything done on the strength of it will be entirely right. The divine command is alone necessary, and to try to prove that it was right would look like doubting that it was inspiration.

It was unfortunate that Guiteau's counsel laid such stress on inspiration, as its existence as a delusion could be easily disproved, and thus the most important element of insanity of the defense could be shattered. The real element of insanity hardly came to the surface, and the prosecution, therefore, had little to disprove beyond insanity in the father, and inspiration in the prisoner.

To say how insane Guiteau was or to what special class of the insane he belongs is extremely difficult. We have tolerably clear evidence that he has been insane much, if not most of the time, since leaving the Oneida Community. There is no single act, but it is all the acts and utterances of Guiteau, spoken and written, which together make up a case of insanity. Of many of the events of his life we have no history, and of others only a history from prejudiced persons. What we have got is sufficient, however, to enable us to make a diagnosis of chronic mania, similar to what I have observed in insane criminals. By this I do not mean exactly similar, but in which the general outlines correspond. In these cases insanity cannot be easily made out, but only after prolonged observation. Neither is intellectual impairment always easy to find, still such impairment does exist, and will in the course of weeks or months reveal itself. Such has been my experience with cases of so-called "moral insanity." Dr. C. F. MacDonald, Superintendent of the New York Asylum for Insane Criminals, at Auburn, has cited the celebrated case of Kate Stoddart as a somewhat similar instance. In this case it required the most searching examination in the beginning of her disease to discover its existence. To strangers she was pleasant and affable and very plausible in what she said about her imprisonment, and the injustice of keeping her in an insane asylum. Her self-possession was great when not aroused, and it is probable she could have gone into court and made a good appearance. Once aroused, however, she would indulge in violent and profane abuse and entirely lose her self-control. For years she had had a delusion that she was a lawyer and could argue her own case better than ordinary lawyers. This delusion could not be brought out unless she was carefully approached. To see the quiet, lady-like person with pleasant manners and bright smile, and the power of carrying on agreeable conversation, the ordinary observer could not have believed that she was licentious, uncontrolled in temper, possessed of delusions, and at times liable to outbreaks of almost homicidal violence. In this case of Kate Stoddart, it was only by long observation and the grouping of symptoms together that a correct diagnosis could be arrived at. It placed under restraint

these cases of chronic mania without marked delusions, but with undoubted moral and intellectual impairment, are very comfortable and often appear sane; their false beliefs are held in abeyance. The fire smoulders and sometimes almost dies away, but throw a sudden strain on them and the flame is roused into great activity.

Leaving out two or three years of Guiteau's life when, as a lawyer, he for a time seemed better than before or afterwards, we have a good account of a case of chronic mania, with occasional exacerbations. There is the exhalation, self-complacency, supreme vanity, seeking for notoriety, regardlessness of consequences, changeableness of purpose, inconsistency of action, hyperirritability characteristic of a form of mania with expansive delusions. The grand schemes which Guiteau endeavored to carry out, such as editing the *Independent*, or New York *Tribune*; founding the "Theocrat;" editing the new *Chicago-Intercean*; the desire for the Chilian Mission, etc., were all of them totally foreign to his education and experience, and absolutely impossible of accomplishment by him, and can only be properly and correctly regarded as illustrations of his delusional condition of mind.

The first appearance of recent delusions was seen in connection with the campaign of 1880-81. It was nothing less than a delusion, that he, an insignificant good-for-nothing, should, on the claim that he had once partly delivered a little, third-rate jumble of catchwords, which he dignified by the name of "speech," be entitled to one of the most important offices in the gift of the government. Such a claim shows an insane method of reasoning, as well as a lack of perception and judgment.

His belief, which was undoubtedly honest, that he was of equal importance with Conkling, Arthur, etc., is a part of this general delusion and grows out of his insanely exalted idea of his own importance, for there is no evidence to show that he was any more than tolerated by them.

It was further an insane belief or delusion that Guiteau entertained, that there *was* a "political necessity" to destroy the President to save the country from a civil war, and no sane mind would have reasoned itself into the belief that murder would have averted the crisis. The most stupid of men would have seen that the murder of the President would inflict an injury a thousand times greater to the country than such a controversy as was going on between a small number of men in the Republican party. The strength and absurdity of this delusion is shown by the confidence that Guiteau felt that he should receive support from the stalwarts and be honored as a patriot when his true motives were known.

The conduct of Guiteau in court affords to my mind strong corroborative proof of his mental unsoundness. He showed himself to be quick-witted, sharp, gifted with an excellent memory, unscrupulous, uncontrolled in temper, and almost entirely lacking in judgment and discretion. His controlling idea seemed to be to guard his reputation as a man of purity, ability, high attainments, Christian virtues, and political importance. It made no difference what was said on either side; no matter whether it injured his case or helped it; whether it insulted his counsel or the other side. Hit or miss; friend or foe; with the true indifference of the lunatic, he made his criticisms. The dignity of the court-room; the threats of the judge and bailiffs, of the

district attorney, or the United States Marshall, he was indifferent to all. That instinct in the human breast which makes us bow before the majesty of the law and tremble at her bidding was not within him. With the volubility and lack of self control of the insane man his voice was heard above all others, and it must be remembered that this was the case, from the beginning to the end of the trial, with everybody, and nothing could have silenced him in all probability. An exhibition in all ways so extraordinary as the conduct of Guiteau at his trial is not, to my knowledge, on record, and it is not too much to say that it would be a disgrace to American jurisprudence were it not explainable on the ground of insanity.

The trial reminded me of what a trial might be if a patient with chronic mania were brought in from an asylum and tried for murder. Provided he were a bright, intelligent man with delusions of self-importance, of such a nature that they had had a bearing on the crime, his conduct might have been in many ways similar to that of Guiteau.

In the writings of Guiteau may be found evidences of exalted and expansive ideas, as well as in the acts above described. As far back as 1859, when at Ann Arbor, he wrote, "I confess Christ in me, my ability to confess that my treasure is in God—that is, I have no love or affection in the world, through Christ. There is where we all must come, that expect to be saved, for we will be saved through Christ, or damned by him." At Oneida, in 1861, he said, "I was attracted here by an irresistible power, which I did not feel at liberty to disobey." In 1865 he wrote his celebrated Hoboken letter, in which he says, after describing his plans to establish the "Daily Theocrat," "However presumptuous it may seem to confess the truth about myself, I say boldly that I claim inspiration. I claim that I am in the employ of Jesus Christ and Co., the very ablest and strongest firm in the Universe and what I can do is limited only by their power and purpose. God is my employer. I know that he will sustain me. He has furnished what money I have." This letter bears a very strong resemblance to the writings of Guiteau at the present time. There is the same idea of inspiration and exaltation, and the same easy way of leaving money matters to the Lord. It has struck me as remarkable to find so much consistency in what he has written. In 1867 he said "that he was under a constant pressure to write" ("pressure" is a favorite word of his still). In 1877 he sent out a letter from the Chicago jail, asking for assistance, but filling it with statements about his character, his love for God, for Christ, etc.

There is, after this time, a break in the letters, as most of them were destroyed in the Chicago fire. His writings begin to come thick and fast, however, at a later period, beginning with his lectures. In these later writings he shows a form of mania for writing common to many lunatics. These writings are comprised in part of his lectures, his book, his speech, his numerous letters to Garfield and Blaine, his address to the American people, his *Herald* autobiography, his opening address to the jury, his Christmas address, and his closing address. The last comprehends almost everything he has said during the trial in other addresses, and contains a little new matter. It is written in the grandiloquent, high-sounding manner characteristic of him, and shows how he has gone from one point of his defense to another, making use of such new ideas as pre-

sented themselves in the evidence, retaining, however, the one central idea of his own patriotism and greatness. He says, among other things, that "General Arthur is a good man every way. I happen to know him well. I was with him constantly in New York during the canvass. So with General Grant, Conkling, and the rest of those men. They have not taken an active part in my defense, because it would not be proper, but I know how they feel on this case." He interlarded his statements with a variety of silly, jocose letters and telegrams he had received complimenting him on his conduct and admitting his greatness. These were sent him as jokes, but he received them in earnest, as tributes to his importance. Here Guiteau follows the usual course of the insane person, and explains all circumstances which do not accord with his false theory in a purely fictitious manner, so that every inconsistency is overlooked or explained in a satisfactory manner.

This sentence in the Address to the American People of June 16th is a good illustration of Guiteau's false belief and exalted method of expression: "In the President's madness he has wrecked the once grand old Republican party, and for this he dies. The President's nomination was an act of God; the President's election was an act of God; the President's removal is an act of God."

In the way Guiteau uses his writings he resembles also many of the lunatics who possess this mania for writing, especially those who have an exalted form of mania. These persons address voluminous documents to various distinguished personages, and though they are never answered the writers seem perfectly satisfied. They often carry extensive petitions or letters in their pockets, and entrust them to any visitor they may see to take them to the President or other important person. For years they will continue to forward these documents, expressing but little regret at getting no response. The mere act of writing seems sufficient to satisfy the ambitious desire of the writer, and the changing undercurrent of his delusion renders him oblivious to the ordinary course followed in letter writing. I have known lunatics who carried numerous documents on their person, concealed them in all sorts of out-of-the-way places, and sent them out of the asylum openly and surreptitiously on every opportunity, who would not have been recognized as insane had they not possessed this writing mania. In these letters, addresses, or proclamations their delusions would generally show themselves.

Guiteau followed the usual course of these maniacs, and was equally ready on every available occasion to produce some document, letter, or pamphlet wherein was plainly shown the truth of all his claims. He seemed never to be more supremely happy than when he had an opportunity to show or to read from these writings. Forgetting himself for the moment, he became carried away by his own eloquence. Perhaps no better example of the insane use to which Guiteau put his documents can be cited than when he left his speech with Garfield, marking "Paris" at the end. That speech, he thought, was enough to open the doors of paradise, and a comparatively small man like the President of the United States would certainly be overawed by it. It was hardly necessary, after this proof of his ability, to say anything more about his application for office, but he would mark "Paris" as a delicate reminder of his preferences for the French consulship.

From this short analysis of the case of Guiteau it will be seen that I recognize his insanity both before, at the time of the homicide, and since. While the theory of limited or partial responsibility has at times seemed feasible in his case, if any, I think that on the whole it should be rejected. It is dangerous ground we tread on when we attempt to split hairs in weighing the moral capacity of the lunatic. And it is still more audacious in a case like that of Guiteau to usurp the prerogative of the Almighty and sacrifice a human life to the quibbles and vulgar prejudice of a mere handful of men.

It will be much more to our credit as a country, and much more in the interests of humanity and progress toward better things, if the miserable Guiteau can be saved from the gallows and be placed for life in a properly regulated criminal lunatic asylum.

### ON THE EARLY TREATMENT OF PROSTATIC OBSTRUCTION.<sup>1</sup>

ABSTRACT OF PAPER READ AT THE MEDICAL SOCIETY OF LONDON, MARCH 13, 1882.

BY REGINALD HARRISON, F. R. C. S.,  
*Surgeon to the Liverpool Royal Infirmary.*

It may be generally stated that of males who have passed fifty-five years of age about one third, sooner or later, have enlargement of the prostate, of these about one half suffer therefrom, though so long as micturition is efficiently and painlessly performed, there are seldom grounds for complaint.

It is exceedingly interesting, as indicating how relief may be afforded, to analyze the cases where the prostate is large but does not obstruct; there are at least two conditions explanatory of non-interference with micturition under these circumstances.

First, where the hypertrophy is towards the rectum, and the relations of the prostatic urethra are not altered; and, second, where the hypertrophied gland is lobulated, and channels are left between the masses along which urine flows without interruption. A careful consideration of these conditions have suggested that they are capable of artificial production to a useful extent.

The teaching of the present day is, however, to the effect that mechanical treatment is not to be employed until either retention occurs or the bladder becomes inflamed, then such means may be resorted to. It was asked why the same treatment should not be applied as in the case of urethral stricture. The objection generally advanced is that irritation will be produced. It was urged that there was no evidence in support of this objection. On the contrary, the prostate was about the most long-suffering organ in the body, and though it was subjected to a great variety of mechanical expedients, in lithotomy and other operations, it rarely became inflamed. It might just as well be said that because strictures were found occasionally to be exceedingly irritable, treatment was to be postponed until retention of urine or cystitis were provoked. But if intolerance to early mechanical treatment were proved, it was only postponing the day until the necessity was greater and the difficulty more apparent. If there was danger of irritating the prostate, it was none the less because its size was larger.

<sup>1</sup> From advance sheets.

With the view of obtaining similar conditions to those occurring naturally in large prostates, where there is no interference with micturition, a mode of treatment with specially-adapted bougies was described. The instruments are gum-elastic, two to four inches longer in the stem than usual, with an expanded portion an inch from the tip, which is made to enter the bladder. In this way the prostatic urethra is subjected to pressure on the insertion and withdrawal of the instrument.

As a rule, if dilatation is not too rapidly proceeded with, no irritation is aroused. On the contrary, greater toleration of urine follows, owing to the ease and completeness with which the bladder is then emptied.

In a few persons it became necessary to establish a state of instrumental toleration, the frequency for doing this, as a rule, depending more on the manipulator than on the instrument. In some individuals intolerance of urethral interference was entirely due to the condition of the urine. Such sensitiveness had been traced to the presence of uric acid in unnatural quantities and form. On the correction of this patients previously intolerant of instruments were found capable of undergoing the necessary mechanical treatment with the greatest advantage.

In advocating the early treatment of prostatic obstruction by the means referred to the author had already had sufficient proof of its efficacy. He had demonstrated that the regular use of the dilators was capable of so moulding the enlargement as to prevent obstruction. Cases were under observation where the symptoms indicated that an impediment to micturition was commencing to form. Such patients in this way regained the power they were beginning to lose. In bringing forward his views on the subject Mr. Harrison did so with the feeling that little had been yet done towards preventing the progressive development of a condition which was often followed by very distressing, and sometimes embarrassing, results—results which we knew of and stood by to palliate, though we had hitherto been helpless in preventing them.

### RECENT PROGRESS IN THEORY AND PRACTICE OF MEDICINE.

BY GEORGE B. SHATTUCK, M. D.

#### A STUDY OF THE PERIODS OF INCUBATION OF THE COMMUNICABLE DISEASES.

Dr. B. W. RICHARDSON read a paper with the above title before the Medical Officers of Health Society at its meeting May 20, 1881, an abstract of which we reproduce.<sup>1</sup> The five following points were brought forward:—

(1.) What is the precise application of the term "incubation," and to what diseases should it be applied? (2.) What is the state of absolute knowledge of the periods of incubation of the more common communicable diseases? (3.) In respect of differences of opinion on this subject do they depend on fault of observation, or on the circumstance that there are in the same diseases varying periods of incubation, the variations being under no as yet defined law? (4.) If it be found that there are differences of periods in the same diseases, upon what do such differences depend? (5.) What are the practical lessons which arise from the facts we at present possess, and to what extent may our knowledge be rendered available in the prevention and treatment of disease? On the first of these points Dr. Richardson said that, simple as the question seemed to be at first sight, it was by no means simple. We reduced the diffi-

<sup>1</sup> *Lancet*, 1, 392, 1881. *Med. Press and Circular*, 1, 461, 1881.

culty by limiting the term to those instances of disease in which, after a certain specific poisonous particle had been taken into the living body, certain indications of the action of that specific poisonous matter have been manifested — that is, the period between the introduction of the poison and the manifestation of its action is the period of incubation. We fail, however, to be unanimous in the question, What is the accepted first sign of such manifestation? After citing several illustrations of this diversity of view, Dr. Richardson, by exclusion threw out local symptoms as insufficient proof, together with pain and fever, but accepted as the safest phenomenon indicating that the incubation is declared that sudden vibration between cold and heat which tells the break of continuous action between the nervous and the vascular systems to which we give the name of chill or rigor. The author next added the list of diseases, twenty-five in number, which present a stage of incubation. Under the second head, the range of period of incubation in the different diseases, the diseases were classified into five groups, according to the time of incubation in each case. The classification ran as follows: (a) Shortest incubations, period one to four days: Malignant cholera, malignant pustule, plague, dissection wound disease, catarrh, if it be communicable. (b) Short incubations, period two to six days: Scarlet fever, rosolia idiopathica, diphtheria, croup, influenza, pertussis, erysipelas, glanders, yellow fever, grease, larc, pyæmia, procerpal fever, dengue. (c) Medium incubations, period five to eight days: Relapsing fever, vaccinia, variola by inoculation, gonorrhœa. (d) Long incubations, period ten to fifteen days: Small-pox, variella, measles, röteln, mumps, typhus, typhoid, or enteric fever, malarial fever. (e) Longest incubations, period forty days or longer: Syphilis, hydrophobia, in which the range may be from seven days to months, or even years. From these general rules Dr. Richardson proceeded to state the exceptions to them in detail, the variations being most marked in class b, where the periods of incubation are short. Under the third head of his discourse, on the reason of differences of opinion as to the periods of incubation, the author held that such differences are traceable to four sets of causes. First, that we have not been, up to this time, agreed as to the full symptoms that indicate the stage when incubation is complete; secondly, that until lately we have not tried to classify diseases according to the rest of incubation; thirdly, that we have attached too much importance to the exceptional phenomena of incubation; fourthly, that we have been too prone to connect diseases together which are in some respects similar, but which in regard to incubation are most dissimilar. Now that we are approaching nearer to the truth we may soon be able to classify and understand the exceptions from the ordinary or natural rule of incubation. He proceeded to consider the circumstances which may lead to differences in periods of incubation in the same affections, and suggested that as it was not known that inoculation of a poisonous particle shortened the period of incubation, so it was possible that in some cases where the poison was absorbed an accidental inoculation might account for variation of time of incubation. Again, the poison might be absorbed in one case in a form of diffusion reader for absorption in some cases than in others. But the great cause of difference was traceable to individual susceptibility, together with physiological peculiarities dependent on season and the meteorological conditions which so modify the action of the organic poisonous material. The paper was brought to a close by a review of the practical lessons which spring from the study of incubation. The points here advanced may be briefly stated as follows: If we could arrive at definite evidence on which we could all rest, that the incubation of a disease is proved by the occurrence of a certain symptom or definite class of symptoms, we could account for much that is mysterious. For example, in vaccinia can it be that, trusting entirely to the local phenomena, we sometimes have an apparently good vaccination which never has inoculated at all? If that be so, there is a reason why a person who seems to have been thoroughly vaccinated should still remain susceptible to small-pox. The suggestion, though it stands alone, is all-sufficient to indicate the practical importance of proving inoculation before pronouncing it to be a sure protection upon the evidence afforded by some but not all the symptoms of a communicable affection. The division of diseases of the communicable type into different classes or groups according to the stage of incubation which is presented is a practical acquirement of the most important every-day value, both in curative and preventive science. It is quite true that to know when to retain at home a sick person laboring under communicable disease, when to send him from home, and when to separate him from the actual or presumably unaffected, is a direction of practical skill as eminently creditable to the profession of medicine as it is useful to the public. To remove

the healthy from the affected is good practice in the case of all the diseases of the first and second of the groups of the quick and short incubation series. To remove in the third series may be sound practice. To remove the fourth or long incubation class is less important, and may be a practice that is quite at fault and prejudicial. Lastly, from the study of the incubation period we learn how to assign the best means of disposing of the affected during convalescence. It seems to be a true reading of natural phenomena that the diseases of short incubation have a prolonged convalescence, and remain long sources of communication, while the diseases which show a long incubation give a quicker convalescence, and a more rapid freedom from danger as a centre of communication of disease. Here there is a practical lesson that cannot well be overestimated. Keep the cases of short incubation at home. They will infect others and be injured themselves by removal.

#### CONCERNING THE ACQUISITION BY THE SYSTEM OF A TOLERANCE OF SPECIFIC AND OTHER POISONS.

Dr. G. M. Sternberg, discussing the explanation of the protection from subsequent attacks, resulting from an attack of certain diseases and of the protective influence of vaccination against small-pox, rejects the old idea that some special pabulum in the system is exhausted by the specific poison, and argues in favor of the more acceptable theory that during a non-fatal attack of one of the specific diseases the cellular elements implicated which do not succumb to the destructive influence of the poison acquire a tolerance to this poison which is transmitted to their progeny. The known facts in regard to hereditary transmission by cells, whether in the vegetable or animal kingdom, of acquired properties fortifies a belief in the truth of such a theory, summed up as follows by Dr. Sternberg: Acclimation, inoculation by attenuated viruses, and an attack of one of the specific diseases, should all be placed in the same category so far as the explanation of the protection afforded is concerned, and the explanation of this phenomenon is to be found in the peculiar properties of living protoplasm which enables it, within certain limits, to adapt itself to varying conditions and injurious influences, and to transmit the impression or modification received in doing so to its offshoots, which continue to perform its functions during the life of the individual.

#### A THEORY OF THE ADAPTATION OF GERMS TO SOILS, AND OF IMMUNITY FOLLOWING INOCULATION.

Dr. Grawitz, of Berlin, has been engaged for seven or eight years upon a series of experiments which have an interesting practical bearing upon theories of the immunity following exposure to the influences of poison by inoculation or otherwise. Occupying himself with the larger fungi, — such as aspergillus and penicillium, whose spores are several hundred times the size of a micrococcus, — he obtained results which he made the subject of a paper in Virchow's *Archiv* (Band 81), and subsequently of an address before the Congress of the German Surgical Society last April. This address, published in Langenbeck's *Archiv* for July, 1881, was to be the prelude to further and fuller reports of his observations. In the mean time Grawitz's published results and deductions therefrom have been attacked, and their value badly impaired by Koch, Gaffky, Lichtheim, and Löffler,<sup>2</sup> and a lively discussion, started in the Berlin Medical Society and Berlin Health Bureau, found its way into their *Transactions* and into the medical journals.<sup>3</sup>

<sup>1</sup> American Journal of the Medical Sciences, April, 1881.

<sup>2</sup> Mittheilungen aus dem Kaiserlichen Gesundheitsamte, Berlin, 1881.

<sup>3</sup> Berlin. klin. Wochschr., Nos. 45, 46, 47, 52.

The whole has an instructive bearing upon the easy sources of error which surround the worker in germs, even when of so large a size as the fungi, and upon the relation between special germs and specific diseases.

Grawitz believed that his long-continued and extensive experiments justified him in announcing that certain fungi, ordinarily harmless, and not developing in the blood of warm-blooded animals, could, by cultivation and adaptation, be changed in character in such a manner as to flourish in the system after inoculation, and to produce fatal consequences; from being simple that they became malignant organisms. These results were announced as the basis of "a theory of adaptation of mould-fungi in general." The further application of such views, if well established, to the poisons of such diseases as typhoid fever and cess-pool fever, scarlatina, and diphtheria would be immediate.

On the other hand, "It occurred to Dr. Grawitz<sup>1</sup> that, as the fungi could be adapted to a higher degree of vital energy, enabling them to enter into a successful struggle with the tissues for existence, so the less resisting of those tissues might gradually be adapted to a higher degree of that special energy needed to resist the fungus. He sought to bring about that adaptation of the more helpless tissues in two ways: first, by introducing into the body a considerable quantity of the partially adapted (or half malignant) fungus, and, secondly, by introducing a very small quantity of the perfectly adapted (or highly malignant) fungus; in the first case, the vital powers of the fungi would be so weak that even the kidney would make existence hard for them; and, in the second case, the quantity of the fungus would be so small that the few centres of fungus growth resulting would not endanger the life of the dog or rabbit so inoculated. These problematical adaptations of the tissues having been duly brought about, Dr. Grawitz proceeded, after four to six weeks, to give the same animals such a dose of malignant fungus as would ordinarily have killed them in three or four days, and as, in fact, did kill the control-animals beside them. In the case of those which had been adapted or made accustomed to a large quantity of weak fungus the result was that they either resisted entirely the full dose of malignant fungus or that the due effects of the latter were delayed twelve or fourteen days. In the case of the animals whose tissues had been habituated by means of a small dose of the malignant fungus not a single one of them succumbed. A number of these latter were killed after a time, but neither the kidneys nor any other favorite seat of the fungus growth showed the ordinary yellowish nodules. It is worthy of note that protection against the malignant aspergillus was afforded not only by the slighter inoculation of the same fungus but equally through previous adaptation or habituation with penicillium and orlunum lactis. As a controlling experiment the protective influence of uncultivated aspergillus and penicillium was tried, and was found to be nil.

"Such is the theory of Dr. Grawitz to account for the success of the practice of vaccination and of inoculation for anthrax and fowl cholera. A certain fungus can be, as it were, educated up to living inside the human body, and, in like manner, certain tissues of the human body, otherwise an easy prey to the fungus, can be educated up to resisting the latter. That seems only fair, and as it should be, *se non e vero, e ben trovato*. The body has, further, the best of it, in that it takes

only one trial to adapt its tissues, while many successive cultures are required to adapt the fungus. In both adaptations heredity comes in; the gradually acquired invasive properties of the fungus are retained by successive crops of spores for many months, and the more rapidly acquired resistant properties of the tissues are transmitted to successive generations of cells for a corresponding period. After a time the penicillium or aspergillus loses its acquired power of living in the body, and returns to its natural state of a mould living on bread; in like manner the resisting power of the cells of the body is weakened in the course of their successive renewals, and is ultimately lost."

But, as we have stated, these results and the consequent Anpassungstheorie der Schimmelpilze were hardly in type before other investigators, and among them so eminent an authority as Koch, detected fatal defects in Grawitz's methods, his cultivations were not strictly guarded against mixed races of fungi, were not "pure," and a fungus — aspergillus glaucus — which he had treated as innocent under ordinary conditions was shown to possess malignant properties without being subjected to even so mild a form of cultivation as an increase of temperature.

The net results of this controversy and these labors seems to be that Dr. Struck, director of the Royal Health Bureau, Berlin, thinks that the present state of our knowledge may be expressed thus: "that the malignant fungi are specific organisms, which are begotten by and beget only their like," and R. Koch somewhat more guardedly though as positively announces that the reverse has yet to be proved.

The study of fungi, however, indirectly had the result of leading Israel, a fellow laborer of Grawitz, to the description of actinomycosis as a disease in man, and his investigations in turn suggested to Poufick the existence of precisely the same disease in cattle.

#### DIPHTHERIA.

Drs. Wood and Formad reach the following conclusions in summing up the results of their investigations into the nature of the diphtheritic poison in their report to the National Board of Health.<sup>2</sup> They believe that future research will show that micrococci cause diphtheria by their power of forcing their way into the tissues, and by their own excessive vitality overcoming the vitality of those tissues, changing their nutritive processes, destroying them, and finally getting into the blood itself, destroying its white corpuscles, and obstructing the circulation, but it cannot be considered positively proven at present that the micrococci themselves are the essential poison and not simply the carriers of the poison.

Their observations lead them to the conclusion, in opposition to Curtis and Satterthwaite, that after a time the diphtheritic membrane, even if kept perfectly dry, does lose its contagious powers. The following facts they consider as established:—

The micrococci of diphtheria do not differ, so far as observed, from the micrococci of furred tongue, etc., except in their tendency to grow in culture fluids.

The micrococci of furred tongue or ordinary sore throat have a less tendency to grow under culture than have the micrococci of endemic non-malignant diphtheria.

The micrococci of endemic or non-malignant diphtheria have a much less tendency to grow under culture than have the micrococci of malignant diphtheria.

The rapidity of growth of the micrococci is in direct propor-

<sup>1</sup> British Medical Journal, vol. ii., p. 785, 1881.

<sup>2</sup> Supplement No. 17 to National Board of Health Bulletin.



tion to the malignancy of the case yielding them, and its contagiousness.

On exposure to the air diphtheritic membrane of the most virulent type loses its contagious power, and the micrococci *pari passu* lose their power of growing in culture fluids.

Under successive generations of artificial culture the diphtheritic micrococci lose their growth, activity, and also their power of infecting the rabbit.

It has not been experimentally directly proven, but it is a necessary inference from the two facts just stated, that under certain favoring circumstances the sluggish micrococci puts on growth—activity, and, in all probability, *poisonous properties*.

Every grade of case can be found in man from an ordinary sore throat, through simple pseudo-membranous angina and tracheitis, up to malignant diphtheria.

Any inflammation of the trachea of sufficient intensity may cause the formation of a pseudo-membrane.

A case may begin as one of sthenic "pseudo-membranous croup" and end as one of adynamic "diphtheria," with blood poisoning; and in cases of this character not infrequently no exposure to contagion is discoverable, and there is clinically every reason to believe that the blood poison has been developed within the body of the patient. The theory of the disease which they would deduce from these facts is that the micrococci, which directly or indirectly causes the diphtheria, is not a specific organism different from that common to healthy and inflamed throats, but is an active state of that organism; that certain circumstances outside of the human body are capable of throwing this common micrococcus into this condition of active growth and engendering an epidemic of diphtheria. When diphtheria is thus epidemic the micrococci light upon a throat, and if the throat have little resisting power, as in the child, inflame it or increase a catarrh already existing into a violent inflammation, and also rapidly enter the blood and cause systematic poisoning.

On the other hand, a catarrh in a weakly subject may, in the beginning, be simply an inflammation from cold, but the ordinary micrococci in the throat or mouth, favored by the special conditions, etc., may gradually change from the dormant to the active state, and by and by act upon the throat, and at last force their way into the system, and a self-generated diphtheria be formed out of a "cold."

It has already been abundantly proven, they think, that there is no specific character detectable in the micrococci of diphtheria. The history of wounds infected with diphtheritic poison and of those infected with hospital gangrene lends further confirmation to the idea that diphtheria and certain other septic diseases are really different manifestations of the one affection, the difference in symptoms depending rather upon the difference in the location than in a difference of the nature of the septic process. In order to test this they made a few experiments.

Drs. Wood and Formad very properly do not claim that these experiments are sufficient to establish the identity of diphtheria and other forms of local gangrene, but consider that they certainly favor such a belief.

In concluding their report they suggest the great necessity of further research, especially upon the relations to diphtheria of scarlet fever, pyæmia, erysipelas, and various septic diseases in which micrococci that seem to be similar to those of diphtheria occur.

## Hospital Practice and Clinical Memoranda.

### TWO CASES OF PROBABLE TRICHINOSIS.<sup>1</sup>

BY C. W. WOOLDRIDGE, M. D.

On the 26th day of February, 1880, I was called to see Mr. Henry Miner, a laboring man living in the village of Montague, Michigan. I found him suffering from fever and a general sense of discomfort, but his request when I came into his presence was that I should do something for his eyes, the tissues about which were greatly swollen while a general puffiness seemed to be spreading over his face.

<sup>1</sup> Read before the Suffolk District Medical Society, February 25, 1882.

There was no appearance of inflammation, nothing that would serve to localize the trouble, no pain other than a general sense of discomfort and weakness, which the fever that he was suffering from might readily account for, and the stiffness about the eyes due to the oedema which he had supposed to be the seat of the disease, but which to my mind appeared to be but a symptom of some general disturbance.

To make the matter more peculiar, Mr. Miner's brother-in-law, a youth of about eighteen, living in the same house with him as one of the family, was suffering from exactly the same symptoms, with the difference that in his case they were a few hours behind in their development. This to my mind rendered improbable in the outset any diagnosis which I might otherwise have tentatively adopted. I could make nothing of it; however, as it was necessary to do something I gave them a little bitartrate of potassa as a safe eliminative and awaited developments. The next day I found the fever about the same, the swelling had become more general, involving the face and neck, while the hands and arms also showed some puffiness. It was not easy to tell which of my patients was the sicker man on this occasion nor afterward; they were alike. On this second day they complained of a more painful sensation over the stomach than before, and a diarrhoea had set in that was out of all proportion to the medicine that I had given them, though at first I was inclined to attribute it to its action. The third day there was but little change. They spoke of a painful stiffness of the neck, which either on this day or the day afterward involved the respiratory muscles also, causing a difficulty of breathing. The swelling was not much changed, but if anything it was a little more general, while that about the eyes was less marked.

On the fourth day the swelling had begun to diminish, but the fever continued and likewise the diarrhoea. By this time, too, their complaints of muscular pain were much more decided. They complained of pain, stiffness, and weakness, especially in the neck, but also in the arms and over the epigastrium. This painful stiffness increased for some time and became more general until it was painful to move at all, but the pain was never acute. It was not until this muscular soreness became somewhat prominent in the complaint of my patients that the thought of trichinosis occurred to me, and I began to look up the subject. The result of my doing so was that it became exceedingly probable to my mind that it was trichinosis that I was dealing with, and the next time I saw my patients I told them that I believed they had eaten a meal of raw ham, pork, sausage, or something of that kind a short time before they were taken sick. They immediately admitted that such was the fact, but it was several days before. They could not remember exactly the day, but they two had come in hungry from their work and had made their supper from a fresh ham which they had eaten raw with vinegar and pepper, making a hearty supper of it. They were too late for the regular meal and no one else ate with them. The rest of the ham had been cooked and eaten, not even the bone could be found. They had purchased the ham at a grocery store in the village, to which I went to see if I could find any trace of the hog from which it was taken. I found that according to their books Mr. Miner had purchased a ham of them about two weeks before his sickness, a rather earlier date than that assigned approximately by him. They remembered it; from his

weight they thought it was part of a hog which they had purchased about that time from a farmer in the neighborhood, but of that matter they could not be certain, and they had none of it left.

The subsequent course of the disease in my patients was that after ten or twelve days there was a gradual improvement, but long after all active disease seemed to have ceased they were nearly helpless, and two months afterward they were but beginning in a feeble way to try to do a little work.

I was very desirous of obtaining evidence of the correctness of my diagnosis that could not be questioned, and for this purpose I persuaded Mr. Miner to let me cut into his shoulder, and remove a small portion of muscle for examination. This I did on the 18th of March, twenty-two days after the beginning of the sickness, removing a minute portion of the deltoid.

I considered that the chances were against my finding trichinae there, even allowing their existence, since I could not expect them to be so numerous in my patient, who was recovering, as they would probably have been in a fatal case, nor in that particular muscle as in others not so conveniently situated for examination in a living man. Nevertheless it was possible that I might find some. Accordingly I examined the specimen I had obtained carefully with the microscope, and always found on the slide distinct specimens of striated muscular fibre, but no trichinae.

It will be proper here briefly to review the natural history of this disease, which has attracted so much attention of late by reason of its having disturbed our commercial relations with Europe. Aitken says: "The disease begins a few days after eating the meat in which there were trichinae, with loss of appetite, general discomfort after eating, irritation of the stomach, vomiting, and diarrhea. These symptoms last from four to eight days, till the progeny are born. Severe symptoms may set in and continue until the parasites are encapsuled if not previously fatal. There are continued diarrhea and fever, oedema of the eyelids, also pain, or at least a painful sensation of weakness, in the limbs, oedema of the joints, sometimes of the whole body, difficulty in moving the tongue, profuse, clammy perspiration, and the patients who do not become convalescent die either unconscious with symptoms of typhoid fever, or, in a few cases, remain conscious to the end, complaining of inability to breathe freely."

Professor Dalton, speaking of the symptoms in two cases which he studied in 1861, which proved to be trichinosis, says, "These symptoms were abdominal pain and diarrhea soon after eating the suspected food, followed by oedema of the face and diarrhea. Niemeyer speaks of *insidious* trichinosis, in which the preliminary symptoms are absent, and the secondary symptoms of the disease, oedema, fever, and the symptoms characteristic of the trichinotous myositis are the first to be developed. "But," he says, "far the greater number of patients complain in from a few hours to a few days after the poisoning, when the young brood have been hatched, of severe pressure in the stomach, of eructation, and nausea, combined with a feeling of great heaviness and depression. There is almost always diarrhea accompanied by more or less severe colicky pains. These symptoms are soon accompanied by those of the entrance of the trichinae into the muscles, vague pains, and a feeling of stiffness, as well as a peculiar oedema of the face, affecting the eyelids."

Renz, as cited by C. W. C. Glazier, M. D., in the report on trichinae and trichinosis, prepared under the direction of the United States government, 1881, mentions the possible division of the disease into four stages: first, the prodromal; second, the stage of intestinal irritation; third, the stage of muscular irritation; and, fourth, the stage of retrogression and convalescence; but adds, "Such a stereotyped division does not always correspond to the course of the disease, nor could it reasonably be expected that it would. Of the four possible stages," he says, "none except that of muscle irritation is entirely certain." Krantz observed a period of incubation lasting from a few hours to forty-three days, and he had cases in which there were no disturbances of the digestive functions. The most important and constant symptoms of the second stage, he says, "are oedema and perspiration. This stage is ushered in usually with oedematous swelling of the eyelids, which often spreads to neighboring parts, and sometimes is associated with a light form of conjunctival catarrh." Heller, in Zeimssen's Encyclopaedia, says, "With the appearance of oedema of the face and eyelids on the seventh day trichinosis must be naturally suspected. The further progress of the disease is so characteristic that the diagnosis can scarcely remain in doubt." He also says, "The diagnosis becomes indisputable on the discovery of a single intestinal trichina in the stools or upon the observation of muscle trichinae in excised portions of muscles, but a negative result of the examination of the discharges and of small portions of muscle is no evidence against the correctness of the diagnosis, while it is to be remembered, on the other hand, that a positive diagnosis of the trichina disease may be made without these observations."

I desire in conclusion to express the opinion that mild cases of trichinosis occur much more frequently than they are recognized. The cause is found everywhere, and there is no practical way in which it can be detected and avoided. If people would be safe they must cook their meat.

I would also call attention to the fact that Dr. H. I. Bowditch is among the earliest investigators of this disease, having independently discovered it in a patient, and published an account of it with illustrations in 1841, nearly twenty years before its origin began to be understood; although Owen, of London, and others, as Dr. Bowditch reports, had seen the animalcule without having connected them with any particular food.

## BOSTON LYING-IN HOSPITAL.

CASES IN THE SERVICE OF W. L. RICHARDSON, M. D.

REPORTED BY F. B. HARRINGTON, M. D.

### CASE I. PUERPERAL INSANITY.

H. E., is a married woman, twenty-five years old who came to the hospital and was delivered of her third child November 25th. From her previous pregnancies she had made rapid recoveries. Her general condition on entering the hospital was good. The urine was normal.

The labor was normal, and for two days she seemed to do well, although she was thought to be somewhat hysterical.

On the third day she complained of a severe headache, and the temperature rose to 105.2° F. The lochia were normal, and there was only a slight tenderness of the abdomen.

On the fifth day the lochia became scanty and offensive, and remained so for a number of days. She was given intra-uterine injections daily for a week until the temperature became normal. The headache still persisted on the fifth day, and the patient was greatly depressed in spirits, claiming that she was going to die. On the following day she accused her attendants of attempting to poison her. When an effort was made to calm her she became greatly excited and reiterated her charges, referring everything which had been done for her to an attempt to kill her.

She was given bromide of potassium and chloral hydrate in large doses, but slept very little. She refused to take food, and was fed with great difficulty. The patient was transferred to a private room, and a constant watch provided. Only once did she show any violence, at this time striking at the nurse. She had delusions in many forms. She saw spirits and heard voices. Toward her child she was affectionate. There were short periods in which she seemed quite rational, but on being questioned she resumed her old charges.

Sixteen days after confinement her physical condition was excellent, and by persuasion she was taking an abundance of liquid food. It was still impossible to induce her to take solid food. An occasional cathartic kept the bowels in good condition. She gradually became quieter in her moods, but was still melancholy.

On the twenty-fourth day she seemed perfectly rational, and smiled when told of her accusations, of which she had no recollection. She complained of pressure about the head and a great desire to sleep. Her appetite gradually returned. She was still at times somewhat melancholy, and became petulant if asked about her condition.

On the thirty-third day after her confinement she sat up. She was discharged January 5th, forty-one days after confinement.

She steadily improved up to the time of her discharge. Her manner at that time was somewhat peculiar, but her friends stated that she had always been of a somewhat sombre disposition.

#### CASE II. SUBINVOLUTION.

M. C., twenty-three years old, was delivered of her first child December 9th.

Fourteen days later an examination, preparatory to her discharge from the hospital, was made. The cavity of the uterus was found to measure five inches. The patient was advised to remain in the hospital. She was put to bed, and given fluid extract of ergot, twenty minims every three hours, for five days. She was discharged from the hospital twenty-one days after delivery, the cavity of the uterus measuring three and seven eighths inches.

#### CASE III. SUBINVOLUTION.

K. C., twenty-nine years old, was examined fifteen days after the delivery of her third child.

The cavity of the uterus then measured four and three fourths inches. The patient was put to bed and given fluid extract of ergot, twenty minims every three hours, for five days. She was discharged twenty-six days after delivery, the uterus then measuring three and one half inches.

#### CASE IV. SECONDARY HÆMORRHAGE.

E. H., aged twenty-one years, after a normal labor gave birth to her first child December 5th. She convalesced well, and sat up on the ninth day. Five days later, while sitting in the ward, she was frightened by a patient who was in a hysterical convulsion. She jumped from her chair, and ran into her own room. Soon after she discovered a flow of blood, and called for assistance. When she was reached a large pool of blood was found upon the floor, and the blood was still flowing freely. The patient was blanched and fainting. She was immediately put to bed, and given one drachm fluid extract of ergot. The uterus was found enlarged, the fundus being three inches above the pubes. Constant pressure to the fundus was applied, and ice was used over the uterus and inside the vagina to induce contractions. The hæmorrhage continued, and a colpeurynter was inserted into the vagina. This checked the hæmorrhage. When removed, three hours later, a large clot was found in the vagina, but its removal was followed by no further hæmorrhage.

The patient was given twenty minims fluid extract ergot every three hours, beside stimulants and nourishing food. On the following day the uterus was washed out, and several clots removed. No loss of blood followed.

Three days after the first hæmorrhage there was a second one. It soon ceased without resort to other means than pressure over the fundus. The ergot was continued, and six days later the uterus was of normal size, and the patient sat up. There was no further hæmorrhage.

#### CASE V. CONGENITAL TEETH.

Two small white spots were accidentally noticed on the lower jaw of a child, then twelve days old. The spots were supposed to be thrush. Four days later the mother complained that the child caused her great pain in the nipples while nursing. An examination of the mother's breasts did not show adequate cause. On looking into the child's mouth the two spots were found to be two sharp-edged incisor teeth. They were removed, and appeared to be the right central and right lateral lower incisors.

#### CASE VI. PROLAPSE OF THE BLADDER.

J. M., aged thirty years, had previously given birth to six children. Although momentarily expecting to be confined she was obliged to keep at her work. After a hard day's washing she noticed something protruding from the vulva. On first examination a rounded mass was seen, which was thought to be the bag of the unruptured membranes. The patient was having pains with regular intervals.

The os admitted the finger, and through it could be felt the presenting head just above the pelvic brim. The membranes could be felt lying tightly over the head. The tumor took origin from the anterior wall of the vagina. It was a thick, fluctuating mass, projecting two inches beyond the labia, and as large as the fist. A catheter was inserted into the urethra, and passed directly downward into the tumor. Half a pint of urine was drawn off. By pressing back the head the bladder could be replaced, but showed a tendency to prolapse. The patient was admitted to the hospital, and perfect rest in bed required. This treatment was so effective that there was no return of the prolapse,

and she was delivered six days later after a normal labor.

#### CASE VII. ACUTE BRIGHT'S DISEASE.

Mrs. C. is twenty-one years old, and was delivered of her first child in December, 1880. During the latter weeks of pregnancy she had slight swelling of the feet and persistent vomiting, but the pregnancy was otherwise normal. The labor was normal, and the post-partum conditions were excellent.

The patient entered the hospital October 13, 1881. She was then pregnant for the second time, and her confinement was expected in a week or two. During this pregnancy she had been perfectly well until three weeks before entrance, when there appeared a swelling of the legs, and a noticeable diminution of the amount of urine. A diarrhoea set in about this time, which lasted throughout the pregnancy. A little later there was considerable dyspnoea and a slight cough, which was so persistent at times that it resulted in vomiting and retching. When the patient entered the hospital the feet, legs, and labia were greatly oedematous. The swelling extended to the buttocks and lower part of the abdomen. The face and hands were also at times puffy.

On examination of the chest a loud, mitral, systolic murmur could be heard. The lungs were normal.

During the first twenty-four hours of her stay in the hospital she secreted seventeen ounces of urine, containing eleven grammes of urea. The specific gravity was 1020; reaction neutral; albumen one per cent.; there was a large amount of sediment containing many pus corpuscles, granular, hyaline, and some epithelial casts.

The legs were elevated, and the patient was given *rr. ferri chlor.*, twenty drops three times a day, and also *potass. acetatis*, one half drachm three times a day. Under this treatment the swelling of the legs diminished, and the urine and urea were slightly increased. The patient became more comfortable. At times there was a slight headache, but there were no other cerebral symptoms.

Ten days after entrance the patient had a severe attack of dyspnoea and coughing. Nothing was raised by the cough, the mouth and throat being very dry. No râles were discovered in the lungs. The cough was not relieved by the ordinary remedies, and resulted in vomiting and retching. This continued until the patient became very much exhausted, and the pulse rose to 150. The dyspnoea was extreme. The patient was given nitrate of pilocarpine, one sixth grain, subcutaneously. It did not act vigorously, but produced slight salivation, and the patient soon became quiet. Three days later there was a second attack of dyspnoea, coughing, and retching. A frothy serum streaked with blood was raised by the cough. Coarse and fine râles could be heard in the lower part of the right chest. Pilocarpine, one sixth grain, was given as before. In fifteen minutes the skin became moist, and the patient was much relieved.

Fourteen days after her entrance the patient, after a normal labor of two hours' duration, gave birth to a male child, weighing six and one fourth pounds. After delivery she slept well for several hours. She was given *rr. digitalis*, ten minims three times a day, together with *rr. ferri chlor.* and *potass. acetatis*, as before.

On the following day the oedema was greatly dimin-

ished, and the cough was much better. The urine now began to increase rapidly, and on the third day it amounted to one hundred and forty-eight ounces. On the fourth day the feet and legs were of normal size.

The patient improved rapidly, and sat up on the tenth day. The urine was then normal in amount. An examination of the urine, seventeen days after delivery, showed the following characteristics: Specific gravity 1023; a trace of albumen; many pus and a few blood corpuscles.

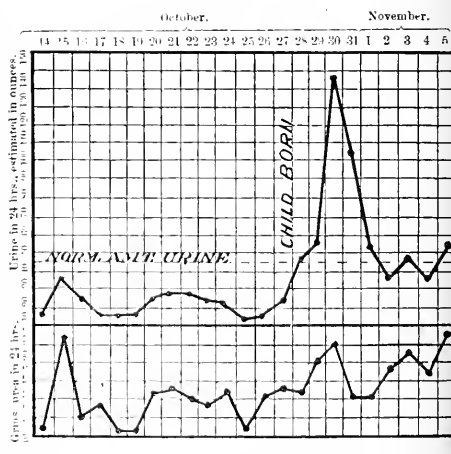
The heart murmur was less marked, but was still plainly heard in front.

November 15th she left the hospital feeling strong and well, with no signs of oedema.

The following estimate of the daily amount of urea was made by Dr. Francis H. Williams:—

| Date.            | Urine in 24 Hours. | Urea in 24 Hours. |
|------------------|--------------------|-------------------|
| October 14 ..... | 16½                | 10.40 grm.        |
| October 15 ..... | 37                 | 23.53             |
| October 16 ..... | 24                 | 12.25             |
| October 17 ..... | 19                 | 14.10             |
| October 18 ..... | 17                 | 10.75             |
| October 19 ..... | 18½                | 10.68             |
| October 20 ..... | 23½                | 15.64             |
| October 21 ..... | 20½                | 16.00             |
| October 22 ..... | 29                 | 14.89             |
| October 23 ..... | 24½                | 14.45             |
| October 24 ..... | 21                 | 15.50             |
| October 25 ..... | 13                 | 11.00             |
| October 26 ..... | 16½                | 15.00             |
| October 27 ..... | 25½                | 16.60             |
| October 28 ..... | 49½                | 15.66             |
| October 29 ..... | 57                 | 20.00             |
| October 30 ..... | 148                | 22.50             |
| October 31 ..... | 104                | 15.00             |
| November 1 ..... | 50                 | 15.00             |
| November 2 ..... | 38                 | 19.4              |
| November 3 ..... | 48                 | 21.6              |
| November 4 ..... | 58                 | 18.7              |
| November 5 ..... | 56                 | 23.9              |

1 Child born.



— Dr. Adalbert Dacheck, professor of clinical medicine in the University of Vienna, died on March 24, at the age of fifty-seven. The cause of death was valvular disease of the heart, following acute rheumatism.

## Reports of Societies.

### PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

H. C. HAYEN, M. D., SECRETARY.

FEBRUARY 25, 1882. Sixty-five members present. DR. HODGES in the chair.

DR. WALTER CHANNING read a paper entitled

#### THE MENTAL STATE OF GITEAU.<sup>1</sup>

DR. FISHER, in opening the discussion, spoke as follows: It is a difficult subject to do justice to. I had Giteau under observation, at Washington, for two weeks, at the end of which time he was still a puzzle to me. He is undoubtedly of unsound mind. If he had not murdered the President almost any one would admit him to be mentally unsound, and to a certain extent crazy. The public feeling at Washington was so strong against him that it was difficult to free one's self from its influence. Again, one's feelings as a citizen rendered it difficult to render a calm and judicial opinion. The government experts seemed to me to feel the pressure of public opinion. I think if Giteau had had able counsel and had held his tongue he would have been declared insane. Most of the experts believed, before they saw him, in his delusion of inspiration; after personal observation they changed their mind. The hypothetical question put by the defense was meaningless and absurd. It was simply asking, "Is an insane man insane?" and did not elicit the experts' opinion as to Giteau's mental condition: this the defense did not try to do. The experts for the defense examined the prisoner carefully and frequently, and discussed the subject almost nightly. There were several theories, although all agreed that he was of unsound mind. The first was that he was an imbecile. His memory was so acute and his cunning so shrewd that this hypothesis seemed untenable. Another theory was that of primary insanity, that is, insanity existing from a very early age. There was no evidence of insanity, however, in the history of the first eighteen years of his life. Again, his exalted idea, his delusions, his conceit, suggested general paralysis of the insane, but the rational symptoms had existed fifteen or twenty years; and, moreover, the physical symptoms were absent. The theory of delusion being untenable it was difficult to formulate the insanity which all agreed to exist. Almost every alienist had seen people like Giteau, although of course he had certain individual peculiarities, for instance, Dr. George Washington Frost Mellen, who was for a long time an inmate of the South Boston Asylum.

There can be no doubt that Giteau was insane, but he knew his defense was false, and the experts for the defense knew it was false.

I think Giteau was honest in his belief that a number of prominent men thought well of him and were kindly disposed to him, and when he failed to get the Paris Consulship, I think he for the first time entertained an idea of revenge. The question of his legal responsibility is the important one. There are many who believe him insane, but responsible. The tests of the point used in the trial are, I think, antiquated. I believe, moreover, that no one physically insane should suffer the death penalty, but should be confined for life in an asylum for the criminal insane.

<sup>1</sup> Vide page 290 of this number of the JOURNAL.

DR. H. I. BOWDITCH thought that the idea of a sane man committing such an act was preposterous; the very fact not only argued but proved insanity, at the same time society had a right to defend itself against such monsters, but that does not necessitate hanging. The whole conduct of the trial had been a disgrace to the nation. Here was a man, a shiftless, insane person, from birth. Society must be protected, but Dr. Bowditch thought this could be equally well attained by life-long seclusion.

DR. BROUGHTON thought the experts occupied a too neutral ground. They should give a decided expression of opinion to the general profession, who could in this way only become qualified to properly form and lead public opinion.

DR. C. F. FOLSON, in reply, said that there was not enough existing evidence to justify a positive opinion. The case was particularly obscure. There was a great lack of testimony concerning the first eighteen years of his life. To determine what particular form of insanity is present it is often necessary to have a patient under observation for months continuously. That the man is to a certain extent insane all agree; beyond this the only way is to give the evidence on both sides, and let every one decide for himself. There is considerable evidence in favor of congenital insanity; again of so-called moral insanity, or of an acute disease eight to ten years ago with a recent exacerbation.

DR. E. W. CUSHING pointed out how greatly the popular opinion differed from that of the profession. The laity argue, — he must be hung. No sane man should be hung; therefore he must be insane. Society to-day is not capable of any other opinion. It needs to be evolutioned up to a higher grade before it can calmly discuss such a question of Giteau's responsibility.

DR. GOLDSMITH, by invitation, spoke as follows: I think Giteau is insane, that is, he inherited an incapacity for normal mental development. This did not appear until he was eighteen years old, on account of the lack of disturbing elements in his life. Later his environments were such that his mental weakness became apparent. His whole life was not that of a criminal; his petty acts of dishonesty were those of a fanatic, they were incidental to greater ends, which were not at all criminal. Giteau undoubtedly has a certain amount of responsibility; I do not believe in the divine pressure delusion. The trial shows the unsatisfactoriness of medical expert testimony, and of the legal criterion of insanity. The experts for the prosecution evaded the question of insanity, and stated in the strongest terms all the points that would imply insanity, while for the defense the hypothetical question was of no value. The difficulty is in deciding the question of responsibility. He is neither irresponsible or responsible, that is, he is responsible to a certain extent only. Society has an undoubted right to defend itself against such persons. In Massachusetts Giteau, if acquitted, could have been sent to an asylum for life. In the District where he was tried, I believe, this was not possible. It is very hard in such a case to reconcile humane feeling to the duty to society.

There is a pressing need for a change in regard to medical expert testimony and the legal criterion of insanity.

DR. LYMAN asked, if Giteau was not subject to the delusion of divine pressure, why was he not a proper subject for punishment.

DR. GOLDSMITH replied that although the delusion claimed by the defense did not exist, other delusions did, that is, that motives impelled him to the murder which would not have a sane man.

DR. REYNOLDS thought it fortunate that the nice questions of mental disease, interesting as they might be from a scientific standpoint, did not determine the action of society. If a man destroys everything that is dear society will take his life, and justly, too. This is a question not of abstract justice. Society cannot and will not make the allowance which an omniscient might and doubtless would. It owes a duty to itself and this it must and will perform, independent of our nice discriminations.

DR. CHANNING agreed with Dr. Reynolds as to the necessity for protection to society, but denied that this could only be accomplished by hanging. He claimed that deterrence might be gained without the death penalty, instancing the fact that when this was enforced in England for sheep-stealing the number of executions were greater than at present.

DR. FOLSON suggested that both Guiteau and his counsel had evidently studied the Poissett case. The term divine pressure being doubtless adopted from Freeman.

DR. C. W. WOOLDRIDGE reported

#### TWO CASES OF TRICHINOSIS.<sup>1</sup>

In reply to a question as to treatment he replied that it was purely expectant.

Adjourned.

### Recent Literature.

*The Science and Art of Midwifery.* By WILLIAM T. LUSK, A. M., M. D. New York: D. Appleton & Co. Pages 687.

The tardy appearance of a critical notice of Professor Lusk's contribution to obstetric literature must be ascribed to the excellence of the work. It was impossible to form a critical opinion of its merits without a careful reading, and, in fact, a re-reading, of the whole. The author has taken great pains to present to the profession the latest views held by recognized teachers on all the disputed points and the most approved methods of practice. The writer leans especially to the side of the German authorities, and recognizes the immense advantages which those practitioners possess, owing to their numerous opportunities for clinical observation and research.

We noted a few inaccuracies, which, however, will doubtless be corrected in a second edition, such, for example, as the statement, on page 82, that, the woman standing erect, the axis of the uterus forms with the horizon an angle of thirty-five degrees, while a few pages later (page 88) this angle is stated to be thirty degrees. We were astonished to find no allusion made to the use of the hydrate of chloral as an anæsthetic during labor, its advantages over both ether and chloroform being so great in many cases. In the chapter on operations for the induction of labor no reference whatever is made to manual dilatation, a method which certainly in many cases possesses advantages offered by no other plan of procedure. The book is, as a rule, admirably illustrated, and cannot fail to be at once

recognized as the best work on obstetrics (a term which we wish Professor Lusk had used instead of midwifery) in the English language.

*Opium Smoking.* By H. H. KANE, M. D., Author of *Drugs that Enslave.* New York: G. P. Putnam's Sons, 1882. 156 pages.

The work will be of service chiefly in calling attention to the existence and rapid growth of this habit among Americans. It is largely made up of quotations from various books and newspapers, and much of what is said in the last and longest chapter regarding the relations of England or India and China does not enhance the value of the book.

Very little is given about the treatment of this habit, for which the reader is referred to another of the author's publications.

*Recherches Cliniques et Anatomico-Pathologiques sur les Affections Cutanées d'Origine Nerveuse,* avec 4 planches en chromo-lithographie, etc. Par Henri Leloir. Paris: Published by the "Bureau" of the Progrès Médical.

After mentioning various clinical facts which suggest the nervous origin of certain cases of skin disease, and discussing their evincive value, the author describes the technique to be followed in making anatomical investigation of the condition of the nerves in such cases. He considers successively the different affections of the skin in which alteration of some part of the nervous system has been demonstrated by himself or by others, and then examines the various theories which have been proposed in order to explain the connection existing between morbid processes in the nerves and lesions in the skin. A few general remarks on the importance of the recognition of these cases, and on the treatment of the same, complete the book. No one will be disposed to deny the assertion of the author that some ("certain") cases of vitiligo, ichthyosis, ecchyma pemphigus, and cutaneous gangrene are caused by pathological changes in the nervous system, and an interesting collection of such cases is given.

The most prominent novelty in the book is the histological demonstration of pathological changes in the peripheral nerves in several instances of the above-mentioned diseases. These changes consist in a parenchymatous neuritis, resulting in atrophy of the axis cylinder, and final disappearance of the same, leaving the nerve sheaths empty. Such changes in the peripheral nerves may be primary and independent or secondary to lesions in the nervous centres, brain, cord, spinal nerve roots, and ganglia. In considering the pathogenesis of the subject, the author, after examining various hypotheses, is of the opinion that the lesions of the skin in such cases are due to interference with the trophic influence of the nerves upon the skin, a conveniently comprehensive term, verbal drapery serving to cloak the nakedness of ignorance. The nervous origin of these cases demands the assistance of electricity in their treatment. An excellent plan, and one deserving of more general adoption than it receives, is the one here followed of placing at the end of the book a short *resumé* of conclusions. The book is worth the attention of those interested in dermatology.

G. H. T.

<sup>1</sup> Vide page 296 of this number of the JOURNAL.

# Medical and Surgical Journal.

THURSDAY, MARCH 30, 1882.

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## CHINOLIN TARTRATE.

UNDER the name of artificial quinia, medical literature, within a short time, has been made acquainted with a synthetically-prepared substance, known commercially as *chinolin* or *quinoline*, from the close resemblance in its chemical composition to the cinchona alkaloids; and, from a number of experiments made by independent observers, the therapeutic properties to a considerable extent bear out the resemblance still further. The physiological action of the tartrate of chinolin may be summed up as that of a decided apyretic and powerful antizymotic. Dr. Donath declares that it is superior in its antiseptic power to salicylic, boracic, and carbolic acids, or to copper sulphate and alcohol. In the proportion of 0.2 per cent. it arrests fermentation in milk and the development of bacteria; a 0.4 per cent. solution will prevent decomposition of blood or the curdling of milk. When administered internally it has not been found in the urine, and appears to be decomposed in the system. As a local antiseptic it has special advantages.

The ordinary commercial chinolin is a reddish-brown liquid, while the tartrate is a white crystalline powder. It often has a disgusting tobacco-like odor, due to some uncombined chinolin or to slow decomposition. Rueber<sup>1</sup> found that by repeated distillations of chinolin made synthetically according to Skraup's method (48 parts of *o*-benzole, 76 parts aniline, 240 parts of glycerin, and 200 of English sulphuric acid), he obtained a *colorless*, transparent, oily liquid which remained unchanged after six months, from which a specimen of fine acicular crystals of chinolin tartrate was obtained, which possessed only a faint odor. The salt was insoluble in ether, soluble in sixty-five parts of alcohol and in twenty parts of water at 15° C.; but water at 100° dissolves six times as great a proportion; the excess afterwards deposits on cooling. The author confirms the experience of Dr. Donath as to the value of this salt as an antiseptic, and asserts that it possesses no properties which would render it deleterious to health when used for the preservation of articles of food.

The tartrate of chinolin is said to have decided effect in periodical neuralgia and in intermittent fever, in doses of one or two grammes to adults, given in wafers or *cachets de pain*; it may be given to children in equal parts of syrup and distilled water. Pep-

permit is suggested as best adapted for disguising the taste. It does not cause any unpleasant after-effects, and has not thus far produced tinnitus or other cerebral disorder. If the claims made for this remedy find confirmation in further experience, it appears that it offers a promising substitute for the cinchona alkaloids, one which, with a large demand, can be manufactured and sold at a very small proportion of the price of quinia, and which in many cases will prove equally efficient. The literature of the subject is rapidly extending, and in a very short time the permanent value of chinolin tartrate will be known. Certainly no greater incentive to therapeutic research could be suggested than the possibility of obtaining an abundant supply of such an important addition to our materia medica as this is claimed to be. It is but fair to add that a partial trial of this agent at the Jewish Hospital in Philadelphia, while demonstrating that it possessed antiperiodic power, showed that its influence was less marked than that of quinia; but this may have been due to the fact that the dose of the latter has been more definitely settled.

## DR. BILLINGS'S ADDRESS TO A GRADUATING CLASS.

A CLEVER address was delivered two weeks ago by Dr. Billings, of Washington, to the graduating class of Bellevue Hospital Medical College. Wit and wisdom were very happily blended in it. The graduates who were fortunate enough to hear it will certainly not regard it as the least valuable part of their medical course, and though appealing to the attention of the duller or most careless fledgling the old practitioner will find in its perusal a sense of satisfaction and quiet enjoyment. Dr. Billings professes to have consulted previous to its delivery one hundred of the "greatest efforts" of his predecessors on previous occasions, but this seems to have buoyed up rather than swamped his humor and originality.

His hearers were congratulated on their prospects, and assured that—

"Our American life will present to you as much variety, as vivid contrasts, as subtle mysteries, and as many giants, demons, and sirens to be overcome or outwitted as any that the legends of old depict. No doubt you will soon come across some of that curious sect, the *antis*, who are beginning to make their appearance amongst us; antivaccinationists, antivivisectionists, anti-anything, so that it gives them an excuse to keep their names before the public. Taking them all in all, these *antis* are a curious class of cranks, worthy of careful study on the part of some of our experts in mental diseases during the brief intervals in which they have no medico-legal case on hand. Some of them are quite honest in their convictions, and all are very theological and emotional in their appeals, and to this they owe what success they have in achieving notoriety; and yet, while professing the most humane sentiments, they are unscrupulous even to cruelty in carrying out their fantastic ideas. They will not greet your coming on the stage of action with any particular enthusiasm, but you must not be discouraged on that account."

They were told to be prepared to encounter the manufacturing pharmacist, the canvasser, the publisher, the editor, the medical societies, the boards of health and registrars; to investigate preventive medicine, and not to fear that the sanitarian would make their

<sup>1</sup> Monthly Review of Medicine and Pharmacy, translated from Schweizerische Wochenschrift, No. 49.

services unnecessary, for the fool crop continues with unvarying regularity whatever may be the changes in other harvests; not to be in a hurry to write or teach.

Passing on to the code the speaker said:—

"The code—or perhaps I should now rather say the codes—of medical ethics are great mysteries to the public at large. By many it is supposed to be a sort of trades-union set of rules designed to protect the business interests of physicians, without any particular regard to the rest of the world. I need hardly say to you that this is not true. It may be summed up in this, that a physician should be a gentleman, and should treat other physicians and his patients as he would wish to be treated under like circumstances. And your duty in this manner is to attend to your own ethics and not those of other people. Medicine is not a rigid system of rules and formulae as it was in ancient Egypt; a fixed creed to which you are to subscribe, and from which you must not vary. It is a living, growing thing, making use of every resource which the progress of science brings; it is truly eclectic and catholic, testing all things, and holding fast to that which is good. It is not a system which forbids the use of any particular remedy, or limits its followers within the narrow bounds of any sect or ism. There are such systems, and there are a few men who advertise themselves as followers of such systems, and who really do follow them. There are also many men who so advertise, but who really do not follow them. Some of these last are well-educated physicians, but they are,—that is to say, from the point of view of a gentleman, they must be considered as,—in short, the more you know of their methods the more fervidly you will assent to what I have not said about them.' . . . Let us take a concrete example. You treat a case of pemphigus with arsenic. You may theorize as you like about the essential nature of pemphigus; you may select arsenic because you think it would produce the disease, or because you think it produces something contrary to the disease, or for no reason whatever beyond the empirical fact that you have seen a case of pemphigus recover under the use of arsenic. Also, you may give this arsenic alone or combined with other substances, and in any does that you please, from the decillionth of a grain to a grain, and you may explain the results as you like. But as an educated physician, and a gentleman, you may not advertise yourself as an arsenio-pemphigist, and denounce every one who does not adopt your theory and practice, and as there is a good deal of common-sense truth in the old adage, that a man may be known by the company he keeps, you will not have more to do than you can help with the men who do so advertise themselves; and still less will you have to do with those who advertise themselves as anti-arsenio-pemphigists, and then treat their cases with arsenic after all, and claim the results as due to dynamized brickdust.

Touching medical legislation the speaker said:—

"And please observe that this is all that you have to do. You are not to enter into controversies with them or about them, you are not to repine over their success or exult over their failures. They have another code of ethics from your own; that is all that need be said about it. Thus far I have been speaking of fairly educated sectarian physicians. As to the ordinary, uneducated, and bill-distributing quack, with his sure cure for cancer, or his pure vegetable specific for coughs, rheumatism, and dyspepsia, you may be sure that in the long run he will make rather more business for you than he takes away. Do not fall into the error of supposing that legislation can prevent the existence of this class of men, or that you need the protection of the law against them. The public interest demands such protection, if for no other reason than to secure a proper registration of the causes of death of all citizens, and it is not only your right, but your duty, to call the attention of legislators to these interests, but never seek protection on your own account."

In closing, Dr. Billings said to his hearers:—

"It is true that you are entering, nay, in your medical studies you have already entered, a world of labor, and pain, and sorrow. You will see how the destruction of the poor is their poverty, and how the sins of the fathers are visited upon the children; how neither culture, nor wealth, nor power, can forever put off the evil day; and how there is, at last, one event to all the sons of men.

"You must be prepared to deal with anxiety, fear, grief, and despair, as well as fever and physical pain; you are to be not only physician, but friend, confessor, guide, and judge, and you

cannot avoid these responsibilities if you would, nor should you if you could.

"Nevertheless, I can assure you that you are also entering a beautiful world, where the very shadows prove that plenty of sunshine exists, a world of brave men and good women, whose best and noblest characteristics are brought out most clearly and vividly in such scenes as those in which you will be called to act. But remember that, as a rule, you will find only what you seek and believe in."

We have made such extracts from this address, which was published in the *Medical News*, March 18th, as our limited space would permit, but they scarcely do justice to it, and we commend its perusal to those who may not have seen it.

## MEDICAL NOTES.

—The *British Medical Journal* of March 11th contains a short report from the Richmond Hospital, Surrey, of the case of a young man, who, while hurrying along in the dark, ran against an iron post, and "had his wind knocked out of him," and died collapsed twenty-two hours after the accident. "Post-mortem examination showed that the small intestine had been torn completely through twelve inches below the pylorus, where it crossed in front of the spine. This had apparently been caused by its being violently crushed between the iron post and the vertebral column. There was some bruising, and some slight hemorrhage into the cellular tissue in front of the spine. Only a few particles of the contents of the intestine had escaped into the peritoneum. It was interesting to notice about the rupture how the muscular coat of the intestine had retracted, allowing the loose mucous membrane to spread outside it for about half an inch, putting one in mind of the sleeve of a coat over which the shirt-cuff had been turned back. General peritonitis had already set in. The serous coats of the anterior coils of intestine were highly injected, and some of them were slightly adherent. All the other organs were uninjured. There were no external signs of injury."

This report gains an additional interest in connection with the experiments of Dr. Whitney published in the *JOURNAL* of July 21, 1881, by which it was shown that this eversion of the mucous membrane was a distinctive feature of ante-mortem lesions of the intestines, and served to distinguish them from post-mortem accidents.

—The antecedents of Roderick Edward Maclean, whose attempt upon the life of Her Majesty providentially failed, are, of course, undergoing investigation. According to the *British Medical Journal*, he is said to have taken up his temporary residence at Weston-super-Mare in 1880, from which place he was removed to the Somerset and Bath Lunatic Asylum, Wells. The medical officer who was at the time in charge of the male wards is not now at the asylum, but it has been thus far ascertained that Maclean, when admitted, had delusions of persecution, believed the world to be at enmity with him, and felt a strong impulse to kill some one. Two letters were written by him, a week before admission, to his sister, in



which he stated that he was determined to commit murder. He was admitted on June 2, 1880, and appears to have lost the above delusions in August. He is reported to have been well for some months before discharge, but his discharge was delayed, as he appeared to be destitute. He is said to have been of intemperate habits. He was finally discharged July 21, 1881. Those who worked with him state that he was rather weak-minded even when he appeared free from delusions; also, that he was fond of talking about the Queen and royal family, although he never gave expression to any desire to injure them.

— The celebrated anatomist Hyrtl was once busily engaged in dissecting in the anatomical rooms of the Vienna Hospital. A guard of military police came into the neighboring court upon which the windows of Hyrtl's rooms looked. They began to go through their evolutions, when Hyrtl threw open the window in a rage and cried out, "Withdraw, you slaves: disturb not with your fanfaronade the quiet of the dead." — *Med. Record.*

— In the *Practitioner* for February are some valuable suggestions as to nutrient suppositories. Artificially digested meat is mixed with a little wax and starch and made into a suppository. These suppositories are of such a size that the digested and extracted product of twenty ounces of meat from which the insoluble matter is removed is contained in about five suppositories. The convenience of this method is very great. It is easy for most patients to introduce them themselves; and their use is attended with no discomfort whatever in the majority of cases. After an hour or two the waxy basis is frequently returned, the pectone and extractive being absorbed. In some few cases, owing to irritability of the rectum, the whole suppository has returned; but this can be obviated by the addition of a little opium to each suppository. It is true that the amount of food administered in this way is very small, but every practitioner who has had cases of obstinate vomiting under his care knows how minute a quantity of nutriment will "keep body and soul together" for several weeks or months.

#### NEW YORK.

— At a meeting of the State Board of Charities, held March 16th, Dr. Stephen Smith and Mrs. C. R. Lowell presented a report in regard to the New York City asylums for the insane, in which it was shown that these institutions were greatly overcrowded and altogether without adequate hospital accommodation for the acutely insane. It had become imperative, the report went on to say, that the city should either enlarge its buildings or avail itself of the State accommodations for this class of cases. It was then stated that the Hudson River State Hospital, at Poughkeepsie, and the State Homœopathic Hospital, at Middletown, had spare room for three hundred patients, with all the facilities for the proper treatment of recent or acute cases. The board accordingly deemed it advisable that the matter should be laid before the New York Commissioners, with a request that they bring it to the attention of the proper city authorities.

— Miss Sarah Burr, who recently died in this city, left almost her entire fortune, consisting of three millions or more, to various charities. One of the bequests to the will provides for the founding of a new dispensary, and is as follows: "From the proceeds of my estate I give to my executors \$200,000, in trust, to receive the income and pay over the same half-yearly to the following-named persons, to be styled the Trustees of 'The Good Samaritan Dispensary,' in the city of New York, namely, to the persons who may at the time of payment hold the following offices, namely, that of the Governor of the New York Hospital, the President of the New York Dispensary, the President of the College of Physicians and Surgeons in the city of New York, the President of the New York Eye and Ear Infirmary, the President of the New York Institution for the Blind, the President and rector of St. Luke's Hospital, rector of St. Mark's Church, rector of Ascension Church, rector of the First Presbyterian Church, and my executors mentioned in my will, to be by them applied to the founding and support of a dispensary in the city of New York to be called 'The Good Samaritan Dispensary,' for the purpose of giving medical aid and advice to the indigent in the city of New York." Among the other medical institutions benefited by the will are the following: St. Luke's Hospital, \$30,000; Woman's Hospital, \$30,000; Home for Incurables, Northeastern Dispensary, Nursery and Child's Hospital, German Hospital, Mount Sinai Hospital, New York Infant Asylum, St. Mary's Hospital for Children, St. John's Guild, Floating Hospital, the Foundling Asylum, the New York Ophthalmic and Aural Institute, the Northern Dispensary, the Demilt Dispensary, the Manhattan Eye and Ear Hospital, the Northern Dispensary, and the Eastern Dispensary, each \$10,000.

#### Miscellany.

##### REPLY FROM DR. C. F. FOLSOM.

MR. EDITOR, — Until I had read the communications of Dr. Hamilton and Dr. Spitzka in the *JOURNAL*, March 9th and March 23d, I did not suppose that any one had inferred that I have a definite opinion as to the precise character of Guiteau's mental disease, although I consider him clearly insane. It seems to me that the available evidence, a part of which rests solely upon the statements of a tricky, untruthful man, is not yet sufficient to warrant an absolute diagnosis between congenital insanity (*primæ Verrücktheit*) and *folie raisonnante* developed at some time before the age of eighteen. Whether the "lawyer, theologian, and politician," can be said to be a monomaniac, in the common meaning of the word, and whether or not some later form of insanity has been added to his early or congenital disease, are points which, in my opinion, can only be decided by prolonged observations under somewhat favorable circumstances. As to general paralysis, I have only said that I am not sure that he has not that disease in an early stage. Many facts in the case seem to me to have been distorted, others exaggerated, and many repressed, to an extent which I regard

as unfortunate for the interests of exact science an legal precedent.

Very respectfully yours,

CHARLES F. FOLSOM.

Boston, March 24, 1882.

### ICE-WATER AND AMERICAN DYSPEPSIA.

MR. EDITOR.—On reading the editorial in the *Journal* for March 16th, on Ice-water, I am led to ask what proof there is of the oft-repeated assertion that dyspepsia is more prevalent in the United States than in Great Britain or other countries. Foreign medical writers certainly give the malady as much space in their books as ours do.

"G. A. S." in his echoes in the *London Illustrated News*, reprobrates the dreadful "American" habit of drinking a glass of ice-water before breakfast. "They all do it." What an awful constipated society he must have fallen into! S.

### LETTER FROM TANGIER.

MR. EDITOR.—The question is oftener asked of travelers and physicians than answered by them. "To what part of Europe shall I go to find a winter-climate at once dry and warm?"

England, Germany, and France are overhung during the winter months with fog, and liable to sudden changes of temperature. The Riviera is better, but not free from evening chill and dampness. Other places, where the climate is said to be delightful, as in Sicily and sunny Andalusia, are in some degree, though probably less than is generally believed, open to the objection that one cannot wander freely through the country unattended. A voyage up the Nile is outside the means and convenience of many patients.

Under these circumstances some of your readers may be glad to hear a few words on the climate and condition of life in Tangier, Morocco, of which I have had some three months' experience, and which possesses to a great degree some of the needful requirements. The air is dry, the weather equable and temperate, so that windows may generally be kept open day and night; there is no malaria; there is a good, home-like, and moderate-priced hotel, a good opportunity to study Eastern life, and a beautiful country which one can ride and walk over safely and at will. Furthermore, the place is easily reached, either by London and Gibraltar (five days' passage), or by a good French line of steamers from New York to Gibraltar direct.

Let me say, however, at the outset, that there is one feature about the climate which might render it unsuitable for persons unable to live most of the time out of doors. This is, namely, the liability to strong, continuous winds, which, although not usually cold, are nevertheless rather wearing, and interfere with the comfort of sitting still, except in sunny and sheltered spots. It is but fair to say, at the same time, that they have been far more constant this season than is usually the case.

This city, as the guide books will tell you, is picturesquely placed on the eastern slope of a low range of hills overlooking a broad and very beautiful bay, with the lovely and mountainous coast of Spain to its left, separated from it by the Straits of Gibraltar, which at that point are about twelve miles wide. It stands in constant communication with Gibraltar, which

is usually distinctly visible, though at a distance of thirty-two miles.

Inland, in every direction, stretches a fine rolling country made up of a succession of broad, level plains and high hills, bounded towards the east and southeast by higher hills, and eventually by a striking range of mountains, some of them snow-capped at the present moment, which end abruptly on the seashore in the Gibe-Monsa, one of the pillars of Hercules, which is close to the Spanish penal fortress of Ceuta, and directly opposite to Gibraltar. Eighteen miles south of Ceuta, and at the foot of this same range, lies Tetuan, a Moorish town of the same character with Tangier, but larger and richer. It can be reached from the latter place by a ride of forty miles, and well repays the trouble of a visit.

The hills, when not cultivated, are for the most part bare, or covered with a scrub growth of palmito, ilex, and many flowering shrubs, such as broom and heather. Both of the latter occur in several varieties, and grow to great height, as indeed does every plant that is found at all in this rich and favored country. The absence of forests might at first impress unfavorably the eye accustomed to our wooded landscapes, but one becomes soon strongly attached to these great plains and sharply-defined hills after seeing the remarkable contrasts and play of color which their clear-cut outlines and velvety sides, now largely green with sprouting crops, present. There are, moreover, enough trees, mainly olives, in occasional groups, to satisfy the artistic eye, and at a distance of ten or twelve miles are large cork forests.

The soil about Tangier is clayey, and under the sun becomes almost as hard as brick, but this does not cause the drainage of the town to be bad, because it possesses, for a wonder, a real system of underground sewerage. Furthermore, the principal hotel is placed outside the town itself, and raised well above it.

There are, to be sure, plenty of sources of superficial smells, which greet the nose plentifully in the narrow streets; still the abundant air prevents them from being unbearable. Certainly the city smells no worse, not as badly many say, as the Italian capitals.

Epidemic and endemic diseases are not common.

Plenty of pock-marked faces are indeed to be seen, but they are said to come mainly from the interior. At all events, vaccination is now very largely practiced, though not obligatory, in Tangier itself, and is gaining ground outside. The habit was introduced, it is said, by an Englishwoman, who some years ago became the favorite and favored wife of the Cherif. Every spring she still vaccinates gratis all comers with lymph obtained from England.

Let me define myself more exactly with regard to the important question of climate.

With regard to the dryness of the air I think there can be no dispute. Wet towels, oil-paints on canvas, and the like, dry with unusual rapidity; the stars are habitually as brilliant, perhaps more so, than with us on the clearest winter nights; and on a clear night I have even seen the outlines of Gibraltar, which is thirty-two miles away, with perfect distinctness, by the light of the moon. The horizon at sunset is usually unobscured by vapor, except along the coast of Spain, across the Straits, and usually in that direction also.

Upwards of thirty-seven inches of rain (this is the computation for Gibraltar) fall in the course of the year, and almost exclusively in the months from Octo-

ber to May. Still this happens usually in heavy showers at night; or, at long intervals, in rain storms of two or three days' duration, and habitually the sky is clear.

The temperature ranges, as a rule, between 50° and 60° (F.) in the twenty-four hours, with very exceptional falls to 45° F. or lower. Observations which I have made during the past ten days, with a registering thermometer, give the following results:—

| February. | Lowest<br>rang | Highest<br>Point during<br>Day. |   |
|-----------|----------------|---------------------------------|---|
| 9         | 47° F.         |                                 |   |
| 10        | 53             | 60 F.                           | Clear during day; Wind E.; rainy at night.              |
| 11        | 51             | 62                              | Showery; Wind S.W.; un-settled weather; rainy at night. |
| 12        | 43             | 60                              | Clearing weather; Wind N.W.                             |
| 13        | 48             | 63                              |   |
| 14        | 52.5           | 63                              |   |
| 15        | 52             | 59                              |   |
| 16        | 52             | 59                              | Clear; strong E. Wind                                   |
| 17        | 49             | 60                              |   |
| 18        | 50             | 59                              |   |
| 19        | 49             | 61                              | Clear; strong N. to N. E. Wind.                         |

The thermometer was in the shade, on the sill outside my window, which was always open.

These readings fail, however, to give a correct idea of the temperature as estimated by one's sense of comfort, for two reasons: on the one hand because the sun is so hot; on the other, because when the wind is blowing the air seems colder than is really the case.

The prevailing winds are east and west, of which the latter is light and pleasant, the former sometimes strong and relatively moist, though, in winter at least, thoroughly dry by most standards of comparison. Unless it is unusually severe it is easy to escape it by seeking a protected place, and a few miles inland it is but little felt.

It was with these facts in view that I said at the beginning of my letter that the climate was better suited for those who wished to lead an out-of-door life than for serious invalids. Very moderate exercise suffices to keep one perfectly warm; and when the wind is not blowing, or is kept off by the lay of the ground, the sun at once asserts itself, and the weather is like that of the best of our September days, warm yet never oppressive. Towards sunset the wind almost invariably dies away, and the evenings are delicious for strolling, though too cool for sitting still.

Even when the "Levanter" deposits a bank of fog over Gibraltar the air about Tangier is almost invariably clear.

With regard to the sources of interest and enjoyment which the place affords opinions would differ. For some there is nothing to do, the town is dirty, and the aspect of the country always the same; for others the weeks are but too short.

Certainly those who need libraries and clubs, and plenty of society, and who can see nothing but the superficial dirt, ignorance, and confusion in the habits and life of the Moors — to which one finds himself introduced perforce and without ceremony in the market-place and in the streets — will not care for Tangier. Artists must inevitably enjoy it. Thus Regnault came here for a short visit, but stayed two years, and only then went away, leaving his unfinished house and studio behind, because he felt himself called to fight against Germany.

The country seems to me extremely picturesque,

and as the Moors are a simple and friendly people, and live under the shadow — in this respect — of stringent laws, one may ride or walk, even to distant and lonely spots, without escort and without danger. Some travelers may tell a different story, but this is the universal testimony of all who are in a position to know the facts.

With the turbulent tribes of Oran and on the borders of Algiers the case is different; but in this neighborhood, although for long excursions in Tangier, as to Tetuan, it is obligatory to take a soldier along, his function is that of a passport, not a guard. It is undoubtedly to the influence of the foreign representatives, which is very great, especially that of the English, that this security is largely due; but as a matter of fact, if anything happens to a traveler in our neighborhood the Moorish government does not wait to look up the particular offender, but punishment is visited on the whole of the village to which he is supposed to belong, and so summary is the justice, so well recognized the *status quo*, that every one knows his best security lies in seeing that the peace is kept. This and nature seem to have made the people quiet and unoffending, and they are said to be particularly well disposed towards the English.

The hotel is small but good. There is good shooting (the close season begins in February), and hunts are organized at intervals by the English minister. Invalids who require much attendance would do well to bring a servant with them.

This is not the place to dilate upon the interest and picturesqueness attaching to the life of the Moor at Tangier. Suffice it to say that the scenes which are constantly before one's eyes are those of a rude civilization of centuries ago, which has come down to us almost unchanged, for the influence of the few Europeans who have settled here has made itself but little felt in that respect.

The invariable costume (except of the Jews, who are numerous and keep their own dress and customs) is the long flowing robe, with hood made of sheep's wool, which reaches to just below the knees.

The country people are apt to have the head and always the legs bare; the people of the city generally, or often, wear turbans and rich yellow undervests; the soldiers a pointed red Fez, and often a blue cloth burnous thrown over their white robes. The women, when one is allowed to see their faces, are often pretty when young, but when older are apt to have a dull, absent expression corresponding to their life of toil. The men are spare but muscular,<sup>1</sup> and have dignified, friendly faces.

As one looks down over the market-place filled with these shrouded, bare-legged figures in gray and brown, one group dignified and impassive, another gesticulating extravagantly; a dense ring here surrounding a snake-charmer, another, a little apart, listening to a storyteller; women and even young girls carrying huge bundles of wood, and may be a baby in addition,

<sup>1</sup> It is worth mentioning, by the way, that as every one goes bare-foot or wears only the well-known loose slippers, down at the heel, a better opportunity could hardly be offered for studying the unimpeded development of the foot, and I can aver that such a condition as the so-called "growing-out" of the metacarpophalangeal joint of the great toe, a production of the modern fashion in boots which is worthy of the Chinese, is absolutely unknown. The great toe of every adult, as of every child, is in a straight line with the inner margin of the foot, and sometimes even turns slightly inwards towards the middle line of the body, when the weight is thrown forward, so that a line drawn from the side of the heel to that of the toe would not touch the metacarpophalangeal joint.

strapped upon their backs; the slaughtering-place in plain view just to one side; a caravan of camels here, a lot of donkeys there (there is not a wheeled vehicle in the place), it is difficult to believe that when the eye is raised a little it will fall upon Gibraltar, the representative of civilized England.

In fact, those who have traveled further East say that the Eastern life, — the Mohammedan customs and character, — is scarcely anywhere to be seen, not in Cairo, nor in any easily accessible place, so unaffected by European civilization as at Tangier.

Yours truly, JAMES J. PUTNAM, M. D.

TANGIER, February 20, 1882.

## INSPECTION OF VACCINE FARMS.

[REPORTS OF DRs. ROSMER A. JOHNSON AND W. F. WHITNEY TO THE NATIONAL BOARD OF HEALTH.]

### *Dr. Johnson's Report.*

CHICAGO, February 13, 1882.

IN accordance with the instructions of the executive committee I visited, on the 12th instant, two of the vaccine establishments of the Northwestern Vaccine Company in the vicinity of Fond du Lac, Wisconsin, and the vaccine farm of Dr. E. L. Griffin.

The general direction of the Northwestern Vaccine Company is vested in Dr. J. G. Achenbach, of Fond du Lac. I called at his office four several times but failed to find him. At the first place visited, Seven-Mile Creek, the stock was poor, the stables cold and dirty, and the collecting room filthy. I saw no evidence of disease among the stock. No work was being done at the time of my visit. No cases were matured, and no new vaccinations practiced, for the reason, as I was told, that points could not be obtained. Mr. L. W. Russell, in charge, stated that the operations were carried on under the general direction of Dr. Achenbach, but that he gave no personal attention to vaccinating or collecting the virus. Mr. Russell did not claim to have any professional knowledge; simply followed instructions.

At Van Dyne, nine miles north of Fond du Lac, the Northwestern Vaccine Company has made arrangements with a German farmer to carry on the work of propagating virus. The stock is in good condition and the stables warm and clean. The operating room was also clean. Seven calves had been vaccinated a few days before my visit, but none were developed so as to enable me to judge of the character of the vesicles. The operations, both of vaccinating and collecting, were done by the farmer, whom I did not see. His wife said he had no knowledge of the business till last December, when Dr. Achenbach came out and gave him some instruction. The place is seldom visited by the doctor.

There are two other establishments in this neighborhood, — one about ten miles east of Fond du Lac, and the other, just going into operation, four miles south, — both owned and operated by the Northwestern Vaccine Company. So far as I could learn they do not differ materially from those noted above.

At Fox Lake, about twenty miles west, there is a vaccine farm conducted by two men who had formerly been employed in the business in Fond du Lac. I did not examine it.

The oldest vaccine establishment in Wisconsin, or so far as I know, in the Northwest, is that of Dr. E. L. Griffin, president of the Wisconsin State Board of Health. He has been engaged in the propagation of the virus for the last ten years. I found his stables and operating rooms scrupulously clean, his stock in good condition, and the doctor himself engaged in dipping the points in lymph from well-matured, typical vesicles. The demand upon him is greater than he can meet, and, as he will not trust the work to uneducated men, there has been a strong temptation for those who have only a meagre mechanical knowledge to engage in the business. The result of my visit has been to confirm my confidence in the professional knowledge and conscientious care of Dr. Griffin.

The diagnosis between pox and lymph is a matter of the utmost importance, and where so much is at stake the responsibility should not be left with those who are either ignorant or careless.

I regret that I failed to obtain a personal interview with the director of the Northwestern Vaccine Company. I have stated the facts as I saw them, or as I learned them from the employees.

Since my return to Chicago I have visited the vaccine stables of Dr. G. M. Dixon, located in the southern portion of this city. The work has been recently inaugurated, and it is hardly possible as yet to form a just opinion of its character. The place is clean, and the stock, so far as I could judge, healthy. Dr. Dixon was formerly engaged in the business in Fond du Lac, Wisconsin.

### *Dr. Whitney's Report.*

BOSTON, February 8, 1882.

IN compliance with instructions I visited the establishments for the production of vaccine virus, conducted by Dr. H. A. Martin & Son, in Brookline, and by the New England Vaccine Company, in Chelsea.

Dr. Martin occupies a large building originally erected for a private stable. This stands upon a sloping piece of ground, and thus affords room for a high basement, lighted from three sides. In it the animals are kept during the formation of the vesicles. Close by the stable is a long, narrow wooden structure, also used for the same purpose. The main floor of the building, originally the carriage and harness rooms, is occupied as an operating room. Here the animals are brought for inoculation, and it is here that the points are charged when the vesicles have matured.

The method of procedure in charging the points is as follows: The crusts which have formed over the patches are first removed, the patch is then squeezed between the blades of two pairs of long dressing or polypus forceps, and as soon as the lymph commences to ooze out the ivory points are charged with this on both sides. A patch has to be squeezed several times before it is exhausted, and it is impossible to prevent the admixture of a certain quantity of blood, as the clots which have formed in the small vessels of the granulation tissue are necessarily disturbed each time that the patch is squeezed. This gives to the dried film a slightly reddish-yellow look. The lymph thus obtained is quite thick, and coagulates so rapidly that the whole surface of the patch is covered by a jelly-like pellicle in a very few minutes. The points thus prepared are placed upon drying-boards, and are then sent to Roxbury, with the number of the animal attached to each lot, where they are arranged for distribution.

There is no doubt but that the place is overcrowded at present, owing to the great demand which exists. Thirty animals occupy the space that should accommodate about twenty, and this naturally leads to a little neglect of that absolute cleanliness which, if not essential, is desirable.

The daily average is estimated at from 5000 to 8000 points, each patch yielding from 100 to 200 points.

The New England Vaccine Company occupies three detached buildings in Chelsea: one for the inoculation of the animals and preparation of points, the other two for housing the animals.

The operating room is the ground floor of a two-storied wooden building. The animals are inoculated and allowed to stand in the operating room until the end of the day, when they are driven to a barn about three quarters of a mile distant, where they remain until the fifth day, when they are driven back to a stable near the operating room. This stable was very poorly ventilated, the animals were too crowded, and cleanliness was not rigorously attended to.

When the patches are ready the animal is transferred to the operating room. The crusts are then removed and the lymph allowed to exude spontaneously. The first which flows is slightly tinged with blood; this soon coagulates, and the lymph oozes out and collects as a clear, very slightly watery fluid, of a very light straw color, and easily coagulating. Into this the points are dipped on both sides. The film which is left when dry is perfectly clear and transparent.

The charged points, with the number of the animal, are carried directly to a room overhead, where they are allowed to dry and then arranged for distribution.

The average daily production is from 10,000 to 15,000 points, a single patch yielding from 250 to 500 points. The number of animals in stock varies between sixty and seventy.

The lymph thus furnished by these two establishments appears to be equally pure, and the comparative value will have to be established by practical tests.

The establishment of Messrs. Codman & Shurtleff, at Stoughton, was also visited.

At this the lymph is collected from the vesicles without using pressure and placed in small glass bottles, and the points are dipped in these. A mixture of the lymph from the various patches is thus obtained.

Much less attention was paid to the cleanliness of the premises than in the case of the other two establishments visited. The daily average is from 2000 to 5000 points.

## TREATMENT OF PERSISTENT VOMITING.

PROFESSOR CARL BRAUN, of Vienna, reports in a lecture the story of a visit to a remote part of the Austro-Hungarian Empire to render assistance to a patient in the first half of pregnancy supposed to be dying of uncontrollable vomiting. (*Wien. Med. Zeitung*, January 31st.) He found the patient in a very reduced condition, and the practitioner in attendance considered the induction of premature labor necessary, owing to the

persistence of the vomiting, and the consequent rapid loss of flesh. As, however, Professor Braun is no friend to the artificial induction of labor, he had the vaginal portion of the uterus bathed in a ten per cent. solution of nitrate of silver. After five minutes this was well dried, so that no further caustic action should take place. The result was so marked that in an hour the patient was able to partake of some roast veal, and after that no further vomiting took place.

## REPORTED MORTALITY FOR THE WEEK ENDING MARCH 18, 1882.

| Cities.                           | Population by Census of 1880. | Reported Deaths in each. | Deaths under Five Years. | Percentage of Deaths from         |                |                       |                |            |
|-----------------------------------|-------------------------------|--------------------------|--------------------------|-----------------------------------|----------------|-----------------------|----------------|------------|
|                                   |                               |                          |                          | The Principal "Zymotic" Diseases. | Lung Diseases. | Diphtheria and Croup. | Scarlet Fever. | Small-Pox. |
| New York.....                     | 1,206,590                     | 751                      | 351                      | 30.22                             | 5.32           | 7.19                  | 10.78          | 1.59       |
| Philadelphia.....                 | 846,984                       | 425                      | 138                      | 13.41                             | 9.41           | 5.47                  | 1.88           | 2.35       |
| Brooklyn.....                     | 566,689                       | 284                      | 104                      | 19.71                             | 19.36          | 5.28                  | 9.15           | —          |
| Chicago.....                      | 503,304                       | 239                      | 109                      | 30.54                             | 15.48          | 8.78                  | 1.25           | 9.20       |
| Boston.....                       | 362,535                       | 156                      | 61                       | 20.51                             | 16.02          | 9.51                  | —              | .64        |
| St. Louis.....                    | 350,522                       | 157                      | 51                       | 17.83                             | 12.73          | 1.91                  | —              | .63        |
| Baltimore.....                    | 332,190                       | 147                      | 49                       | 17.00                             | 5.44           | 6.80                  | 2.04           | .68        |
| Cincinnati.....                   | 255,708                       | 117                      | 49                       | 35.04                             | 12.82          | 1.71                  | —              | 28.20      |
| New Orleans.....                  | 216,140                       | —                        | —                        | —                                 | —              | —                     | —              | —          |
| District of Columbia.....         | 177,638                       | 82                       | 30                       | 9.75                              | 18.28          | 3.65                  | 1.21           | —          |
| Cleveland.....                    | 160,140                       | —                        | —                        | —                                 | —              | —                     | —              | —          |
| Pittsburgh.....                   | 156,381                       | 80                       | 40                       | 28.75                             | 17.50          | 3.75                  | 3.75           | 13.75      |
| Buffalo.....                      | 155,137                       | 73                       | 38                       | 21.92                             | 21.92          | 5.48                  | 4.11           | —          |
| Milwaukee.....                    | 115,578                       | 55                       | 28                       | 20.00                             | 14.54          | 1.81                  | —              | 5.45       |
| Providence.....                   | 104,857                       | 38                       | 10                       | 7.89                              | 13.15          | 2.63                  | —              | —          |
| New Haven.....                    | 62,882                        | 22                       | 9                        | 9.09                              | 4.51           | 9.09                  | —              | —          |
| Charleston.....                   | 49,999                        | 29                       | 7                        | 6.89                              | —              | —                     | 3.44           | —          |
| Nashville.....                    | 43,461                        | 21                       | 8                        | 23.80                             | 4.76           | —                     | 4.76           | —          |
| Lowell.....                       | 59,485                        | 20                       | 7                        | 25.00                             | 20.00          | —                     | —              | —          |
| Worcester.....                    | 58,295                        | 15                       | 7                        | 20.00                             | 33.33          | —                     | —              | —          |
| Cambridge.....                    | 52,740                        | 15                       | 5                        | 6.66                              | 13.33          | —                     | —              | —          |
| Fall River.....                   | 49,006                        | 33                       | 13                       | 9.09                              | 6.06           | 6.06                  | —              | —          |
| Lawrence.....                     | 39,178                        | —                        | —                        | —                                 | —              | —                     | —              | —          |
| Lynn.....                         | 38,284                        | 16                       | 8                        | 37.50                             | 12.50          | —                     | 25.00          | —          |
| Springfield.....                  | 33,340                        | 6                        | 1                        | 16.66                             | 16.66          | 16.66                 | —              | —          |
| Salem.....                        | 27,598                        | 8                        | 3                        | —                                 | —              | —                     | —              | —          |
| New Bedford.....                  | 26,875                        | 8                        | 2                        | —                                 | 12.50          | —                     | —              | —          |
| Somerville.....                   | 24,985                        | 5                        | 3                        | 60.00                             | 20.00          | 40.00                 | —              | —          |
| Holyoke.....                      | 21,851                        | 9                        | 5                        | 23.22                             | 33.33          | 22.22                 | —              | —          |
| Chelsea.....                      | 21,785                        | 10                       | 2                        | 30.00                             | —              | —                     | —              | —          |
| Taunton.....                      | 21,213                        | 8                        | 6                        | 25.00                             | 12.50          | 12.50                 | —              | —          |
| Gloucester.....                   | 19,329                        | 5                        | —                        | —                                 | —              | —                     | —              | —          |
| Haverhill.....                    | 18,475                        | —                        | —                        | —                                 | —              | —                     | —              | —          |
| Newton.....                       | 16,995                        | —                        | —                        | —                                 | —              | —                     | —              | —          |
| Brocton.....                      | 13,608                        | —                        | —                        | —                                 | —              | —                     | —              | —          |
| Newburyport.....                  | 13,537                        | 3                        | 0                        | —                                 | —              | —                     | —              | —          |
| Fitchburg.....                    | 12,405                        | 4                        | 2                        | 25.00                             | —              | —                     | —              | —          |
| Malden.....                       | 12,017                        | 2                        | 0                        | —                                 | —              | —                     | —              | —          |
| Nineteen Massachusetts towns..... | 137,824                       | 45                       | 3                        | 4.44                              | 8.88           | 2.22                  | —              | —          |

Deaths reported 2888 (no reports from New Orleans and Cleveland): 1149 under five years of age; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and fevers) 642; consumption 435; lung diseases 428; diphtheria and croup 165; scarlet fever 141; small-pox 94; diarrheal diseases 45; whooping-cough 44; typhoid fever 43; measles 33; cerebro-spinal meningitis 21, erysipelas 20; malarial fevers 19; puerperal fever 16; typhus fever one. From *diarrheal diseases*, New York 18, St. Louis six, Chicago five, Baltimore three, Brooklyn three, Philadelphia, Buffalo, and Milwaukee two each, District of Columbia, Fall River, and Chelsea one each. From *whooping-cough*, New York 18, Boston eight, Brooklyn three, Philadelphia, Baltimore, Cincinnati, and Nashville two each, Chicago, District of Columbia, Pittsburgh, Providence, Lowell, Chelsea, and Taunton one each. From *typhoid fever*, Philadelphia 11, New York eight, Chicago five, Boston three, Brooklyn, Baltimore, Buffalo, Milwaukee, and Lowell two each, District of Columbia, Pittsburgh, Providence, Charleston, Nashville, and Cambridge one each. From *measles*, New York 15, Chicago eight, Brooklyn five, Philadelphia two, Boston, Baltimore, and Buffalo one each. From

*cerebro-spinal meningitis*, New York, Milwaukee, and Worcester three each, Chicago, St. Louis, Cincinnati, and Buffalo two each, Philadelphia, Pittsburgh, Lynn, and Somerville one each. From *erysipelas*, New York seven, Brooklyn three, Philadelphia, Chicago, Boston, Baltimore, Cincinnati, Pittsburgh, Buffalo, Lowell, Lynn, and Fitchburg one each. From *malarial fevers*, New York nine, St. Louis three, Baltimore two, Chicago, Cincinnati, Buffalo, Milwaukee, and Nashville one each. From *puerperal fever*, St. Louis six, Chicago four, New York, Brooklyn, Boston, Pittsburgh, Chelsea, and Spencer one each. From *typhus fever*, New York one.

One hundred and twenty-five cases of small-pox were reported in Cincinnati, Pittsburgh 44, St. Louis 15, Baltimore 12, District of Columbia 11, Milwaukee and Boston each three, Buffalo one; diphtheria 19 cases, typhoid fever seven, scarlet fever five in Boston; scarlet fever 18, and diphtheria four, in Milwaukee. In 36 cities and towns of Massachusetts, with a population of 993,104 (population of the State 1,783,086), the total death rate for the week was 19.27, against 19.34 and 20.37 for the previous two weeks.

For the week ending February 25th, in 173 German cities

and towns, with an estimated population of 8,466,078, the death rate was 27.9. Deaths reported 4541: under five 2232; pulmonary consumption 618, acute diseases of the respiratory organs 529, diphtheria and croup 235, diarrhoeal diseases 131, scarlet fever 86, whooping-cough 58, typhoid fever 54, measles 48, puerperal fever 25, small-pox (Tilsit, Nürnberg, Essen, seven, Eipen) 10, typhus fever (Königsberg, Elbing) two. The death-rates ranged from 16 in Potsdam to 45.9 in Essen; Königsberg 37.2; Breslau 31.1; Munich 40.1; Dresden 30.3; Berlin 24.8; Leipzig 22.7; Hamburg 29.2; Hanover 25.8; Bremen 23.3; Cologne 29.1; Frankfurt-on-Main 21.2; Strasbourg 37.5.

In the 28 English towns, with an estimated population of 8,455,320, for the week ending March 4th, the death-rate was 24.5. Deaths reported 371: acute diseases of the respiratory

organs (London) 470, whooping-cough 256, measles 154, scarlet fever 88, fever 49, diphtheria, 33, diarrhoea 30, small-pox (London 33) 28. The death-rates ranged from 19.4 in Hull to 38.2 in Blackburn; Birmingham 20.6; Leeds 22; Bristol 22.8; Sheffield 23; Linton 24; Manchester 28.7; Liverpool 29.5. In Edinburgh 20; Glasgow 34; Dublin 51.

For the week ending March 4th in the Swiss towns, population 479,934, there were 81 deaths from acute diseases of the respiratory organs, pulmonary consumption 52, diarrhoeal diseases 15, diphtheria and croup 12, whooping-cough nine, scarlet fever five, typhoid fever two. The death-rates were, Geneva 34.6; Zurich 54.1; Basle 21.2; Berne 40.2.

The meteorological record for the week ending March 18th, in Boston, was as follows, according to observations furnished by Sergt. O. B. Cole, of the U. S. Signal Corps:—

| Date.            | Barom-eter. | Thermom-eter. |          |          | Relative Humidity. |            |             | Direction of Wind. |            |            | Velocity of Wind. |            |            | State of Weather. <sup>1</sup> |            |            | Rainfall.   |                       |                   |
|------------------|-------------|---------------|----------|----------|--------------------|------------|-------------|--------------------|------------|------------|-------------------|------------|------------|--------------------------------|------------|------------|-------------|-----------------------|-------------------|
|                  |             | Mean.         | Minimum. | Maximum. | 7.23 A. M.         | 3.23 P. M. | 11.23 P. M. | Mean.              | 7.23 A. M. | 3.23 P. M. | 11.23 P. M.       | 7.23 A. M. | 3.23 P. M. | 11.23 P. M.                    | 7.23 A. M. | 3.23 P. M. | 11.23 P. M. | Duration, Hrs. & Min. | Amount in inches. |
| March, 1882.     |             |               |          |          |                    |            |             |                    |            |            |                   |            |            |                                |            |            |             |                       |                   |
| Sun., 12         | 29.832      | 37            | 31       | 43       | 94                 | 89         | 100         | 94                 | SW         | S          | SW                | 10         | 12         | 5                              | S          | O          | C           | —                     | —                 |
| Mon., 13         | 29.535      | 34            | 25       | 43       | 79                 | 40         | 64          | 61                 | W          | NW         | NW                | 7          | 18         | 24                             | O          | F          | C           | —                     | —                 |
| Tues., 14        | 30.007      | 23            | 17       | 31       | 58                 | 45         | 53          | 52                 | NW         | NW         | NW                | 28         | 22         | 16                             | C          | C          | C           | —                     | —                 |
| Wed., 15         | 30.336      | 26            | 15       | 40       | 67                 | 58         | 70          | 65                 | NW         | E          | S                 | 12         | 8          | 4                              | C          | C          | C           | —                     | —                 |
| Thurs., 16       | 30.272      | 31            | 24       | 35       | 88                 | 72         | 77          | 79                 | SE         | E          | NE                | 11         | 12         | 10                             | O          | S          | O           | —                     | —                 |
| Fri., 17         | 30.372      | 31            | 24       | 42       | 77                 | 58         | 67          | 66                 | N          | NE         | N                 | 16         | 23         | 15                             | C          | C          | C           | —                     | —                 |
| Sat., 18         | 30.311      | 28            | 21       | 37       | 73                 | 77         | 94          | 81                 | N          | NE         | NE                | 16         | 18         | 12                             | F          | O          | S           | —                     | —                 |
| Means, the week. | 30.095      | 30            | 15       | 43       |                    |            | 70          |                    |            |            |                   |            |            |                                |            |            |             | 26.45                 | .27               |

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., snow; R., rain; T., threatening; X., clearing.

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM MARCH 18, 1882, TO MARCH 24, 1882.

TAYLOR, B. D., captain and assistant surgeon. Granted leave of absence for twenty days, to take effect on arrival at Fort Ringgold, Texas, of a medical officer from Fort Brown, Texas. S. O. 26, Department of Texas, March 16, 1882.

ALEXANDER, R. H., major and surgeon. Assigned to duty as attending surgeon at headquarters, District of New Mexico, and attending surgeon at Fort Marcy, New Mexico. S. O. 59, Department of the Missouri, March 20, 1882.

APPOINTMENT.—Dr. F. I. Knight has been appointed Assistant Professor of Laryngology at the Harvard Medical School.

THE SURGICAL SECTION OF THE SUFFOLK DISTRICT MEDICAL SOCIETY will meet at 19 Boylston Place, on Saturday, April 1st, at 7.45 p. m. The following papers will be read: Cases of Renal Calculus; Operation; Recovery. (1.) Dr. William Ingalls. (2.) Dr. M. H. Richardson. A Case of Perinephric Abscess. Dr. G. H. Lyman. A Case in Orthopedic Surgery. Dr. E. H. Bradford. Fibro-Myoma Uteri; Dysmenorrhoea for fifteen Years; Enucleation; Recovery. Dr. J. W. Elliot.

H. C. HAVEN, Secretary.

BOSTON SOCIETY FOR MEDICAL OBSERVATION.—A regular meeting of the Society will be held on Monday evening, April 3d, at eight o'clock, at 19 Boylston Place. Reader, Dr. Parks. Subject, Some Cases of Excision. Annual election of officers.

M. H. RICHARDSON, Secretary.

GYNÆCOLOGICAL SOCIETY OF BOSTON.—The next regular meeting will be held at the Medical Library Rooms, first Thursday of April, at eleven o'clock a. m. H. O. Marcy, M. D., will read a paper upon Some Forms of Disease of the Placenta. Profession invited. HENRY M. FIELD, M. D., Secretary.

BOOKS AND PAMPHLETS RECEIVED.—Proceedings of the First Meeting of the Surgeons of the Eastern Division W. St. L. and P. Railway, with two papers by J. T. Woods, M. D., Chief Surgeon, held at Decatur, Illinois, January 25, 1882.

A Practical Treatise on the Diseases of Children. By J. Forsyth Meigs, M. D., late one of the Physicians of the Pennsylvania Hospital, etc., and William Pepper, M. D., LL.D., Professor and Professor of Clinical Medicine in the University of Pennsylvania, etc. Seventh Edition, revised and enlarged. Philadelphia: P. Blakiston, Son & Co. (successors to Lindsay & Blackiston.) 1882.

On Hemorrhoidal Disorder. By John Gay, F. R. C. S., Member of the Council of the Royal College of Surgeons, Senior Surgeon to the Great Northern Hospital. London: Churchill & Co. 1882.

Dictionnaire Annuel des progrès des Sciences et Institutions médicales, suite et complément de tous les dictionnaires par M. P. Garnier. Dix-septième année 1881. Paris: Librairie Garnier, Baulière et Cie. 1882.

Twenty-Sixth Annual Report of the Trustees of the State Lunatic Hospital at Northampton for the Year ending September 30, 1881.

Description of a Color-Sense Measure. By Charles A. Oliver, M. D., of Philadelphia. (Reprint.)

Quarterly Report of Medical Officers, United States Army, with their Stations and Duties, as reported to the Surgeon-General January 1, 1882, or at date of last Report received.

Transactions of the Minnesota State Medical Society, 1881.

First Aid to the Injured. By Peter Shepherd, M. B., Surgeon-Major, Army Medical Department, Associate of the Order of St. John of Jerusalem. Revised and added to at the request of the First Aid to the Injured Association of New York. By Bowditch Morton, M. D. New York: G. P. Putnam's Sons. 1882.

An Index of Surgery, being a concise Classification of the Main Facts and Theories of Surgery, for the Use of Senior Students and others. By C. B. Kestley, F. R. C. S. New York: William Wood & Co. 1882.

A Clinical Handbook of the Diseases of Women. By W. Symington Brown, M. D. New York: William Wood & Co. 1882.

The Case of Guineu. A Psychological Study. By George M. Beard, M. D. (Reprint.)

## Original Articles.

## A CASE OF ANGINA PECTORIS ASSOCIATED WITH ARTERIAL DISEASE AT THE BASE OF THE BRAIN. DEATH FROM ACUTE ANEMIA OF THE BRAIN.

BY WILLIAM HUNTER WORKMAN, M. D., WORCESTER, MASS.

The following case is that of a gentleman who recently died at the age of sixty-five years, having always led a life of mental activity, and whose health, up to the latter part of the year 1878, had usually been excellent. In December of that year, while walking in Paris, he was seized with symptoms of an alarming nature, for which he put himself under the care of Dr. C. E. Brown-Séquard, who in a letter thus describes what happened:—

"On December 12th Mr. —, being in his usual good state of health, was attacked with a great difficulty, almost an impossibility, of articulation. He states that his mind was then and remained perfectly clear. He had no paralysis, no involuntary movement, no pain anywhere. I saw him soon after, and ascertained that some impediment remained in his speech, and that the trouble was then and had been, when much worse some time before, only in the articulating power. There was no difficulty whatever in finding the proper word, so that there was no sign of aphasia. The patient was excited and moved, but not more so than any other person in presence of what may be considered a great danger of being stricken with paralysis or some other most serious affection. Three other much slighter attacks, and the last the slightest of all, occurred, one two days after the first, the second and third three days after the first. In these three last attacks nothing new took place, the only trouble being, as in the first, a mechanical impediment of speech."

These attacks, which were never repeated, were attended and followed by considerable mental depression and physical prostration, which after a while mostly passed away, and for the next two years the patient enjoyed a fair degree of health, though he could not endure as much fatigue as previously. For a few months after the illness in Paris the pulse was at times abnormally slow and intermittent. Returning to this country in February, 1879, he devoted himself to the care of his affairs and to literary pursuits with apparently unabated mental vigor.

During the last year of his life, however, his physical powers manifestly failed. He suffered with constipation and indigestion, moderate exertion wearied him, and mental excitement gave rise to a degree of prostration heretofore unknown. When tired or after excitement he was often troubled with restlessness, vertigo, and unpleasant sensations in the head, in consequence of which he became strongly impressed with the conviction that he would die of some affection of the brain. Still he took active exercise, walking or riding horseback daily, and was considered by his friends to be in good health.

In July, 1881, he had quite a severe attack of sciatica, lasting about a week, after which he did not recover his strength as rapidly as might have been expected, notwithstanding tonic treatment, and from this time he slowly lost flesh.

During the autumn the constipation and indigestion became more marked. Food remained a long time in the stomach undigested, and gas formed in large quantities,

producing a feeling of fullness. Remedies ordinarily efficacious in dyspepsia were employed without relief. The peristaltic movements of the stomach and bowels seemed obstinately sluggish. He also was affected with drowsiness, falling asleep while reading or engaged in conversation if there was a pause. This was very noticeable for three or four weeks preceding death.

Early in November last walking began to occasion paroxysms of distress or pain of a rather indefinite character. This pain was referred to the epigastrium and left hypochondrium, and was often so severe that he was obliged to stop to rest; after remaining quiet for a few minutes it would subside. Relief was also afforded by eructations of gas, which occurred freely near the close of these attacks. While the pain lasted he seemed much disturbed, his face being rather pale, and expression anxious, and on one or two occasions he said to his daughter, with whom he was walking, "I think these attacks will kill me." The pain frequently returned several times during a walk. It was never felt when he was quiet.

A careful physical examination a week before death revealed nothing abnormal in the sounds or action of the heart. The stomach was much distended, and palpation caused gas to escape freely from the mouth.

The attacks becoming more troublesome, and, indeed, occurring every time he took a walk, he was advised to desist entirely from walking, but this advice was not followed on the ground that want of exercise occasioned bad feelings in the head.

The day of his death he was unusually cheerful, active, and attentive to business. In the afternoon of January 17, 1882, as he was returning to his house, soon after he had reached the top of an ascending grade of some length, he suddenly dropped his cane, put his hand to his head, grasped the fence, and fell lifeless into the arms of a passer-by.

An autopsy was made by Drs. Everett, Moulton, and S. B. Woodward forty-three hours after death.

Heart of normal size. Right side filled with fluid blood. Left side contained small amount of fluid blood. No clots. Endocardium healthy, and valves also, except the free curtain of the mitral, upon which was a small atheromatous patch, which in no way impaired the action of the valve. Muscular substance was of good color, and apparently normal. Right coronary artery healthy except a small spot of atheroma at its commencement. Several small spots of the same in the wall of the left coronary artery. The calibre of these arteries was not perceptibly compromised. Small, recently formed atheromatous spots were found on the aortic wall just above semilunar valves.

Lungs, liver, kidneys, spleen, and stomach normal. Considerable undigested food in stomach.

Weight of brain fifty and one half ounces. Dura mater strongly adherent to the calvarium on either side of the longitudinal sinus. Vessels of cerebral pia mater contained but a small amount of blood. Sinuses and vessels at the base of the skull were entirely empty. There was notable anemia of the brain substance, the puncta cruenta being scarcely perceptible. No hemorrhage nor anything else abnormal in brain. Medulla oblongata and upper part of the spinal cord were very anemic, but otherwise apparently normal. The large arteries at the base of the brain were extensively and symmetrically atheromatous, their walls being in places five or six times thicker than the nor-

mal. The calibre of these arteries was distorted and compromised; that of both vertebrals at a distance of one inch from their junction was only one fourth the normal size; the inner coat of the internal carotids at their curve around the sella tursica and below in the carotid canal was converted into a pavement of calcareous plates. The entire tube of the basilar artery for a distance of seven eighths of an inch from the junction of vertebrals was much and uniformly thickened; the inferior cerebellar arteries at their origin were narrowed from one half to two thirds; the anterior and posterior spinals, as well as two branches of the basilar near the junction of the vertebrals, were reduced to mere threads, their lumina at their origin being scarcely perceptible to the eye; four of the transverse branches of the basilar were considerably narrowed; the posterior middle and anterior cerebrals were atheromatous, but their smaller branches were not diseased. The spinal cord was normal.

A microscopic examination of the heart substance showed the muscular fibrils to contain groups of brown pigment granules. There was no atrophy of the fibrils, and the transverse strie were distinctly visible; the walls of the arterioles and capillaries were normal.

The symptoms which developed about November 1, 1881, and gradually increased in frequency and severity until the fatal termination, lead me to ascribe the death of Mr. —, in a general way, to that clinically well-marked but pathologically complicated disease, *angina pectoris*.

In the light of the autopsy, however, a more definite idea may be formed as to the manner in which death occurred.

The most striking feature presented at the examination was the extreme anæmia of the brain, *medulla oblongata*, and upper part of the spinal cord, together with the absence of blood from the vessels within the cranium, particularly at the base. This condition must have appeared coincidently with or preceded death by a short space of time, and must have developed rapidly, as the patient met and recognized a man less than half a minute before he fell. It is unnecessary to cite here the evidence both of physiology and pathology to show that instant death is the result of cutting off the blood in any manner from the vital part of the *medulla oblongata*, in which the pneumogastric nerves have their origin. Granted this, and also the fact that in this case the blood supply was completely cut off from all parts of the brain, the conclusion follows that the immediate cause of death was a sudden and profound anæmia of the brain, or, more exactly, of the vital point at the base, whereby the function of the pneumogastric nerves was arrested and with it life.

But to go a step farther, the question arises, How was the anæmia induced? This leads to the consideration of the second marked pathological feature, which was the vascular disease at the base of the brain. As has been seen, the four large arteries supplying the brain with blood were converted by disease into rigid, irregular, greatly narrowed tubes, the greatest degree of narrowing being in the vertebrals. The branches of the latter and of the basilar distributed to the very seat of life were also so compromised that they could carry but little nutriment. Here, then, were found at the gateway of the brain two obstacles to the proper flow of the blood, namely, diminished calibre and greatly increased friction. To maintain the integrity of the intracranial circulation against these obstacles

the whole power of the heart must have been required, and disturbance of its action would be liable to be followed by symptoms of deficiency of blood in the brain, as was indeed often the case.

Under these circumstances any cause which would weaken or render irregular the action of the heart, such as exercise or pain, might easily induce fatal anæmia. It is not necessary to assume that the exciting cause should act with such power upon the heart as primarily to stop its beating, for it is evident that if its action were affected to the extent that it could not force the blood beyond the obstruction, a fatal result would ensue. Which of the above causes acted upon the heart just previous to death we have no means of determining. We know that the top of the hill had been reached, the ascent of which would naturally have had an effect upon the circulation. We also know that for about three months walking, especially up hill, had induced severe paroxysms of *angina*.

It is obvious that the arterial stenosis which contributed to the fatal result must have given rise for a long time to a condition of chronic anæmia, partial but ever increasing in degree. This manifested itself, when the patient had remained quiet for any length of time, in vague unpleasant sensations in the head. For relief from these he took regular active exercise, which in moderation had the desired effect, undoubtedly by stimulating the circulation. When, however, exercise or exertion was carried to the point of fatigue, and the balance of the circulation was disturbed thereby, or by mental excitement, more decided signs of insufficiency of blood in the brain appeared, such as pallor, vertigo, and actual cephalic distress, which passed away as soon as the equilibrium was restored. The uncontrollable drowsiness during the last few weeks of life was another evidence of the same condition.

Through the whole period of failing health the intellectual faculties remained unaffected. This may be accounted for by the fact that the carotids were not so much obstructed as the vertebrals, and the circulation through them was still adequate to the nutrition of the cerebral substance.

With the *medulla oblongata* and parts supplied by the vertebrals the case was different. The anæmia here was greater, the nervous tissue less perfectly nourished, and its functions impaired. This is shown by symptoms indicative of failing power in the nerves emanating from this tract.

The attacks in Paris pointed directly to some trouble with the fibres of origin of the spinal accessory and hypoglossal nerves. Just what then occurred it is not possible to determine. Probably there was some local interference with nutrition connected with the arterial disease, which even at that time must have made considerable progress to have caused such disturbance. Brown-Sequard thought that a temporary congestion took place. From the healthy appearance of the *medulla*, as well as from the transitory nature of the symptoms, it cannot be supposed that the attacks were due to thrombosis, embolism, or hæmorrhage.

Subsequently appeared symptoms similar in kind to those following section of the pneumogastric nerves, namely, constipation and enfeebled digestion, with torpid peristaltic movements of the stomach and intestines. These gradually increased in severity, not being much influenced by treatment, and were very marked for a few months previous to death, when the assimilative power failed and a decided loss of flesh was observable.



The action of the heart, which early in 1879 was slow and often irregular, later became normal in strength and rhythm, although easily affected by slight causes, as if the inhibitory power of the pneumogastric nerves was lessened and they could not respond to any additional demand upon them.

Finally, when the atheromatous process and consequent anæmia of the medulla oblongata had reached an extreme degree, came pain in the shape of paroxysms of angina pectoris. The angina manifested itself solely in the region of distribution of the pneumogastric nerves, pain never being complained of in the shoulder or arm, and occurred only while walking.

These facts, taken in connection with the practically healthy state of the heart, lungs, and abdominal organs, render it probable that the angina was due to lowered vitality, possibly to organic change in the medulla, expressing itself through the vagi, and was thus but the conclusion of a train of symptoms all pointing to the same nervous centre. The attacks would seem to have depended upon irritation of the sensory fibres of the pneumogastrics by the movements of the organs, particularly the distended stomach, in walking. Irritation here, as in the case of any other nerve whose vitality is lowered, reflexly produce pain. As the patient was never seen by a physician during the paroxysms, we know nothing of the effects upon the heart, but so far as any weakening of its action might have occurred this would probably be caused, if the above view be correct, reflexly through the depressor nerves; while the same, if occasioned by exercise without pain, would be likely to result from loss of the controlling influence of the inhibitory nerves.

Without attempting to argue at length upon the pathology of angina pectoris, it seems to the writer that this case is of value as supporting the view that the symptoms of this disease may be the manifestation of morbid action in or around the nervous centres, without the necessary implication of the heart or aorta.

## RECENT PROGRESS IN THEORY AND PRACTICE OF MEDICINE.<sup>1</sup>

BY GEORGE B. SHATTUCK, M. D.

### RHEUMATISM AND THE SALICYLIC TREATMENT.

THE recent appearance of a book<sup>2</sup> on Rheumatism and the Salicylic Treatment by Dr. MacLagan was the signal for the revival of a discussion of the merits of the treatment of rheumatism by salicin, salicylic acid, and the salicylates, in the London medical societies and medical journals.

MacLagan, in England, began to treat rheumatism with salicin in 1874, and his results were published in March, 1876;<sup>3</sup> Stricker and Riess, who in the mean time had been using in Germany salicylic acid manufactured from carbolic, published their experiences in January, 1876.<sup>4</sup> Since then the salicylic treatment has been through various stages of popularity, having been exalted by some to the place of a specific, and relegated by others to the company of its numerous unsatisfactory and uncertain predecessors.

A sufficiently long time has elapsed since the first introduction of this remedy to moderate the extreme enthusiasm following its early successes, and to give some just indications as to its administration, the class of cases to which it is adapted, and what may be fairly expected from it either of good or evil; and though, as MacLagan claims, the time may not be yet, and cannot for some years come, at which a satisfactory statistical statement of the results of the treatment can be compiled, the statistics presented, especially since the appearance of Dr. MacLagan's book, are sufficiently numerous, and some of them sufficiently homogeneous to be worth notice. It is easy to discredit statistics which do not support a theory, as it is to marshal others in favor of one, and the statistics which are likely to be given on such a subject we fear will never be altogether above reproach. Dr. MacLagan entertains a theory of the miasmatic origin of acute rheumatism, believing that its poison acts in a somewhat similar manner to that of malarial fever, and that the influence of the salicyl treatment upon it is akin to that of quinine in the other malady, and scarcely less reliable; in fact, he states that *a priori* reasoning as to the nature of the poison in acute rheumatism led him to use salicin; the use of which, he states, was not empirical nor was the theory the result rather than the cause of its exhibition. From the results claimed for the salicyl treatment in his own experience Dr. MacLagan is doubtless justified in classing it with other specifics, though they seem more than usually favorable as summed up in the following paragraph: "Treated thus, the course of uncomplicated acute rheumatism is arrested, the pain is abolished, and permanent convalescence begins frequently within twenty-four, and generally within forty-eight, hours of the time that treatment commences. In first attacks, and in young subjects, such is almost invariably the course of events when there is no cardiac complication." For Dr. M.'s method of administering the treatment to effect such results we refer readers to his book, page 199, though its main features may be stated as expressed by purity of the drug, an early commencement and sufficient continuance of treatment, full and frequently repeated doses. Dr. M. claims to be in possession of favorable figures concerning the treatment from thirty-nine different English hospitals.

The experience of others with the treatment in England we will summarize, as briefly as possible. Dr. P. W. Latham,<sup>5</sup> Professor of Medicine at Cambridge, from his experience in the hospital there, regards salicylic acid in a pure form and in a sufficient dose as much of a specific for acute rheumatism as quinine for ague.

Dr. Lewis Shapter,<sup>6</sup> physician to the Devon and Exeter Hospital, distinguishes between the arthritic and the pyretic manifestations of acute rheumatism, for the former he does not rely on the salicyl treatment, but finds it a useful weapon against the latter. He writes, concerning its claim to be regarded as a specific:—

"Now, in speaking of salicylic acid as a specific, is it contended that, in addition to the results following its marked antipyretic action, it has also an action peculiar to itself in controlling acute inflammation of sero-fibrous structures? or, in other words, is it curative of a condition which may be described as polyarthritic acuta? If salicylic acid is primarily an antipyretic

<sup>1</sup> Continued from page 296.

<sup>2</sup> Rheumatism, its Nature and Pathology, and its Successful Treatment, by T. J. MacLagan, M. D. London, 1881.

<sup>3</sup> London Lancet, 1876.

<sup>4</sup> Berlin. Klin. Wochenschr., Nos. 1, 2, 1876.

<sup>5</sup> British Medical Journal, vol. ii., page 934, 1881.

<sup>6</sup> British Medical Journal, vol. ii., page 1012, 1881.

ly, and the most powerful one we possess, then Niemeyer, in his observations on the use of quinia, appears to have prophetically shadowed forth the true position of salicylic acid. "Quinine is no more a specific in acute articular rheumatism than in pneumonia, typhus, and many other diseases in which it is nevertheless an important remedy. But it is one of the most powerful antipyretics, and it should be used when the fever is high. After the experiments of Weber and Billroth there can scarcely be any doubt that the quality of the blood in fever patients decidedly favors inflammatory disturbances of nutrition. If this be so, an antipyretic treatment has also an antiphlogistic action; and quinine, as well as other antipyretic remedies, would answer, not only the symptomatic indications, but also the indications from the disease, particularly in acute rheumatism, where, while the fever continues, new joints are continually becoming affected." Can we say any more than this of salicylic acid?

The views and experience of Dr. William Strunge<sup>1</sup> resemble more nearly those of MacLagan:—

"Now that salicin, and especially its compound, the salicylate of soda, are entitled to this high place in positive therapeutics I am quite convinced, and I think most hospital physicians will agree with me in that opinion. We give twenty grains, more or less, of the salicylate every three or four hours in a case of acute articular rheumatism; and in from three to five days, occasionally prolonged to nine, the temperature, which ranged from 103° F. to 106° F., falls to nearly or quite the normal point; whilst the pain and a great part of the swelling disappear at the same time. Quinine can do no more than this in ague, nor large doses of the iodide of potassium in syphilis, nor colchicum in gout.

"I have now treated over sixty cases of acute articular rheumatism in the infirmary here since salicin has come into use. In no case has there been any severely unpleasant result, nor long delay in deservescence and subsidence of pain and swelling. Careful watching is the chief thing required; and this is the reason that the remedy has gained so much greater repute in hospital than in private practice. Relapses will occur if the remedy be left off, or even reduced in quantity, too soon. In such a case full doses should be resumed immediately. There is, in most cases, great anæmia left to contend with, requiring iron as well as quinine for its cure. Without now entering into statistics, I can feel assured that the stay in hospital has been greatly less here under the treatment of the salicylates than under the potash or any other former mode of cure."

In a paper<sup>2</sup> read before the Medical Society of London Dr. Francis Warner, of the London Hospital, tabulates 190 cases treated with salicylate of soda and 79 cases without such treatment, and draws the following conclusions:—

Salicylic acid appears useful in lessening the duration of pyrexia. In 190 cases in which salicylic acid was employed the average duration of pyrexia was 5.5 days. In 79 cases without salicylin the average was 13.8 days.

Salicylic acid appears to lessen the duration of joint pain. In 277 cases in which salicin was used the average duration of pain was 5.3 days. In 67 cases without salicin the average was 9.3 days.

Salicin lessened the average of days of confinement

to bed. In 342 cases treated with salicin the average was 19.5 days. In 211 cases without salicin the average was 23.5 days.

Salicin lessened the average number of days in hospital. In 352 cases in which salicin was used the average stay in hospital was 34.9 days. In 387 cases without salicin the average was 36.2 days.

It appears, then, that salicin lessens the duration of the pyrexia and joint pain. Under the treatment by salicin the patient was able to get up sooner, and was kept in hospital a shorter time, than in cases otherwise treated.

The question then arises, Does salicin cure rheumatism? does it remove the rheumatic condition? We may take as proof of the presence of the rheumatic tendency the liability to the development of heart disease and the liability to relapses. In the salicin cases heart disease developed in 13.6 per cent; in cases treated otherwise, in 14.9 per cent. Relapses occurred in 33.6 per cent. of the salicin cases, on the average at the 15.2 day, lasting on the average 3.5 days,—that is, the rheumatic condition lasted till the 18.7 day, although fever and pain subsided much sooner under the treatment.

Another paper read at the London Medical Society gave an analysis by Dr. D. W. C. Hood<sup>3</sup> of 1200 cases of acute sthenic rheumatism at Guy's Hospital, occurring in patients under thirty-five years of age, treated by different physicians. From these cases a series of 350 is taken in which the salicylates were used, another series of 350 in which they were not used, and a third series of 500 in which they were not used. The number of 350 was chosen for the two first series for purposes of comparison with a series of that number of cases collected by Dr. Fagge<sup>4</sup> from the records of the same hospital. As the result of his experience and tables, Dr. Fagge declares himself strongly in favor of the salicylic treatment. He remarked that his hearers would, of course, see that he was a decided advocate of the treatment, and that before he had made the investigations presented he was strongly biased in its favor, but that he could honestly declare that his opinion had been forced upon him by his clinical experience. Indeed, when he first made trial of the drugs he was altogether skeptical as to their value, but when case after case occurred with scarcely a failure, he became satisfied that he had a most potent remedy in his hands. All further experience had strengthened this conviction in his mind, and he would now feel that he was accepting a very grave responsibility if he were to withhold a drug which he believed to be so useful from any patient placed under his care unless there were some good reason for doing so.

Dr. Hood concludes that a critical examination of his tables points out clearly and decidedly that patients taking salicylate lose their pains more quickly than those who do not take this remedy. "Out of Dr. Fagge's cases, of 350, 288 lost their pains within the first nine days of treatment; in my own series of 350 cases treated in a similar manner, 247 patients lost their pain in the same period of time; whereas of 350 cases treated without salicylates, only 141 lost pain within the nine days. Is the effect stable? Apparently not, for on looking at the tables we shall see that the relapses among patients taking the remedy are

<sup>1</sup> Ibid.

<sup>2</sup> London Lancet, vol. ii., p. 1090, 1881.

<sup>3</sup> London Lancet, vol. ii., 1119, 1881.

<sup>4</sup> London Lancet, vol. ii., 1030, 1881. London Medical Society, December 12, 1881.

vastly increased; and on further examining the average duration of stay in hospital, we find that patients taking this drug remain perceptibly longer under treatment. A scrutiny of my figures closely corroborates Dr. Fagge's statements that patients soon lose their pains, but are left feeble and exhausted after the use of this remedy.

"Endeavoring to estimate the effect of salicylate treatment upon cardiac complication I have divided my 1200 cases into three series again, — 350 without, 350 with salicylates, and the remaining 500 without. The construction of this table gave me no little difficulty, for, as Dr. Fagge justly observed, 'Much obscurity attaches itself to the interpretation of the cardiac murmurs heard during the course of acute rheumatism.' However, I have felt bound to enter all those cases in which the heart was noted as being affected at some period or other during the time the patient was under treatment. Do not understand by this that I have included cases in which the sounds were mentioned as being rough, prolonged, or the like, but those cases only in which a definite bruit existed. The presence of such bruit would in most cases be indorsed by the opinion of the physician in charge. We find that among the 350 patients treated by the salicylates 211 suffered from heart affection of some kind or other; among the 350 treated without salicylates 227 suffered from this complication; of the 500 without salicylates 273 were affected. The proportion between the two classes is much the same, but what little advantage there is does not appear to lie on the side of the salicylate treatment. With respect to the treatment of acute rheumatism, this complication of heart affection appears to me one of the most important points for consideration. Acute rheumatism is an expression the sum of which comprises known factors — to wit, pain, fever, often dangerously high, and a liability to mischief of heart. There are, doubtless, other points which, for the moment, lie without the scope of our present inquiry. But weigh these several factors one with the other; the preponderance of one is well-nigh overwhelming. Any remedy vaunted as a specific in acute rheumatism must show in marked degree its efficacy in controlling — I would rather say in preventing — heart disease. On this one count alone salicylate acid must be prepared to stand its trial, and must further submit to the most severe cross-examination at the hands of the profession."

At a previous meeting of the London Medical Society Dr. Isambard Owen<sup>1</sup> presented the statistics of 210 cases of acute and subacute rheumatism treated in St. George's Hospital in 1877 and 1878, showing in tabular form the comparative results of treatment. The cases fell into six sections, according to the treatment adopted in the primary attack: A, in 85 cases, salicylate of soda or ammonia, in initial doses, equivalent to three drachms or upwards per diem; B, in 52, salicylate, in initial doses equivalent to two drachms per diem; C, in 19, salicylate, in doses not exceeding one and one half drachms per diem; D, in 29, full doses of alkali, with or without quinine; E, in six, iodide of potassium; F, in the remaining 19, the mode of treatment was changed before the end of the primary attack. Sections A, B, and C were further subdivided according as the salicylate was combined with full doses of alkali or not. The cases in the first four sections were also classified according to their range of

temperature, and the presence or absence of marked redness and swelling about the joints.

Table I. showed the number of cases falling into each of the groups of this classification. The average duration of the attack previous to treatment, calculated for all the groups, was given, for the sake of clearness, only for the leading divisions, where it uniformly amounted to between seven and eight and one half days.

Table II. showed the average duration of pain, Table III. that of pyrexia, after the commencement of treatment, for all the groups. It appeared: (1) that the results bore no relation to the previous duration of the cases; (2) that the results were not affected by the character of the cases; (3) that practically similar numerical results were obtained from the use of salicylate, whether it were given at the onset in large, medium, or small doses; whether it were combined with alkali or prescribed alone; (4) that the results of salicylate treatment were in marked contrast to those of the alkaline treatment: three and one half, four, four and one half being the general averages of pain, three and one half, four, three and one half those of pyrexia, for Sections A, B, and C; while eight was the average of pain, and six and one half that of pyrexia for Section D.

It must be borne in mind that these numerical results give no account of the marked initial effects observed in many of the salicylate cases, especially those of Section A, as compared with the more uniform descent of pain and pyrexia in the cases treated with alkali; and also that in 23.5 per cent. of Section A, 13.5 per cent. of Section B, and 10.5 per cent. of Section C, the administration of the drug was embarrassed by toxic symptoms, a probably avoidable element in the future.

Table IV. showed the average residence in hospital after the commencement of treatment for each group. The results under this head were practically uniform for every system of treatment; the general averages for Sections A, B, C, and D being twenty-five, twenty-one, twenty-three, and twenty-six days respectively.

Tables VI. and VII. showed details of the cases between the end of the primary attack and the time of discharge. It appeared that *chronic rheumatism* persisted in two cases of Section A, with an aggregate of six days, in two of Section C, with an aggregate of fourteen days, and in two of Section D, with an aggregate of fifty-one days; that *relapses* occurred in twenty-seven per cent. of Section A, 26.9 per cent. of Section B, 36.8 per cent. of Section C, and 27.6 per cent. of Section D, with average durations of three and three fourths, four and three fourths, six, and two days respectively; that *relapses of a chronic character* occurred in two cases of Section A, and in one case of Section C, with aggregate durations of fifty-eight and two days respectively; and *relapses of a purely pyrexial character* in seven cases of Section A, with an average of seven days, and in one case in Section C, with a duration of five days.

By adding the aggregates of Tables VI. and VII. to those representing the duration of the primary attack (Table II.) the following results were obtained: —

Table VIII. *Average days of illness*, from the commencement of treatment, Section A, six days; Section B, six days; Section C, seven days; Section D, ten and one third days.

Section E comprised only cases possessing a special character.

<sup>1</sup> London Lancet, vol. ii., p. 1680, 1881.

Section F comprised: (1) one case not amenable to any form of treatment; (2) five cases in which salicylate of soda was superseded on account of toxic symptoms; (3) four in which salicylate was superseded for apparent failure, after five, six, two, and one day's trial respectively (no evident success attended the substituted treatment in any but the last of these); (4) one in which symptoms of diaphragmatic pleurisy appeared under salicylate, but rapidly lessened on substitution of alkali and quinine; (5) three cases in which salicylate was superseded while pain and fever were lessening; (6) three in which alkali was superseded by salicylate without apparent result; and (7) one in which bark was substituted for alkali before pain had ceased.

*Pericardial friction* appeared after admission in four cases of Section A, and in two of Section D. In all but one of these it was probable that cardiac complication existed before the commencement of treatment. The one excepted case was under treatment by full doses of salicylate of ammonia, without alkali.

*Permanent cardiac murmurs* appeared after admission in three cases under treatment A (in all but one with full doses of alkali), in one case under treatment C (with alkali), and in one under treatment D; *temporary murmurs* in two cases under treatment A (alkali given in one).

The urine in all cases was examined for albumen daily, if procurable, throughout the primary attack.

*Permanent albuminuria* was observed in four cases of section A, in one of Section B, and in one of Section C; but in none did it appear that it had originated after treatment.

*Temporary albuminuria* occurred in seventy-eight per cent. of the remaining cases of Section A, as against forty-three per cent. of those in Section D; or, excluding mere traces, in fifty-two per cent. against twenty-five per cent.

*Suppression of urine* for two days occurred in one case of Section A, and in one of Section F under alkali and quinine.

Among the toxic effects rashes are noticed in two cases, shivering in one. In one case (an alcoholic patient) the delirium took the form of delirium tremens.

Dr. De Havilland Hall,<sup>1</sup> at one of these meetings,<sup>2</sup> read statistics of fifty-five cases of acute rheumatism at the Westminster Hospital. Where the salicyl treatment was used, salicylate of soda was given, and when the symptoms were at all acute the patient was ordered it on admission. "The drug was given in doses of from ten to twenty grains, the usual treatment being fifteen or twenty grains every three or four hours. As the pain diminished and the temperature fell, the frequency of the dose was lessened to every six hours or three times a day. In some cases twenty grains were given every two hours till the pain abated, then an interval of no medicine, and a recourse to salicylates if the pains returned. This plan did not seem to answer, as relapses were more frequent than when the drug was gradually discontinued. The relapses, however, nearly always yielded at once to the salicylate.

"In contrasting the cases—thirty-eight in number—treated by the salicylate of soda, it will be noted that their average stay in hospital was less than a day in excess of the average stay of the sixteen cases treated without the salicylate, and that in comparing the days

of fever and pain the advantage is still more distinctly in favor of the salicylate plan.

"In comparing the heart complications which occurred nineteen times under observation, the proportion between the two sets of cases is practically the same; this speaks highly in favor of the salicylate plan of treatment, when the much more acute nature of cases subjected to this plan of treatment is borne in mind; but it is only what we should expect from the power the salicylate has of reducing the duration of the fever and of the pain.

"As regards other complications, there was no evidence to show that the salicylate exerted any injurious influence. Temporary albuminuria occurred three times, but only once in combination with salicinism, so that in all probability this was merely accidental. In none of the eight cases of salicinism was there any permanent effect left."

Dr. R. Douglas Powell,<sup>3</sup> of the Middlesex Hospital, in the course of this discussion, expressed himself as doubtful in regard to the value of hospital records upon a question like that of the salicyl treatment, as in a large number of the cases the attack is not a primary but a second or third attack, and a considerable number of the cases should be regarded as *separate attacks* rather than separate cases; this objection, however, scarcely applies to *comparative* effects of different forms of treatment.

Dr. T. Gilbert Smith,<sup>4</sup> of the London Hospital, presented tables of cases illustrating the frequency of cardiac complications in all cases of acute rheumatism before and since the introduction of the salicyl treatment, and other tables of primary attacks alone. His conclusions are stated as follows:—

"Table I. presents several classic series of cases treated in what may be termed the presalicylic era. Out of a total of 1727 cases, 940 were affected with heart disease of some kind, or 54.0 per cent. On withdrawing the cases whose figures suggest some error the percentage will be 56.0.

"Table II. tabulates cases treated at the hospitals named therein subsequent to the introduction of the salicyl compounds. Although all these cases here given were not treated by these remedies, yet the majority were, and in so large a number there is ample room for the beneficial influence of the drug to manifest itself if such influence exists. In this table it will be seen that out of 1748 cases 1109 presented heart complication, or 63.4 per cent. as against 54 per cent. (or 56.0) in the previous table.

"Table III. shows the amount of cardiac complication in cases of primary attacks of the disease, and here we should anticipate a lower percentage, for in such there is less likelihood of interference from previous cardiac lesion. According to Dr. Barclay, heart affection occurs 18 to 20 per cent. more frequently in subsequent than in primary attacks. Amongst the 246 cases recorded by Dr. Fuller, recent heart disease was found in 41.8 per cent. of first, and in 55.8 of subsequent, attacks. In this table, contrary to our expectations, in 384 cases out of 629 the heart was affected, or 60.5 per cent.

"Table IV. gives similar statistics of 533 cases treated by the salicyl compounds alone, and it also exhibits the highest percentage of cardiac complication, namely, 68.1.

<sup>1</sup> London Lancet, vol. ii., p. 1081, 1882.

<sup>2</sup> December 19, 1881.

<sup>3</sup> London Lancet, vol. i., p. 134, 1882.

<sup>4</sup> London Lancet, vol. i., pp. 136, 139, 1882.

"In comparing these statistics it may reasonably be presumed that whatever errors there may be (and doubtless there are many) in the method employed to determine the existence or not of cardiac disease, such errors are common to all, seeing that these figures represent in each series of cases numerous observers. The incomplete condition of the column showing the seat of the cardiac lesion explains the difficulty of obtaining such information, and exhibits the divergence of the interpretation of physical signs.

"From the consideration of these tables, therefore, I would say, in conclusion, that, notwithstanding our expectations based on the good effect of the salicyl compounds in several of the marked features of rheumatic fever, there is no evidence, so far as hospital statistics are concerned, to show that the introduction of the salicylate treatment has led to any diminution in the amount of cardiac complication in acute rheumatism."

In his concluding remarks at the final discussion of the subject at the meeting of the Society, January 16, 1882, the president, Dr. W. H. Broadbent,<sup>1</sup> of St. Mary's Hospital, said, in review of the preceding papers and remarks, —

"Now, however an individual might have been led away by preconceived notions, there is no reason why those who follow, and who look only at the results, should be so led away, and it is remarkable how the consensus of opinion tends in one direction; and I hold that the questions which I ventured to hope might receive some sort of answer by means of this discussion are really effectually answered, although, perhaps, no one has specially addressed himself to them. The answers may not have been direct, but they have been for that very reason all the more conclusive. I think we may say definitely that by means of salicylate compounds the duration of the pain and fever in rheumatism is unmistakably lessened, and, even if the stay in hospital is not materially shortened, certainly the suffering is very greatly diminished. With regard to relapses, perhaps we may say that they seem to be more common under the new than under the old methods of treatment, still I am quite sure that the explanation of this is to be found in the rapidity with which all the acute symptoms subside under the administration of salicylates. You cannot in these circumstances get the patients to be so careful of themselves as when they have gone through the terrible sufferings of an unrelieved attack of acute rheumatism. . . . I believe that when salicylates are brought to bear upon the fever in the first days of its existence we shall see a notable diminution in the heart disease, for in my own experience, during the whole administration of salicylates, it has been exceedingly rare to see heart disease spring up."

— Dr. Stephen Smith has been made commissioner of lunacy by Governor Cornell, of New York, in the place of Prof. John Ordronaux. The removal of the latter and appointment of Dr. Smith are rather severely criticized on the ground that while Dr. Ordronaux has devoted his lifetime to the study of mental diseases, and is an alienist of admitted authority, Dr. Smith, so far as is known, has never paid any special attention to the subject.

<sup>1</sup> London Lancet, vol. i., pp. 138, 139, 1882.

## Hospital Practice and Clinical Memoranda.

### CASE OF CHOREA, TREATED BY ARSENIC.<sup>2</sup>

BY F. MINOT, M. D.

MAUD B., a little girl nine years old, entered the Massachusetts General Hospital, April 20, 1881. Her father was in good health; the mother died of some disease of the uterus; her father's sister had chorea for a year. The child was of a nervous temperament, but had always been well. She had never had rheumatism. The present attack began March 15th, while the patient was at boarding-school, and the power of speech began to be lost April 1st. On her entrance into the hospital the child was unable to speak. On trying to walk she would fall down, and with difficulty could get up again. There was incessant incoördinate twitching of the legs, arms, and facial muscles. She could not feel herself, articles of food dropping from her hands. The movements were not more marked on one side than the other. During sleep the motions still persisted, though to a much less degree than while she was awake. She was not emaciated, nor especially anæmic. The intelligence was good. She readily understood what was said to her, though unable to reply.

There was no cardiac murmur. The appetite was good; bowels constipated. Two examinations of the urine showed the color to be pale; specific gravity 1015 and 1027; very slight trace of albumen, the urea at first diminished and then increased; sediment not abnormal.

The treatment consisted in suitable nourishment, exercise in the open air, and the solution of the arsenite of potash three times daily, beginning with three drops at a dose, which was gradually increased to seven drops, and then, on account of gastric disturbance, diminished to five drops. During the last week of her stay in the hospital she took, in addition, three grains of the citrate of iron and quinine before meals. Three days after taking the arsenic she became much more quiet during the night. April 26th (sixth day) she spoke for the first time. April 29th (ninth day) there was "marked improvement, in all respects." May 20th she was well, and ready for discharge, though she did not actually leave the hospital until the 30th. No exciting cause for the disease is known.

The total duration of this case was about fifty-six days; the time from the first dose of arsenic to recovery was twenty-nine days. If the remedy did not abridge the duration of the disease its beneficial effects were immediate and striking.

### ACUTE LOBULAR PLEURO-PNEUMONIA.<sup>2</sup>

BY G. M. GARLAND, M. D.,

Physician to the Eastern Dispensary.

THE following interesting cases were seen at the Boston Dispensary between October 1, 1881, and January 1, 1882. Each patient was stripped naked to the waist, and examined in the presence of a number of physicians and students, who were all agreed as to the symptoms enumerated below.

<sup>2</sup> Read before the Section for Clinical Medicine and Pathology of the Suffolk District Medical Society, March 9, 1882.

CASE I. Man, fifty-six years of age, feeble in appearance, poorly nourished, and with an anxious expression of face. He complained of a severe pain just below the left nipple, which had been preceded by a bad cough for two weeks; the pain was sufficient to interfere with his respiratory movements, caused him great suffering on coughing, and prevented sleep at night; there was no history of a chill; appetite was poor.

On examination the heart was found normal. The lungs were also normal, except as follows: At the lower edge of the fourth rib in the left mamillary line the percussion resonance became notably diminished in intensity, and an area of dullness extended from here downward to the bottom of the lung, and laterally as far as the anterior axillary line. On ausculting over this small area of dullness we obtained a boimful explosion of moist râles, which were mainly subcrepitant in character. It was very doubtful whether fine friction sounds were also audible. The dull area was very sensitive to touch.

The treatment consisted of an opiate cough mixture, and the application of a small blister directly over the most painful spot.

Three days later the patient returned to say that he was well. The stitch in the side vanished within twenty-four hours. His appetite returned, and he slept well. His cough had nearly disappeared. On examination we found that the resonance over the previously dull area was clear and full, and the râles were scanty, and more dry in character.

CASE II. Male, about forty years of age, married, works in an iron foundry, where he is exposed to great heat and currents of cold air. Family history good. Came to the Dispensary on December 12, 1881, with the following history: Took cold five weeks ago; after bad cough for four weeks was suddenly seized with pain under the left nipple; this pain grew worse until he was obliged to quit work; cannot take a long breath or cough without great suffering; cannot lie on the left side at all, and only with difficulty upon the right side; passes his nights in a half reclining posture by the kitchen fire; no history of a chill.

Patient had a distressed look in face; his breathing was costal in type, and superficial; there was a hard cough without expectoration; no appetite; bowels constipated.

Physical examination. The heart was normal in position. The left infra-mamillary region was very tender to pressure and to percussion. A dull area was found extending from the fourth intercostal space in the left mamillary line, downward to the bottom of the lung, and laterally as far as the left anterior axillary line. On auscultation we heard fine and medium moist râles all over the dull area. Nothing abnormal was detected in any other part of the lungs. Temperature 101° F.; pulse 80; respiration 28.

Treatment same as in Case I.

December 14, 1881. Patient reports himself better. He can take a long breath, and can lie down; his cough is less frequent and less dry; the left side is no longer tender to pressure.

On examination we found that the dullness had almost disappeared, and only an occasional moist râle could be heard below the nipple, with forced inspiration; there were also a few coarse mucous râles audible at the lower border of the left pectoral muscle in the anterior axillary line; temperature 100.1° F.; pulse 83,

Patient was not seen again until January 22, 1882, when the writer hunted him up at his home in South Boston. The physical signs over the region above described were then normal. He called himself well, except that he still coughed and raised considerable.

CASE III. Male, forty-two years of age, porter in a leather store; was never sick before; family history good. Entered Boston Dispensary November 9, 1881. Caught cold at a dance in August; this was followed by slight cough, which improved for a time. In September, however, it grew worse, and was very troublesome for about three weeks, when a stitch suddenly appeared under the left nipple; this stitch came on in the day time, about one week previous to his application for treatment; pain was continuous, prevented deep inspiration, and caused an anxious look in face; no history of chill.

On examination we found the same condition of things as described above. There was a dull area situated beneath the left nipple, and extending out to the left anterior axillary line; subcrepitant râles were numerous over this area; temperature 99.6° F.; pulse 104; respiration 24.

Treatment as in above cases.

November 12, 1881. Patient returned free from pain in the front of chest; he could breathe easily, and the cough was diminished; the infra-mamillary area of dullness had entirely disappeared, and only a few coarse râles were left; he complained, however, of a new pain at the very bottom of the left subscapular region.

He was not seen again until December 14, 1881, then said that he had worked steadily since the last examination, although he did not feel perfectly well. The resonance on the front of chest was normal; on auscultation an occasional high-pitched, sibilant râle and a few coarse mucous râles could be heard in the left infra-mamillary region on full inspiration; complained of some pain in the back of chest; temperature 98.8° F.; pulse 90.

February 27, 1882. Patient was again visited at his home, when the following new facts were obtained: About four weeks after our last visit patient began to cough severely again; this cough continued two weeks, when he was seized with severe pain in the left subscapular region. This kept him in bed for two days, and obliged him to call a neighboring physician. He was subsequently able to be dressed every day, but was very feeble and sick. He coughed and raised a great deal; sputa was white and yellow; no blood ever appeared; he was very short of breath; had no appetite; and emaciated rapidly. This state of things continued with slight improvement for four weeks, when, on examination, we found him very thin and weak. The left side was slightly collapsed, and moved much less than the right side during respiration; the heart impulse was about normal; the left back was very dull below the angle of the scapula, and this dullness extended to the side and front of the chest; the respiratory murmur was distinctly audible over the dull area, but was much diminished in intensity, as was also the vocal resonance; the vocal fremitus was barely perceptible; occasional râles could be heard; the upper part of the left lung and the entire right lung were perfectly normal so far as physical signs go.

The state of things thus found at this examination point almost indubitably to a recent attack of pleurisy, which had advanced to an almost complete absorp-

tion of the effusion, and a partial reëxpansion of the lung.

Case IV. Male, forty-four years old, baker; mother, three brothers, and three sisters died of consumption. Entered the Dispensary on November 15, 1881, with following complaints: Had coughed for two or three weeks, when he felt a stitch under the left nipple, two days before entrance; this stitch interfered with his breathing, and obliged him to give up work; appetite was good; tongue thinly coated; he favored the left side on removing his clothes.

On examination an area of dullness was found extending from the fourth rib in the left mammillary line downward to the bottom of the lung, and outward to the left anterior axillary line; over this area fine mucous râles were audible; temperature 100.4° F.; pulse 112; respiration 24.

Treatment as in other cases.

November 17th. Patient returned without improvement. The left side was then less mobile than the right one; it was tender to the touch in the subscapular region, and on examination we found evidence of a beginning pleuritic effusion; temperature 100.2° F.; pulse 105; respiration 23.

November 23d. Reports himself as feeling better, but fast walking takes away his breath; has very little pain except a slight amount in his left groin; the physical signs showed the usual evidence of a pleuritic effusion, which reached as high as the fourth rib in front and the angle of the scapula behind; the heart was carried to the right; temperature 99.6° F.; pulse 95; respiration 28.

December 5th. Patient again returned to report progress. He then complained of tightness across his back, and inability to hold his water; said that he had resumed his work, and although the effusion was undiminished in size he was unwilling to submit to any operation for its removal, because he did not wish to give up work.

These cases are identical in the manner of their development. Beginning with a somewhat violent cold, each patient, after a few weeks of coughing, was suddenly seized with a severe pain below the left nipple, which was continuous in character, interfered with breathing and sleeping, and produced a strikingly anxious expression in the face. Combined with the pain were loss of appetite, physical prostration, acceleration of the pulse, and an elevation of the bodily temperature, 99.6° F. to 101° F. There was no initial chill in any case. The cough was dry and hard, and caused much suffering.

On physical examination we discovered another striking point of resemblance, namely, an area of dullness similar in position and extent in each patient. From the lower edge of the fourth rib in the left mammillary line the pulmonary resonance was diminished downward to the bottom of the lung, and outward as far as the left anterior axillary. The axillary regions and all other parts of the lung in each case were normal. Over the dull area we heard fine and medium mucous râles with both phases of respiration.

The diagnosis lay between localized capillary bronchitis, atelectasis of the lung, acute lobular pneumonia, and pleurisy. While capillary bronchitis was seemingly present, as shown by the subcrepitant râles, yet the dullness would indicate some trouble still deeper than the bronchial tubes. We are not prepared to deny the possible collapse of the lung, yet the acute-

ness of the inflammatory process as shown by the elevated temperature, the stitch in the side, and the tenderness on pressure, leads us to believe that we had acute lobular pleuro-pneumonia. In Cases I, II, and III, the pain, and probably the pulmonary complication, had existed about a week prior to the first visit. In each of these cases the symptoms began to subside in the next twenty-four hours, and at the end of three days the patients were well so far as their subjective feelings and the infra-mammillary physical signs were concerned. In the fourth case the pain had existed only two days when the patient was first seen, and the symptoms did not improve as in the previous cases. The pleuritic complication rapidly became more prominent until we soon had a copious pleuritic effusion to deal with.

In regard to the sequelæ of these cases, we found Case II, still suffering from severe cough several weeks after the first attack. Patient III improved slowly for five or six weeks, when he was again seized with pain, and has since apparently passed through an ordinary attack of pleurisy with effusion.

## UNINTENTIONAL ASPIRATION OF THE LIVER.

BY FREDERICK C. SHATTUCK, M. D.

E. H. G., a vigorous young man of twenty, and of good family history, was admitted to the Massachusetts General Hospital November 15, 1881. For the last three months his work had involved standing in the doorway of the ice chamber of a large slaughter house, and he reported that for four weeks previous to entrance to hospital he had suffered from gradually increasing cough, with considerable expectoration, at times green and thick, at times white and frothy.

November 16th. Physical examination of the chest gave nearly negative results, the respiration at both bases being rather feeble, with a few râles. Severe pain in the right side soon came on however, and three days later, November 19th, there were well-marked signs of effusions in the right pleural sac and probable signs of pneumonia of the right lower lobe or lobes. The effusion increased gradually, the apex of the heart moved somewhat outside of the left nipple, but there was nothing in the patient's condition which caused anxiety.

December 1st. Fætor of the breath and expectoration were first noted.

December 2d. About twelve ounces of thin, semi-opaque sputa were raised.

December 3d. The dyspnoea was so severe that I decided to tap him, being in charge of the service during the temporary absence of the visiting physician, Dr. Shattuck. In order to save the patient the fatigue of sitting up I chose the anterior axillary line for puncture, but from not counting the ribs carefully inserted the needle lower than I should have done, in the seventh intercostal space. About two ounces of apparently clear blood were withdrawn, and the needle was removed soon after, no more fluid being obtained and the patient complaining of pain. The next morning I punctured again, but below the angle of the scapula, and this time obtained about twenty ounces of very fetid pus.

<sup>1</sup> Read before the Section for Clinical Medicine and Pathology of the Suffolk District Medical Society, March 9, 1882.

A few days later a free incision was made by Dr. A. T. Cabot in the sixth interspace and anterior axillary line under strict antiseptic precautions, giving exit to a large amount of most offensive pus and a couple of shreds of tissue, one of which was examined microscopically but no elastic fibres were found.

The operation gave great relief to the patient, who made a gradual recovery, and was discharged from the hospital March 8th in very good condition. The right lung is still much disabled by false membranes, but there is every reason to think that, with time, the patient will be practically well.

The point to which I wish to draw especial attention is the puncture of the liver without, as far as can be seen, any evil consequences. The aspirator has now been so long in use that we have learned how safely a small needle or trocar can be plunged into almost any organ or part of the body; and the liver has been punctured many times, unintentionally as well as intentionally, before this. A peculiarity of this case is that the point of the needle must have lain free in a large hepatic vessel, inasmuch as a considerable quantity of blood flowed freely into the receiver without any unusual force being applied to the piston. Ordinarily if a healthy liver is tapped nothing at all, or, at most, a few drops of blood, will be obtained, and it was not until the second and successful attempt had been made to reach the pleural cavity that I was entirely convinced as to the precise nature of my mistake. This is the only case which I recall in which I have tapped in the axillary space, it being my rule to insert the needle in the back; and should it seem desirable to choose the axillary space again I should not puncture at a point lower than the fifth intercostal space, unless the effusion were a very large one and had caused marked displacement of the liver.

My sincere thanks are due to Drs. Shattuck, A. T. Cabot, and Abbot, who kindly placed the whole records of the case at my disposal.

#### A CASE OF INTUSSUSCEPTION.\*

BY T. M. BOTCH, M. D.

A MALE infant six months old, breast fed and previously perfectly healthy, after showing a loss of appetite for several days, began to have abdominal pain on the morning of August 30th, and at half past twelve had a discharge of blood from the rectum, apparently unminged with faecal matter or mucus. The bowels had been moved regularly on the previous day, and there had been no tendency to constipation.

After taking a few drops of ginger at half past one he vomited. During the afternoon he had five or six bloody discharges and did not retain an enema of starch and laudanum which was given.

I saw the infant in the evening and found him looking well, but having from time to time slight attacks of abdominal pain and showing an indisposition to nurse. The temperature was 39.4° C. An examination of the abdomen revealed nothing abnormal.

August 31st. The infant was reported to have had a restless night, to have vomited several times after nursing and to have had six discharges of blood. Temperature 38.2° C.; pulse 135, of good character;

general appearance good. Abdomen soft and not tender on pressure, but between the umbilicus and the left costal cartilages a rather undefined cylindrical tumor could be detected. At four p. m., Dr. Langmaid saw the patient with me in consultation, and at that time no tumor was detected and the infant looked and nursed well. The bloody discharges, however, had not ceased, though they were less frequent and the starch and laudanum enemata were therefore continued and were retained.

September 1st. The patient was reported to have had a restless night and to have cried out a good deal with pain. Dr. Minot saw the case in consultation with me at eleven a. m. Rectal examination revealed no obstruction but brought away a large jelly-like mass supposed to be bloody mucus, and reported by Dr. Gannett, who afterwards examined it, to probably contain portions of the mucous membrane of the intestine in a condition of fatty and albuminoid degeneration, such as would be expected where the nutrition of a portion of the intestine was cut off. On examination of the abdomen, the same cylindrical tumor was felt as at my second examination, but much more defined and unmistakable.

Ether was given and hydrostatic pressure on the rectum at a height of about 180 cm. was made with the buttocks raised, and by means of a fountain syringe and the rubber bulb described by Dr. Putnam in the successful case reported by him in the *BOSTON MEDICAL AND SURGICAL JOURNAL*, April 21, 1881. The pressure was kept up for about ten minutes without producing the slightest effect on the tumor.

During the afternoon the infant came out of his ether well; he took a little breast milk, looked pretty well; temperature 38.2° C.; pulse of good character; no more vomiting or bloody discharges.

It was decided to wait until the following morning before resorting to abdominal section. During the night the child became restless and died suddenly at 11 p. m.

September 2d, eight a. m. Dr. Haven performed the autopsy, the result of which can be seen in this portion of the intestine, which was kept for examination.

Nothing abnormal was discovered in the thorax or abdomen, excepting an ileo-caecal intussusception.

Hydrostatic pressure was again tried with the same apparatus used during life, but at a height of about 250 cm. No effect was produced on the invagination, and on examining the specimen you will see that even if no adhesions had taken place, the twisted position of the retained caecum would have effectually prevented its being pushed back by water in the colon.

A certain degree of anxiety is usually felt by those who have made use of hydrostatic pressure in these cases regarding the danger of bursting the intestine, and in order to test the amount of pressure which the intestine can withstand, the abdomen of an infant's cadaver was laid open and the nozzle of a syringe firmly fastened in the rectum. A ligature was then passed around the large intestine just below the ileo-caecal valve. With a pressure of 180 cm. in height, transudation took place; with a pressure of 268 cm. the intestine burst, the rent occurring 35 cm. from the anus. The length from the anus to the ileo-caecal valve was 75 cm.

It was also found by another experiment that a pressure of only 12 to 30 cm. was necessary to force the water through the ileo-caecal valve and that it then soon escaped through the stomach and throat.

\* Read before the Section for Clinical Medicine and Pathology of the Suffolk District Medical Society, March 9, 1882.



Taking these experiments, then, for what they are worth, we probably need not fear to use a pressure of from 230 to 260 cm. (8-9 feet) in treating these acute cases of intussusception, where the intestine is apparently otherwise healthy.

Dr. Whitney has carefully prepared the specimen, but has not until now attempted to fully reduce the invagination and thus determine whether abdominal section would have been of any avail.

### A CASE OF LOBULAR PNEUMONIA.<sup>1</sup>

BY T. M. ROTCH, M. D.

THE following case is reported as one of lobular pneumonia, the physical signs in the lungs being the most prominent feature of the attack, and, in connection with the severity of the constitutional symptoms, making the fact of the patient's complete recovery of unusual interest clinically. A woman, aged thirty years, unmarried, and always delicate, after complaining of loss of appetite and weakness for six or seven days, and with a history of exposure to cold while sweeping, was seized December 16, 1879, with vomiting, epigastric tenderness, and headache, and was found to have a pulse of 120 and a temperature of 101° F. I saw the case with Dr. Charles Williams, and a physical examination showed the lungs and heart to be normal. The vomiting ceased on the 18th, but the pulse continued to average from 120 to 130, and the temperature, both morning and evening, to be 104° F. This state of affairs continued until the evening of the 22d, when an examination of the lungs showed for the first time a variation from the normal, consisting of harsh respiration and a slight degree of circumscribed dullness over a portion of the right lower lobe behind, just below and to the left of the scapula.

December 23d. Coarse moist râles were heard over the dull region and there was cough and a moderate amount of sputa consisting of thick yellow mucus, with a slight amount of bright red blood at times.

December 24th. Harsh respiration was heard over the left lung also, but the râles and dullness were still confined to the area about two inches in diameter, first noticed in the right lung. Temperature 103.5° F.; pulse 160; respiration 50.

December 25th. The dullness had disappeared from the right lung, though the circumscribed moist râles remained; two or three small circumscribed areas of moist râles were also found in the back of the left lung, and a slight degree of dullness over one of these areas.

December 27th. A few circumscribed areas of dullness and moist râles over right front.

December 28th. No râles or dullness over right front,—the râles were finer in right back. Over the left back the dullness and râles were confined to an area about three inches in diameter below and a little to the right of the scapula, and in this region there was bronchial respiration. The blood had disappeared from the sputa; there was no enlargement of the spleen or tenderness of the abdomen, and the bowels were constipated.

December 29th. Good resonance over both fronts

and a few sibilants and sonorous râles; râles as before in both backs.

December 30th. Slightly delirious; coughed more and sputa contained streaks of blood. Physical examination as before.

January 3d. Has been growing weaker and picks at bedclothes. The pulse and respirations have remained the same, the temperature about 100° F.; has been so weak that no physical examination could be made.

January 5th. Takes food more willingly and looks better, but is still completely prostrated; the delirium has passed off.

January 7th. An examination of the lungs showed good resonance and no râles over both fronts and backs; the respiration was still, however, rather harsh.

January 12th. Has been steadily gaining in appetite and strength. Pulse 120; respiration 28; temperature 99.8° F. Less cough.

From this time until January 26th the temperature, pulse, and respiration remained the same. At one time a circumscribed area of dullness and râles was again found in the right back, and an abdominal abscess formed, which had to be opened. By January 29th, however, the patient was sitting up, the abscess had discharged and closed, the lungs were found to be normal and the temperature 98.8°; respiration 32; pulse 116. The patient was sent to the country and gained steadily in appetite, weight, and strength. Since her recovery she has been well and strong, and an examination made March 2, 1882, showed the lungs, pulse, respiration, and temperature to be perfectly normal. The treatment consisted of large doses of brandy and quinine.

### Reports of Societies.

#### SUFFOLK DISTRICT MEDICAL SOCIETY.

##### SECTION FOR CLINICAL MEDICINE AND PATHOLOGY.

ALBERT N. BLODGETT, M. D., SECRETARY.

MARCH 9, 1882. Meeting called to order at 8.15, Dr. G. B. SHATTUCK, presiding.

Dr. F. MINOT presented a paper entitled

##### A CASE OF CHOREA TREATED BY ARSENIC.<sup>1</sup>

Dr. BOWDITCH said that it certainly seemed that the arsenic had a decided effect, but it was a question if the changed surroundings of the patient, from her previous residence, to the hospital might not have had some influence upon the disease.

Dr. MINOT replied that the child was at a boarding-school, and came from a good home. In the hospital she was, nevertheless, the subject of special care, being in a separate room. The effect of treatment was marked and immediate in respect to the violence of the movements. The disease undoubtedly ran its normal course, but the severity was modified. Arsenic and quinia are known to have a decided effect in chorea. The duration of the disease was fifty-six days; the duration of treatment was twenty-nine days, when the patient was well. The child had never had rheumatism and there was no cardiac murmur.

Dr. BOWDITCH asked if the medicine would have had the effect observed in her treatment at the hospital if administered while the child was still at school.

<sup>1</sup> Vide page 319 of this number of the JOURNAL.

<sup>1</sup> Reported at the meeting of the Section for Clinical Medicine and Pathology of the Suffolk District Medical Society, March 9, 1882.

Were not the change of surroundings and the care important factors in treatment? or one might say the sanitary and moral influences were improved.

Dr. MINOT, in answer to a question, replied that the action of arsenic is not well understood, whether as a so-called tonic or in some other manner.

Dr. LYMAN inquired as to the mental calibre of the patient while at school before the attack of chorea.

Dr. MINOT replied that it was hard to judge accurately, as the child could not speak on entering the hospital, but she was very bright; more intelligent than the average of children. It is impossible to know if the child had been overworked at school.

Dr. LYMAN had a patient with chorea a year ago, who was a very ambitious scholar, and was much distressed if she was not at the head of her class. After trying various remedies without any benefit it was decided that the school was the cause of the chorea. The patient was at once sent into the country, and recovered in a short time without medical treatment. The disease lasted seventy days.

Dr. LYMAN reported a case of this kind a year ago, at which time Dr. Webber mentioned the efficacy of arsenic, but insisted that it must be exhibited in large doses. He is disposed to rely on hygiene and a change of surroundings rather than on any specific medication. He asked if fifty-six days was not a short period of duration of this disease.

Dr. MINOT thought that most cases lasted a longer time than the one reported to-night.

Dr. H. OSGOOD mentioned three cases occurring in his practice, two of which were relieved by arsenic, while the third, which occurred in a very nervous child in the country, was not benefited at all. This result was thought to be due to puberty. After five weeks, improvement commenced and has continued. This child could take only six drops of Fowler's solution. Seven drops invariably produced diarrhoea. The late Professor Traube treated chorea altogether by means of arsenic. Dr. Osgood asked if stuttering is a form of chorea.

Dr. MINOT said that he does not so consider it. Mutism is a very grave symptom and is found only in aggravated cases, the same is true of the persistence of choreic movements during sleep.

Dr. OSGOOD said he referred not to mutism but to stammering.

Dr. LYMAN inquired if there were any members present who could give the result of the arsenic treatment of chorea among dispensary patients who would not be likely to leave their general surroundings and hygiene improved as an aid to the treatment.

The Chairman asked Dr. Rotch if he could give any information on this subject.

Dr. ROTCH replied that he had treated a number of cases of chorea during his dispensary service and that they had all happened to recover in about the usual time, but that he had not given any of them arsenic, as he had considered the danger of administering the drug to this ignorant and stupid class of people to quite offset any possible good which it might accomplish. He also said that he remembered one special case where the violence of the symptoms, loss of speech, sleeplessness, inability to stand, etc., were as excessive as any which he had seen reported, and yet with iron and baths the child recovered in the usual period, the exaggerated symptoms passing off in a few days. Dr. Rotch also said that Dr. Minot's case was especially

valuable, from the careful manner in which the change in the symptoms under the use of the arsenic was noted, as this very want of care and precision makes most of the supposed results of the arsenic and other drug treatment of chorea of very little value. So far as statistics went, the treatment by drugs showed a shorter duration of the disease under arsenic than where other drugs were given, but a set of cases treated by good food and port wine averaged a recovery in from three to six weeks, which was a rather better result than that obtained by the arsenic treatment.

Dr. HAVEN had tabulated two hundred and fifty cases, but of these there were very few in which the records were thorough. Arsenic seemed to afford the best results, not equal, however, to those reported from England under expectant treatment. In one case occurring in Dr. Haven's practice seen on the fourth day, there was only a slight degree of movement on the right side. Expectant treatment was employed and the severity of the disease steadily increased. During the third week the child could neither stand, nor eat, nor speak. Efforts at speech or expression consisted only of moans. Treatment by means of arsenic was now commenced. Two days later no improvement was discernible. The arsenic was then largely increased and in two days the child showed symptoms of arsenical poisoning, accompanied by marked alleviation of the chorea. In one week there was an astonishing moderation in the severity of the symptoms. Dr. Haven had never seen so decided and sudden a change in the course of the disease. It seemed to be due to arsenic.

Dr. W. F. WHITNEY thought there might be danger in the continued use of large doses of arsenic. Dr. Wood has seen cases of fatty degeneration of the kidneys which were thought to be due to the medicinal use of this drug. Sometimes this effect occurs before swelling of the face is noticeable. In reply to Dr. C. H. Williams, Dr. Whitney said that arsenic induces fatty degeneration of all parenchymatous organs.

Dr. HAVEN asked if examination of the urine could discover the degenerative action of arsenic on the kidneys.

Dr. WILLIAMS said that his brother made some experiments on animals while in Strasburg which showed a similarity in the action of arsenic and of iron upon the animal economy.

Dr. W. A. DUNN has treated several cases of chorea with valerianate of zinc and has obtained fully as favorable results as those following the use of arsenic.

Dr. HAVEN said that it is obviously impossible to generalize cases of chorea because the causation is so different. In one severe case, accompanied by movements during sleep, the disease depended entirely upon constipation and was always relieved by a cathartic. In answer to Dr. G. B. SHATTUCK, Dr. Haven said he did not know the proportion of cases of chorea in which there were cardiac symptoms.

Dr. SHATTUCK asked if the arsenical solution was more accurately administered in drops or in some vehicle.

Dr. MINOT directs it to be given in drops. A very good way is to drop it upon bread, which is then eaten by the patient. Where carelessness in nursing is to be apprehended it is better to administer it in some vehicle containing one drop to the teaspoonful. In this way the chances of error would be diminished.

Dr. SHATTUCK asked if there would not be less

variation in the size of drops than in the size of spoons used for measuring the medicines.

Dr. MINOT thought that the variation is less in drops than in spoons. The safest way of administering arsenic is in granules.

Dr. SHATTUCK asked if patients suffering from chorea bear larger doses of arsenic than other individuals?

Dr. MINOT replied that he did not know. Children seem to bear larger doses than adults.

Dr. SHATTUCK remarked that Ziemssen prescribes from seven to twelve drops three times daily.

Dr. G. M. GARLAND said he had treated many cases of chorea by arsenic. In cases where the dose of three drops three times daily had done no good he directed five drops, rapidly increasing to twelve drops three times daily. In each case twelve drops were reached without serious symptoms, or much if any discomfort. With one exception, all the cases improved rapidly. One patient taking three drops without benefit began to improve as soon as twelve drops were given, becoming fat, strong, and healthy.

Another patient had taken arsenic, iron, etc., without benefit. Upon the administration of Fowler's solution in the dose of twelve drops three times daily, improvement immediately took place, and the case was well in a short time. A relapse occurred in this case which was also soon relieved by the same treatment.

In answer to a question, Dr. ROTCH stated that there was no form of iron specially applicable to these cases. Almost all the ferruginous preparations had been tried.

Dr. HAVEN asked the average duration of the disease in the cases spoken of by Dr. Rotch.

Dr. ROTCH could not state positively, but said it was about fifty days.

Dr. F. C. SHATTUCK then read a paper entitled

#### A CASE OF UNINTENTIONAL ASPIRATION OF THE LIVER.<sup>1</sup>

Dr. F. I. KNIGHT stated that Fraenzel almost always operated in the axillary line, and located the puncture in the fifth intercostal space on the left side, while he preferred the fourth on the right side on account of the proximity of the liver.

Dr. F. C. SHATTUCK remarked that the fourth interspace seemed unnecessarily high. In this case the free opening was made in the sixth space.

Dr. ROTCH said that Dr. Shattuck's case was especially interesting to him from its connection with the relative dangers of tapping the pericardium in different situations. It was very evident after the thorough tapping of the liver in Dr. Shattuck's case that the possibility of tapping the liver in the fifth right interspace in performing paracentesis of the pericardium would not be of much consequence, thus removing one of the alleged objections to that locality for operation, especially in comparison with the danger of tapping the heart, which was a real danger, and always existed when the pericardium was tapped to the left of the sternum.

Dr. KNIGHT said that he agreed with Dr. Rotch as to the small chance of finding an enlarged heart infringing on the fifth right interspace, but he should like to know if Dr. Rotch's further observations had led him to believe that this was invariably the rule.

Dr. ROTCH said that he had not met with or heard of a case where, during life, the enlarged heart was

found in the fifth right interspace to a greater distance than one or two centimetres from the right edge of the sternum, but that Dr. Cutler had found a case post mortem where the heart was found in the fifth right interspace, five centimetres from the sternum, and he called upon Dr. Cutler to describe the case.

Dr. CUTLER said that in this case he had found the heart in the position described by Dr. Rotch, much distended with blood, and that this distention evidently took place after death, so that it could hardly be brought up to controvert Dr. Rotch's observations regarding the possible extent of cardiac dullness, and he agreed with Dr. Rotch that it would be exceedingly rare to find the enlarged heart during life so far as five centimetres to the right of the sternum in the fifth interspace.

Dr. BOWDITCH spoke of the impunity with which most of the organs of the body may be aspirated. Often the needle penetrates structures which were not intended to be reached, but ill results seldom follow. It would be desirable to know more accurately the present condition of the patient whose case is reported to-night. The use of the term "practically well" is misleading and objectionable. We cannot feel sure within three or four months that the patient recovering from this grave disease is practically well. Dr. Bowditch asked the character of the physical signs at present.

Dr. SHATTUCK said that there was marked dullness over the lower half of the right chest, and that the respiration was very feeble, though audible to the base. Dr. Cabot reported to him that he had recently heard moist, fine rales over a spot the size of a silver dollar near the base of the lung, and in the posterior axillary line. Dr. Shattuck did not remember listening in this precise spot, and had elsewhere heard no rales. The patient has gained flesh, has had no fever for a month, and has gone to friends in the country. He has been warned that he may never regain the full use of his right lung, and may, consequently, never be able to do the hardest kinds of work. We do not know how extensive the gangrene of the lung was, and this complication may render the reestablishment of function less complete.

Dr. BOWDITCH remarked that very severe cases often recover; the chest expands to its previous volume, and after a sufficient length of time it is sometimes impossible to find any physical signs of impairment of the chest wall or lung on the side where the disease had existed. Attention was directed to the utility of manipulation of the chest wall and deep voluntary respirations as an aid to the expansion of the pleuritic side.

Dr. MINOT asked if Dr. Bowditch thought it possible that a lung which has been bound down by old pleuritic adhesions can be expanded by the voluntary efforts of the patient.

Dr. BOWDITCH replied that the expansion must be commenced early, while the adhesions are young and extensible, when it will often be found possible to expand the lung perfectly.

Dr. MINOT said that in a case like the one reported by Dr. Shattuck, there might be a thickening of the pulmonary and pleural tissues, causing the abnormal physical signs, which might gradually disappear as the patient recovered strength until nothing abnormal could be detected by examination.

Dr. A. N. BLODGETT recalled a case treated by

<sup>1</sup> Vide page 321 of this number of the JOURNAL.

Dr. Minot twelve years ago at the Massachusetts General Hospital, in which there was an enormous pleuritic effusion into the left chest. After two tapplings the fluid became purulent, when a permanent opening was made, and a drainage tube introduced and retained for some months. Dr. Blodgett has seen this patient at intervals since that time, and on examination some two years ago was totally unable to discover the physical signs of any pathological condition in the chest. Resonance and respiration were everywhere normal, and the young man performs the heaviest labors of a farmer's life without inconvenience.

Dr. KNIGHT said that cases in which a deposit of organized lymph occurs in the bottom of the chest are liable to caseous degeneration of the lung in the immediate vicinity of the lymph. The future of such cases is not promising. As long as there is a difference between the two sides in the respiratory murmur and percussion tone the patient cannot be considered safe.

Dr. T. M. ROTCH read a paper entitled

#### A CASE OF INTUSSUSCEPTION.<sup>1</sup>

Dr. W. F. WHITNEY made the following report of the autopsy, and exhibited the specimen as it was taken from the body:—

The invagination occurred at the ileo-cæcal valve, and involved about twenty centimetres of the intestine. The invaginated portion was twisted upon itself so that the lower opening was directed to one side of the axis of the gut, and pressure applied from below simply packed the sac tighter, and rendered reposition more difficult. The serous surfaces were quite firmly adherent throughout the entire extent, and the amount of force required to break them apart and replace the intestine seemed greater than one would have been justified in employing during life.

In reply to a question by Dr. Garland, Dr. Rotch stated that the child whose body was the subject of these experiments had been dead about two months, and the specimen had been preserved in alcohol.

[During the discussion of this case Dr. Whitney succeeded in reducing the invagination completely. The calibre of the intestine was fully restored, and the tissues of the bowel were not materially injured by the force exerted in reduction. The adhesions of the serous surfaces yielded comparatively easily, and the structure of the intestinal wall was found essentially in a healthy condition.]

Dr. CUTLER thought that kneading of the abdomen should be employed when hydraulic pressure is applied.

In answer to a question Dr. MINOT said that the diagnosis of invagination rested chiefly upon the circumstances of previous good health, the sudden attack, bloody discharges, the presence of a tumor, and sudden death. In such cases it might be advisable to open the abdomen, and endeavor to reduce the invagination by direct manipulation. The result could hardly be more unfortunate than if the reduction were not attempted. Dr. Minot mentioned a case he had recently seen in consultation with Dr. Fogg, of South Boston. In this case also was the same pathognomonic train of symptoms observed by Dr. Rotch, the same suddenness of attack and bloody discharges existed, but only a doubtful tumor. The diagnosis, however, was positive. After a duration of thirty-six hours a sudden alleviation of all the symptoms occurred, followed by loose

fecal dejections, accompanied by what was thought to be "bile." On the cessation of vomiting there was a small, natural defecation, after which the child commenced nursing, and soon a very large fecal defecation took place. The child is still living, but has never fully recovered from the attack. The treatment consisted of Dover's powder in small doses. In another case, occurring fifteen years ago, the only treatment employed was opiates, and the child recovered. In neither case was there any attempt to distend the bowel by water or air.

Dr. LANGMAID saw the subject of this discussion in consultation, and although Dr. Rotch was confident that it was intussusception, yet there was at that time no discernible tumor. The patient was easy under opiates. In regard to abdominal section the important question is when to perform the operation. In this case it would undoubtedly have been appropriate, but it is impossible to generalize upon its advisability in all cases. In recent reports we find the operation mentioned with increasing frequency, but we do not hear of all the cases nor of the disadvantages attending its performance.

Dr. CUTLER looked upon the fact that Dr. Whitney found so great difficulty in reducing the invagination as an indication that abdominal section would have been inappropriate treatment in this case. In California it has sometimes been the practice to introduce Seidlitz powders into the rectum and allow the disengaged gas to distend the bowel, thus exerting pressure upon the invaginated portion. Recovery followed in all reported cases.

Dr. LANGMAID thought that by abdominal section a better result would have been obtained than at this time. During life the bowel is moist and slippery and would probably be more easily reduced than after death. The fact that Dr. Whitney could successfully apply the necessary traction now would seem to indicate the same beneficial result with much less traction during the life of the patient.

Dr. WHITNEY stated that the principal difficulty at that time, as now, would probably arise from adhesions.

Dr. HAVEN asked the ratio of cures from operation in the cases spoken of by Dr. Rotch.

Dr. ROTCH stated that three of the eleven cases had recovered while eight had died.

Dr. WHITNEY asserted that in the palliative treatment of intussusception a spontaneous cure is observed in fifty per cent. of the cases.

Dr. G. B. SHATTUCK mentioned a case in Strasburg, alluded to by Dr. Langmaid, in which Koeberle removed over two yards of small intestine on account of three narrow strictures, the patient making a good recovery.

Dr. G. M. GARLAND read a paper entitled

#### ACUTE LOBULAR PLEURO-PNEUMONIA.<sup>2</sup>

Dr. BOWDITCH regarded the local symptoms in these cases as very important. These signs sometimes disappear, but often they are followed by phthisis after a longer or shorter interval.

Dr. KNIGHT asked Dr. Garland what he meant by "lobular pneumonia."

Dr. GARLAND said that he had had doubts if in the cases mentioned there was collapse of certain lobules,

<sup>1</sup> Vide page 322 of this number of the JOURNAL.

<sup>2</sup> Published on page 319 of this number of the JOURNAL.

or serous exudation into them, or if they were occupied by a fibrinous exudation.

Referring to Dr. Garland's and Dr. Knight's remarks on lobular pneumonia, DR. ROTUN spoke of the possibility of acute catarrhal or lobular pneumonia occurring in adults as in children and followed by recovery, and he reported a case seen by him with Dr. Charles Williams where the physical signs in the lungs pointed towards such a condition, though there also appeared to be a marked typhoidal element in the course of the disease.

DR. KNIGHT considered such cases extremely interesting. Three years ago he had treated such a case in Milton. The patient had had a cough for three or four weeks, followed by dyspnea, circumscribed dullness on percussion, and râles in the lower left back. These symptoms gradually extended until they occupied the whole lower lung in localized spots of augmented severity for a period of several weeks, when the disease gradually subsided, requiring between two and three months for convalescence. Since that time the patient has had no bronchitis until this year, and has presented no sequelæ. Dr. Knight had often noticed the râles described by Dr. Garland in the same locations, for a considerable time after acute disease has subsided, but had never detected dullness.

#### SPECIMENS.

DR. WHITNEY exhibited a specimen of diphtheritic endometritis, accompanied by a thrombo-phlebitis of the right ovarian vein.

The woman died thirteen days after delivery, which occurred normally at term. The thrombus had occluded completely the proximal end of the vein, while the greater part of its extent was puriform. The wall of the vein was much thickened, but there was no pus around it. The parenchymatous organs showed a marked granular degeneration.

He also showed the lungs from a case of empyema occurring in a child sixteen months old.

The right pleural cavity contained about one hundred centimetres of fetid pus. The costal pleura was gangrenous, the lung was retracted along the anterior part of the bodies of the vertebrae and covered with a greatly thickened pleura.

The apex of the lung was adherent to the chest wall and there was a free communication between the pleural cavity and a cavity corresponding to the greater part of the upper lobe, lined with a smooth pyogenic membrane, and containing a little cheesy material and pus. The lower lobe was entirely devoid of air, but normal in appearance.

A few scattered miliary tubercles were found in the other lung and the solid organs.

It was thought that the empyema was secondary to an acute trouble (pneumonia?) in the apex, which, instead of ending in resolution, had gone on to the formation of an abscess with perforation into the pleural cavity.

Adjourned at 10.30 P. M.

—The report of the Committee on Public Charitable Institutions of the Massachusetts Legislature that it is inexpedient to legislate on an order relative to discontinuing the State Board of Health, Lunacy, and Charity, and creating instead separate boards of health, lunacy, and charity, has been laid on the table.

#### PROCEEDINGS OF THE MONTHLY PHARMACEUTICAL MEETING OF THE MASSACHUSETTS COLLEGE OF PHARMACY.

B. F. DAVENPORT, M. D., REGISTRAR.

At the regular meeting of March 14, 1882, PROF. STEPHEN P. SHARPLES, S. B., gave an extensive account of

#### SUGARS, THEIR METHODS OF MANUFACTURE AND OF ASSAYING.

illustrating with specimens and polariscope.

The present government method of imposing import duties based upon the old Dutch color tests, justly applicable only to the soft Muscovado sugars, allows a modern hard centrifugal sugar, really containing as much refined sugar as No. 20 of the color test, to be entered as between Nos. 7 and 8 in color. The polariscope is the only reliable method of assay, and is that which is relied upon by sugar dealers. A very little alkali, either lime or soda, left in the evaporating pan would cover the sugar crystals with a slight coating of caramel, which gave the refiners no special trouble to remove after it has passed through the customs ranked as a sugar of a low grade on account of its dark color. The courts have decided that this is allowable so long as it is only a result of the method of manufacture of the sugar.

The pure sugar-house syrups still contain about thirty per cent. of crystallizable, as much more of the non-crystallizable, ten to fifteen per cent. of gum, etc., and four per cent. of ash. The non-crystallizable or inverted sugar consisting of equal parts of dextrose and levulose, is even sweeter to the taste than the crystallizable cane sugar. The best qualities of starch or corn sugar, as now made, is nearly equal in sweetening power to cane sugar. This corn sugar, commercially called glucose, is not exactly the same material as inverted sugar or glucose from cane sugar. The polariscope determines all admixtures above four per cent. of corn glucose with cane sugar. He found the more expensive candies in Boston were fully as likely to contain corn glucose as were the cheapest varieties, this glucose being especially adapted for the manufacture of the soft, moist candies. As a food he considered good corn glucose to be about equal in value to cane sugar. As, however, its present commercial value was only about four cents per pound, he did not consider it just to have to pay ten cents, the value of cane sugar. He did, however, consider it desirable to have it sold under its right name, and at its just value, as a healthy article of food for those who might wish to use it. At times the thick glucose syrups will change rapidly into the solid without having lost any water.

Mention was made of much of the malt extracts found in our market containing a large percentage of corn glucose.

DR. E. G. CUTLER thought this might explain his experience with certain specimens of malt extract which had been dispensed to some of his patients.

PROFESSOR MARKOE offered the suggestion that corn glucose might replace glycerine in certain pharmaceutical preparations that needed to be kept soft and moist.

MR. BARTLET mentioned gelatine suppositories as a case where it might replace glycerine.

Mention was made of the use of corn glucose for the adulteration of, or even as a complete substitution for,

honey, the deception being the more fully carried out by the substitution of an artificial paraffine for the natural bees' wax comb; further even than this, bees can be fed upon corn glucose, and they will take this material and fill up therewith an artificial paraffine comb provided for them in their hive, sealing over the cells with wax. The glucose thus used simply filters, as it were, through the bee, yet has something more of the right flavor than that which has not been thus treated.

PROFESSOR SHARLES stated that he had examined many specimens of sugars and syrups obtained in our own city and also from Michigan, and had found no such widespread adulterations therein with corn glucose as had been asserted in the Michigan State Board of Health Report as prevalent there. He believed that report to have been based upon a reliance in the coffee-reduction test for the glucose, while the reduction in very many of the cases had been really owing to other constituents present in the sugar or syrup.

### Recent Literature.

*Human Osteology.* By LUTHER HOLDEN, Ex-President of the Court of Examiners, etc., assisted by JAMES SHUTES, F. R. C. S. Sixth Edition. Philadelphia: Presley Blakiston. 1882.

It was our duty about three years since to review for the JOURNAL the fifth edition of this popular work, and, although the present remarkably handsome edition is an improvement on its predecessor, the criticisms which we made then would on the whole be still applicable. The point of our remarks was that in spite of the obvious merits of the book, the beauty of the plates, the clearness of the style, and the interest with which it clothes the dry bones, there was not the fullness and accuracy to be expected in a work of this kind. We alluded particularly to the want of description of the internal structure of the bones.

When a book has had the success of the one before us we see no reason why the distinguished author should not bring a new edition thoroughly up to the times. We may add that Mr. Holden is not entitled to any of the leniency that a beginner might claim from the critics.

Let us mention some of the omissions. Nothing is said of the double temporal ridge, a well-demonstrated point that should not have been omitted. Recent observations on the external occipital protuberance and its neighborhood are quite ignored. Not a word is said of the many and striking variations of the jugular fossa on the under side of the temporal bone, though it is a well-known fact that a description of one type of this region of the temporal bone might be quite unintelligible to the student who should follow it on a specimen of another type. There is no mention of the "true neck" of the femur nor of the interesting internal architecture of the bone. We are told, indeed, that "in the horse, the rhinoceros, and the tapir, the gluteal ridge is so largely developed that it has received the name of the third trochanter," but we are not told that it is sometimes sufficiently developed to deserve that name in the human subject, though the point is not without its practical importance. The description of the posterior surface of the patella is quite inadequate. There is no need to continue this list of omissions.

A new, and a very good, feature of the present edition is the introduction of numerous notes on comparative osteology. These, however, are not always as good as they should be. As an example let us quote from the remarks on the clavicle.

"All Primates have clavicles, to which they owe the breadth of their shoulders. In the Carnivora the clavicles do not articulate with any bone, but are simply suspended in the muscles, and are always more or less rudimentary. Bears seldom have clavicles. There is no clavicle in the elephant, or *Hyox capensis*. The three sub-orders of Ungulata have no clavicles, that is, *Pachydermata*, *Ruminantia*, *Solidungula*, as the horse and ox. The same is true of all *Cetacea*, *Sirenia*, and *Crocodylia*." Here, now, is a string of "bold, disjointed" facts that fails utterly to convey to the student the real significance of the clavicle, which is to give firm support to the shoulder in free movements of the arm, especially in such as encounter steady resistance. Thus man and apes have clavicles for climbing, grasping, pushing, etc., bats for flying, moles for digging, etc. Animals like the horse, that use their legs simply for locomotion, have no need of clavicles, and Carnivora, whose anterior extremities have a greater range of use, have in many cases rudimentary clavicles. This very simple and instructive point is utterly missed in the text.

The edition, as we have said, is a very handsome one, and, in spite of our criticisms, will no doubt be a success like its predecessors. We have no desire it should not be, for it is undoubtedly a good book, but we cannot help regretting, both for the sake of the public and the author, that, being as good as it is, it is not more nearly as good as it should be. T. D.

*Dictionnaire Annuel des Progrès des Sciences et Institutions Médicales.* Par Dr. P. Garnier. Dix-Septième année. 1881.

This volume, as its predecessors, is filled with abstracts of articles which have appeared in the medical world during the year 1881. The selection appears to have been judiciously made. The introduction gives a good *resumé* of the progress of medicine in its various departments, and the author claims that in his work all the medical events, great and small, of practical value have been mentioned.

A glance at the index shows that the author keeps himself well informed regarding the work of American physicians. Reference is made to articles published by Drs. Bigelow, Bixby, Van Buren, Curtis, Da Costa, Delafield, Emmet, Gross, Hammond, J. Homans, Thomas, J. C. Warren, and others.

We take pleasure, as in previous years, in recommending this work to the profession. \*

*Aids to Rational Therapeutics.* By J. MILNER FOTHERGILL, M. D., M. R. C. P. New York: G. P. Putnam's Sons. 1882. 121 pages.

The author suggests briefly a line of treatment for various symptoms, and gives some useful hints, but the reader must not have too much faith in all that is said, else he will be disappointed.

Numerous prescriptions are given, many of which are good but not new.

The material is not well arranged, and there is no index.

## Medical and Surgical Journal.

THURSDAY, APRIL 6, 1882.

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No. 4 PARK STREET, BOSTON, MASS.

## THE TREATMENT OF THE CRIMINAL INSANE.

The question of providing for the criminal insane has been brought to the attention of the legislature of Massachusetts again this year, and this time upon a petition from the trustees of all the State insane asylums, by the strong recommendation of the Prison Commission, and with the decided approval of the State Board of Health, Lunacy, and Charity. It can hardly be supposed that so urgent a demand for a matter of such evident need will be refused. In considering, therefore, our own requirements in this direction, it is desirable to ascertain what has been done elsewhere, and to learn how far we can benefit by others' experience.

The criminal lunatic asylum in Broadmoor, England, was opened in 1863. During the previous eight years the number of criminal lunatics under detention in England and Wales in asylums increased annually from 686 to 1017, and there were thirty-eight escapes of convicts who were not captured before the end of the year. In the succeeding seventeen years the corresponding facts are shown in the following table:—

| YEAR.   | IN LUNATIC HOSPITALS.              |  | IN BROADMOOR ASYLUM.                            |  | Total Number in Asylums and at Broadmoor. |
|---------|------------------------------------|--|---|--|---|
|         | Criminal Lunatics during the Year. | Escaped and not captured by the end of the Year. | Criminal Lunatics in Broadmoor during the Year. | Escaped and not captured by the end of the Year. |   |
| 1863    | 1050                               | 6  | 98  | -  | 1148                                      |
| 1864    | 1017                               | 6  | 292   | -  | 1309                                      |
| 1865    | 899                                | 5  | 445   | -  | 1306                                      |
| 1866    | 723                                | 2  | 455   | -  | 1178                                      |
| 1867    | 767                                | 2  | 477   | -  | 1244                                      |
| 1868    | 309                                | 3  | 614   | -  | 923                                       |
| 1869    | 299                                | 0  | 497   | 2  | 747                                       |
| 1870    | 310                                | 4  | 488   | -  | 798                                       |
| 1871    | 328                                | 6  | 524   | -  | 862                                       |
| 1872    | 313                                | 3  | 962   | -  | 875                                       |
| 1873    | 278                                | 3  | 659   | 2  | 867                                       |
| 1874    | 209                                | 3  | 554   | -  | 825                                       |
| 1875    | 319                                | 3  | 544   | -  | 863                                       |
| 1876    | 253                                | 6  | 545   | -  | 884                                       |
| 1877    | 348                                | 6  | 541   | -  | 889                                       |
| 1878    | 341                                | 3  | 626   | -  | 897                                       |
| 1879    | 323                                | 4  | 528   | -  | 851                                       |
| Totals. | 8153                               | 73   | 8281  | 5  | 16,464                                    |

Fifteen times as many insane convicts per one thousand escaped from the lunatic hospitals as from the criminal asylum. Of the five from Broadmoor three were never recaptured. During the first six years there was a gradual removal of the insane from the insane asylums, but in the last twelve years the numbers remaining in them have been tolerably uniform, from 250 to 348. In the sixth year after the

opening of the criminal asylum the greatest number of convicts were confined in it, there having been a progressive annual increase, while the latter eleven years show a quite regular filling of the building to its full capacity without overcrowding. It may be seen, too, that the total number of the criminal insane kept in confinement outside of the prisons is very much less in the last eleven years than in the first six. In other words, experience has shown that in England, at least, the ends of justice and humanity are thought to be best served by retaining in the prisons a larger number of the insane than was formerly the custom, and by keeping in the insane asylums a great part of the criminal insane who are not dangerous. The whole of the insane female convicts under sentence of penal servitude are removed from prison to Broadmoor immediately upon their insanity being recognized, but the male convicts are not at present ordinarily transferred until the periods of penal servitude to which they have been sentenced have nearly expired, and special provision for their treatment has been made in the convict prison at Woking.

From the opening of the Broadmoor Criminal Asylum to the end of 1880 there were 59 persons returned to different prisons on recovery, and 108 were discharged out of custody, of whom five were sent back, and six were readmitted at their own request, *recognizing their insanity, and fearing their inability to restrain themselves from crime.*

Of the 370 men and 120 women in the asylum at the close of 1880, 77 were certified to be insane while under sentence, 244 had been acquitted on the ground of insanity, 13 were reprieved on that ground, 117 were found insane on arraignment, and 39 were certified to be insane while awaiting trial or judgment. There were 220 whose crime was murder, 10 manslaughter, 122 attempt to murder, maim, etc.; concealment of birth 2, rape 3, common assault 7, assault with intent to ravish 6, unnatural offense 3, treasonable and seditious offenses 3, burglary and house-breaking 16, robbery with violence 1, sheep-stealing 2, horse-stealing 1, larceny and petty thefts 25, arson and malicious burning 28, willful damage 2, forgery 1, uttering counterfeit coin, etc., 1, deserters from army and navy 2, felony 4, other misdemeanors 3, sending threatening letters 3, insubordination as soldiers 18, attempting self-murder 3, libel 1. Of the 81 murders by women, 68 were of their own children; of 148 by men only 25 were of their own children. Eighteen persons had been killed by fellow-patients in asylums.

Of the 1349 admitted from 1863 to 1880, inclusive, 108 "recovered" and were discharged; 59 "recovered" and were removed to prisons; 452 became harmless or demented and were transferred to insane asylums; 234 died.

Of 62 admitted in 1880, the leading three supposed "causes" of the insanity were hereditary in 8, congenital in 6, including two cases where there were also intemperance or injury to the head, intemperance in 5.

In forty post-mortem examinations during the year 1880 there was only one case where the condition of

the brain or its membranes did not indicate marked disease. Only one who has seen the wonderful skill in the management of the asylum by its medical superintendent, Dr. Orange, and who knows the liberality with which the government provides for it, can appreciate the facts that the labor performed by the criminal insane in the asylum in 1880 had a money value of £2,835; that there were no serious accidents, suicides, or escapes, and that no form of what is known as mechanical restraint was used during the year.

During 1879, the latest year for which these statistics are available, there were for England and Wales, with a population fifteen times as great as that of Massachusetts, 323 criminals in insane asylums, 528 in the Broadmoor Criminal Asylum, and in prisons 294 cases of insanity, of whom 21 men and eight women were removed to insane asylums or to Broadmoor. The teachings of English experience are that:—

(1.) The expense of caring for the criminal insane must be at least double that for the other insane, although a great deal of work can be expected of both classes.

(2.) Male convicts becoming insane while serving sentence are kept in prison, as a rule, until their term of punishment is nearly over, partly because Broadmoor is so full that new buildings would need to be put up for them if they were sent there, and partly because it is thought desirable to keep them where the life is most like punishment, and to prevent as far as possible attempts at simulation.

(3.) The criminal insane are transferred from the criminal asylum to the lunatic hospitals as soon as their condition justifies the change.

(4.) In round numbers, in 1879, twenty of the criminal insane per million of the population were confined in the criminal asylum, twelve in lunatic hospitals, in prisons ten (on the supposition that the 294 cases of insanity represent about 260 persons).

(5.) The number of the criminal insane really cured or curable is so small (not over six per cent., counting relapses and recurrent attacks) that the protection of society is the chief thing demanded in their treatment.

(6.) Provision for their confinement is of three kinds: in the prisons, chiefly in special cells or rooms; in an asylum as secure in all respects as a prison but entirely remote from one, and in the ordinary insane asylums.

#### MEDICAL INSPECTION OF THE PUBLIC SCHOOLS OF BOSTON.

FOR some years an earnest effort has been made to appoint a medical inspector or supervisor for the public schools of this city, but so far, strangely, without result. That such an office is a public necessity may be inferred from the following statistics. For the twenty-five years immediately preceding 1877, it is estimated that 5000 deaths from scarlet fever, a disease almost entirely confined to childhood, occurred in Boston from the unrestrained dissemination of its

contagium.<sup>1</sup> During the years 1874, 1875, and 1876, there were 1282 deaths from the same cause, and in 1875, 418 from diphtheria.<sup>2</sup> In the State of Massachusetts, during the year 1880, 2081 persons died from various causes between the ages of five and fifteen, or during school years.<sup>3</sup> These are the actual deaths, the statistics not taking into the account the serious and lasting impairment of health so often produced by these contagious diseases, particularly scarlet fever. There are two other diseases to be guarded against, namely, whooping-cough and measles, which, ordinarily considered harmless, are yet capable of leaving the constitution enfeebled for some time, pneumonia, bronchial difficulties, and even pulmonary consumption not infrequently supervening.

There is no good reason why all these contagious diseases may not be spread by the public schools. On the contrary, there is every opportunity for such a result with children, either actually suffering from disease or coming from an infected house, crowded together in, as it too often happens, a badly ventilated room, and coming into contact with each other. This fact has been clearly proven by the testimony of many distinguished physicians at the various hearings which have been held upon this subject. Dr. C. F. Folsom stated at the session of the Committee on Rules and Regulations of the Boston School Board, held November 23, 1876, that "a single child, sent to school before entire recovery from scarlet fever, in one of the *arrondissements* of Paris, in 1875, has been clearly shown to have been the direct cause of a hundred and fifty cases, of whom eighteen died." Moreover, either through ignorance or carelessness, excusable or not, on the part of physicians and parents, it has frequently happened that children suffering from a very mild attack of a contagious disease have been allowed to attend school, thereby serving as *foci* from which the graver forms of the disease have spread. By an intelligent and systematic understanding between the teachers and the medical inspector such occurrences could, as a rule, be avoided.

To be sure there are rules of the Board of Health which regulate the attendance on school, within certain limits of time, of any child who is suffering from a dangerous contagious disease, or who comes from a house wherein such a disease exists. But who is to watch that these rules are not disobeyed—for that they are disobeyed there can be no question? The machinery for the enforcement of these regulations is excellent, but, unfortunately, it is in many cases practically useless, by the admission of those members of the School Committee most competent to judge, from want of the proper official to keep it constantly and understandingly in motion.

Nor are the contagious diseases the only evils which arise from inadequate sanitary supervision of the schools. To quote from an editorial in the *JOURNAL* of October 26, 1882: "During the past year 2213 persons have died (in Massachusetts) between the ages of fifteen and thirty, from pulmonary consumption, out of

<sup>1</sup> Boston Medical and Surgical Journal, March 23, 1876.

<sup>2</sup> Boston Medical and Surgical Journal, January 18, 1877.

<sup>3</sup> Boston Medical and Surgical Journal, October 26, 1881.



a total of 5494 for all ages, a disease the chief causes of which are innutrition and re-breathing over and over again air which has been vitiated, or, in other words, taking into the lungs what has been very properly called the sewage of the atmosphere." That this vitiation of the air, due to improper ventilation, over-heating, and sewer gas, is always present in some of our school-houses, the impairment of health in those who spend so much of their time in it sufficiently attests. The important subjects of ventilation and heating, therefore, demand the most vigorous and constant supervision.

Another very important part of the duties of a medical inspector should be the delivery of a course of lectures on practical hygiene to the teachers and to the advanced classes of the higher schools. The diffusion of useful knowledge claims, at the present day, the attention of all who have the good of communities at heart. What better method could be devised for disseminating a knowledge of the laws of health than by such a course of lectures to instructors and to those who annually graduate from our schools to become useful citizens? The great difficulty with which physicians and boards of health have to contend in the prevention of disease is the lack of intelligent co-operation on the part of those who are most directly affected by unsanitary surroundings. If this loaf of ignorance could be leavened by the diffusion of useful hygienic knowledge, we venture to say that sooner or later there would be a higher standard of health in the community, far reaching in its effects.

It can be readily understood, therefore, that the scope of this office is almost unlimited. That the Board of Supervisors, with its multitudinous duties, can thoroughly attend to the many sanitary details which affect the health of school-children, such as heating and ventilation, light in relation to the scholars' eyes, seats and the deformities traceable to them, gymnastics, condition of the nervous system, contagious diseases in the schools, etc., is not possible. Not even with plenty of time at their disposal, nor with the best of intentions and earnest desires to improve hygienic shortcomings, which they undoubtedly possess, are the members of this Board, as now constituted, fitted by previous training to take cognizance of ills which any sanitary expert would be able to detect. Consequently they are unable to properly guard the health of the children under their care. It has been said that the Board of Health is the proper authority to investigate and report upon the sanitary condition of the schools, and the proper hygienic management of the scholars. This Board, however, emphatically proclaims that it cannot attend to these duties properly; that should it undertake to perform this additional work it would be obliged to appoint just such an officer as ought to be appointed by the School Committee. It has been admitted that many sanitary recommendations have been made by this Committee through the Board of Health, which have accomplished nothing. This, we believe, is simply because there has been no special agent to follow these reports to the fountain head, to argue, and to dis-

tinctly and clearly prove the necessity for their provisions being carried out.

If the Supervisors, School Committee, or the Board of Health, either separately, or together, are able to attend to this important work of sanitary inspection, why, it may be asked, do we continue to see such startling statistics as those given at the commencement of this article; why do we continue to see such instances of impaired constitutions as annually graduate from our schools; why is the best medical and sanitary talent of the country so earnestly arrayed in favor of special sanitary supervision of school-houses and scholars? A few years ago many of the leading physicians of Boston signed an earnest request that the office in question should be created. The late Dr. E. H. Clarke wrote on March 19, 1877, as follows: "I write chiefly to say that my professional experience has long since convinced me that the sanitary supervision and inspection of the children, school-houses, and surroundings of our public schools by a competent inspector would do a great deal towards improving the health, strengthening the physique, and diminishing the diseases of our school-children. Teachers and pupils would both be benefited, and the result would be one of incalculable advantage to the community." The scheme has also received the indorsement of the present Superintendent of Schools, as well as that of his two predecessors. Mr. Philbrick said at a hearing held on November 23, 1876: "If we would work the brain to the best advantage we must see that the requisite physical conditions are secured." "It is not at all probable, judging by the experience of the past, that we shall produce the results that are to be desired, except through the labors of a competent person especially employed for this specific purpose." "Here are fifty thousand children in school, every one of whom would probably be benefited directly."

It cannot be that these gentlemen are entirely wrong; that their years of experience have led them to entirely erroneous conclusions from the facts so commonly noticed by them. The advocates of this reform make the distinct issue that a medical officer, if he is competent and not hampered, can, by constant inspection, prevent much of the impairment of health which exists under the present system, and that he can, with efficient co-operation, prevent in a great measure the spread of the various contagious diseases, peculiar to childhood, through the agency of the schools. Let, therefore, the plan be tried; let the proper officer take charge of all matters pertaining to the health of the city's wards, as far as relates to their connection with the schools, and we are convinced that with the proviso mentioned above, there will be results commensurate with the importance of the subject. This has certainly been the case in Brussels, where medical inspection of the schools has been carried on since 1874, as may be learned from the following extract from our editorial previously quoted: "as a result, *no one of the infectious diseases has reached the height of an epidemic in Brussels since the establishment of their inspection of schools, although other cities of Belgium and Europe have suffered severely; the*

general health of the pupils has improved, and the scholars have much more nearly than before that training which is suited to them individually." These conclusions come home very forcibly to those in our community who have lost children (and their numbers are not few) by diseases directly traceable to the public schools. They, as well as all other parents, have a right to demand that this trial should be made, and that in the future the health and lives of their little ones should be protected by all means known to modern science.

An exceptional opportunity is now presented for the appointment of a medical officer, since five very efficient members of the Board of Supervisors have been chosen. By all means let the sixth member be a physician skilled in sanitary science, who, as a supervisor, will not cause any additional expense to the city, an objection which has been raised against the creation of a special office. That there can be no valid objection to this officer being a member of the Board, even though with his particular duties he may be unable to attend to all the duties of general supervision, is evidenced by the fact that at the last meeting of the School Committee a very respectable number were of the opinion, as expressed by their votes, that the whole work could be done with even less than five supervisors. Boston, which so invariably takes the lead in all matters of reform, has now a grand opportunity to increase her good name, and her School Committee, which is recognized as a very able body, has the same chance of adding to its reputation throughout the country by leading the van in this important matter.

Boston schools are looked upon everywhere with admiration; let this admiration be deepened by allowing them the medical supervision which must sooner or later come. If Boston falters now, other cities will out-strip her in this race for improvement. Is it not better, therefore, to heed the handwriting on the wall of enlightened public opinion, and by a timely acceptance of the warning, lead rather than follow?

#### MEDICAL NOTES.

—The total number of new cases of small-pox originating in Boston during the month of March was six. One new case was reported on April 3d, supposed to have originated from handling rags.

—Thomas Potts James, the eminent bryologist, died recently at Cambridge, at the age of seventy-nine. Until within a few hours of his death, Mr. James was working on a Manual of North American Mosses, which he, in connection with M. Leo Lesqueux, was preparing for the press, giving the result of the study of the past forty years.

#### NEW YORK.

—The fifty-second annual commencement of the College of Pharmacy was held at Chickering Hall on the 22d of March, when diplomas were conferred upon eighty-six graduates. A portrait of Professor Chandler was presented to the College by the graduating class on this occasion.

#### Miscellany.

##### FORTRESS MONROE AND OLD POINT COMFORT AS A WINTER RESORT FOR INVALIDS.

MR. EDITOR.—Some of your readers may be interested in a few particulars about Old Point Comfort, where I spent several days very recently, and which has, especially within a year or two, attracted such large numbers of Northern people during the winter and spring months. The more physicians know about places to which they send their patients, the better for both parties, and the more rare those case of woeful disappointment which are more common than they should be.

In the first place, as to the journey. This is rather long, but cannot be said to be very fatiguing. The easiest way for most people is to go to New York, either by boat or rail, and take the train with drawing-room car, leaving Jersey City at 3.50 P. M. This train makes close connection with the Bay Line steamer for Norfolk about nine P. M., near Baltimore, the passenger stepping almost directly from the car upon the boat. Another way is to leave Boston by the New York and New England train at six P. M., and go through to Baltimore without change of cars, arriving at nine A. M. One must then pass the whole day at Baltimore, and drive across the city to take the boat at seven P. M. The boat then drops several miles down the stream to another dock, to await the New York train. The steamers of the Bay Line are very comfortable, provide excellent food, and have, besides state-rooms, a number of larger rooms with beds. The passage to Old Point takes about twelve hours, and one is landed at the very door of the hotel. A boat leaves Washington also every evening except Sundays, but this line is said to be decidedly less comfortable than that from Baltimore. Those who are unwilling to take any risk of seasickness can reach Old Point by rail through Washington and Richmond. The passage from Norfolk is only ten or twelve miles.

The hotel—there is but one, the Hygeia—is an enormous wooden building immediately on the beach, and within almost a stone's throw of Fortress Monroe. It is provided with broad piazzas on almost every story, and many of these are glassed in during the winter months. It is heated by steam, and, in the newer portions, nearly every room has an open grate adapted for either soft or hard coal. In the older parts of the hotel there are steam radiators in every room, and but few have open fireplaces. Baths of hot and cold sea and fresh water can be had in the hotel, and a few rooms are provided with private bath-rooms. There are elevators. The corridors of the hotel are draughty, an objection for those who take cold easily. Rain water is used for drinking purposes, and the drainage of the hotel seemed to be good, but I did not have time to investigate this point thoroughly. There was a bad smell near one set of water-closets while I was at the house, but this was due to the clogging of the soil pipe by a pistol which fell from the pocket of one of the guests while using the closet. This is a danger connected with the carrying of deadly weapons which has not been alluded to before, to my knowledge. The cooking and service were very fair, better than I should have expected at such a place. The hotel was not at the time of my visit full, and I should think it doubtful whether the kitchen and dining-room accom-

modations are at present sufficient for a full complement of guests, seven hundred to one thousand. Oysters are very abundant and good, and are provided in almost every style at every meal. I can testify that broiled oysters for breakfast are neither unpalatable nor unwholesome.

Full precautions are said to be taken against fire, a danger which naturally occurs to one occupying a room on the fourth story of a large and rather rambling wooden building rendered dry as tinder by steam heat.

As to the climate I do not propose to say much. It is of course far milder than with us, and there are undoubtedly many days throughout the winter when one can sit in the fresh air, well wrapped up. In the latter part of February I saw violets in bloom in the open air. Anybody can see for himself, in his daily paper, the relative temperature of Norfolk and Boston in the weather report.

The hotel is very full during March and April, and it is not easy to secure good rooms at this time. One may write to a friend to secure rooms, and they may be promised by the proprietor, but they are not secure until one is established in them. For a person who is well and strong this may be no great hardship, but an invalid or delicate person would find a great difference between the south and north rooms. During the winter months, *stricto nomine*, the house is amply large for all present demands, and I do not think that this difficulty of securing rooms would be encountered. It is not wholly the fault of the management. People often say that they are going away on a certain day, their rooms are then promised to others, and later the first party concludes to stay for another week.

During the spring months, at least, many of the guests are people in good health, who merely wish to escape a few of our east winds, and the place is consequently less depressing than those resorts to which only invalids go.

Hotel life is, at its best, undesirable enough for young children, but at Old Point there is one very great advantage in the fine, clean beach, which immediately adjoins the piazzas. At the time of my visit babies were on the piazzas in their carriages, and older children on the beach playing in the sand, making forts, etc., nearly all day long. There is rarely or never any surf of consequence; the rise and fall of the tide is small, — I should judge not more than two or three feet, — and there are many shells to be picked up of kinds with which we are not familiar along our coasts. At low tide one can drive over the beach, which is said to extend for fifteen miles toward the Chesapeake.

The resources of the place in the way of occupation and amusement are not very varied, but are still sufficient for those who are not very exacting. A good shell road goes to Hampton, where are the Soldiers' Home — exclusively for disabled volunteers of the civil war — and the Normal School, with its Indian and negro pupils. Sail boats are to be had, but row boats are very hard to find. There is a daily dress parade in the fort, which is open all day in the freest possible manner, and there is a military band. Within the fort are groves of live-oaks, and, about the officers' quarters, specimens of box, holly, and evergreens which would enrapture a Northern gardener. Large numbers of steamers and sailing vessels are constantly passing to and fro from Hampton Roads and the James River, and one or more ships of war are generally lying within sight of the hotel.

A lady who has passed the larger part of every winter for many years at Southern or West Indian health resorts said to me: "This place is rather too cold for me, but offers far greater advantages for my children than places such as Aiken, Thomasville, etc.; and, moreover, if I do not feel up to driving or walking, the constantly changing sea and passing vessels give me something to look at from the piazza or my room."

Last, but not least, Dr. Hoff, the surgeon at the fort, is a skillful and kind physician within easy call.

In short, the impressions which I formed of the place during my short visit were very favorable, and it seems to me to have great advantages for delicate people without serious organic disease, or for convalescents from acute diseases who require plenty of pure fresh air, rest, and change of scene, combined with a very fair degree of comfort, in order to regain strength rapidly and pleasantly. Very truly yours,

FREDERICK C. SHATTUCK.

Boston, March 25, 1882.

#### LETTER FROM PHILADELPHIA.

MR. EDITOR. — Matters of interest have recently occurred that deserve more than a passing notice. The death of Professor Joseph Pancoast has been quickly followed by the resignation of Professor Gross from the Chair of Institutes and Practice of Surgery in the Jefferson Medical College; this action being taken on the 29th of March, the day before the College Commencement. The reasons assigned by the venerable professor in his letter to the Trustees are as follows: —

"Advancing age and a desire, after a laborious professional life of fifty-four years, to spend the remainder of my days in comparative repose, induce me to ask your Board to accept my resignation of the Chair of Surgery which, by a unanimous vote, they did me the honor to confer upon me twenty-six years ago. During this long period it was my good fortune to be associated with learned, distinguished, and honorable colleagues, who always received my earnest coöperation and support in every measure designed to advance the best interests of the school, and to maintain it in that lofty position which it is universally acknowledged, both at home and abroad, to occupy.

"In severing my relations with you and with my associates, I desire to assure you that I shall ever feel a deep interest in my Alma Mater, and pray that she may continually advance in prosperity and influence, and be in all time to come an honor to her founders, to the various faculties that have ministered to her shrine, and to the Trustees who have, in successive stages of her career, so wisely shaped and controlled her destinies. I lay down the robes of office not without regret, but with clean hands and with the consciousness that in all my teachings, extending in different schools over a period of forty-eight years, I was ever governed by an eye single to the welfare of my pupils, and the honor and dignity of my profession."

The Board of Trustees, after accepting the resignation, unanimously elected him Emeritus Professor of Surgery. It was decided to divide the Chair and to give to Dr. S. W. Gross the Professorship of Principles of Surgery, and to Dr. John H. Brinton Practical Surgery, the duties of the Surgical Chair being also divided. This apparently relieves the Professor of Anatomy of his clinical labors. Professor Gross, Senior, will, as his health permits, attend the clinic with his son, and continue the valued instruction that has given Jefferson its great reputation as a school of surgery, in which its preëminence has long been recognized.

The annual oration before the Alumni Association of Jefferson College was delivered March 29th, in the hospital amphitheatre, by Professor L. Elberg, of New

York, whose theme was Modern Progress in Biological Science. It was an excellent *résumé* of the achievements in the special field of research indicated in its title, and formed an interesting and very scholarly address. After the lecture a supper, at which fifty-two sat down, was given in honor of the orator, at the Hotel Bellevue, by the resident Alumni, Professor Gross, Sr., President of the Association, occupying the head of the table. It was the most successful gathering of the Alumni that has yet been held. The endowment of Jefferson College was discussed, and a movement instituted in this direction by appointing a committee to consider the subject, receive subscriptions, and report at the next meeting.

The eighty-third Annual Commencement of Jefferson was held on March 30th, at which the degree of Doctor of Medicine was conferred upon two hundred and forty-seven graduates. The honorary degree of Doctor of Divinity was conferred upon Rev. Isaac L. Nicholson, of St. Mark's P. E. Church, Philadelphia, and Rev. Charles A. Maisson, of St. James Church, Kingessing. The honorary degree of Doctor of Laws was conferred upon Dr. Thomas Adlis Emmet, of New York. Professor H. Chapman delivered the valedictory address.

The University of Pennsylvania held its one hundred and fifteenth Annual Commencement on the 15th ult., at which one hundred and sixty-three students were graduated, (one hundred and twenty-two in medicine, forty-one in dentistry); Professor Jas. Tyson delivered the valedictory address. University propriety and traditions were studiously observed by the wearing of the caps and gowns by the faculty and class with a decided effect; in one direction a new departure was made, however, that deserves to be imitated even by those who are not equid to the other; the graduating class requested that no flowers should be sent, and as a result the flower nuisance was happily distinguished by its absence.

The Women's Medical College held its Commencement on March 16th, the degree being conferred upon nineteen women. Professor J. B. Walker delivered the valedictory. The Medico Chirurgical College held its first Annual Commencement in Association Hall, the valedictory being delivered by Professor Wm. F. Waugh, to three graduates.

The sixty-first Annual Commencement of the Philadelphia College of Pharmacy was held March 15th, at the Academy of Music. One hundred and seventeen graduates received the degree of Graduate in Pharmacy. Professor Samuel P. Sattler delivered the valedictory.

Philadelphia as a medical centre was never more flourishing, its time-honored schools are steadily increasing in usefulness and influence, and they have by a marked degree conformed to the popular demand for higher medical education by extending the curriculum and the period of study; the classes are large, hospital facilities for students are numerous, and if further evidence were needed of its position in medical teaching it may be found in the fact that it publishes seven medical journals, devoted to general medicine, without counting those of dentistry, pharmacy, and other specialties, or annual volumes of transactions.

The medical societies are quite numerous and show increasing activity. The College of Physicians had measures on foot to establish a Nurse Registration under the charge of a committee consisting of Dr. W. W. Keen, chairman, and Drs. S. Weir Mitchell and Al-

bert H. Smith, which has commenced work with great energy, and has secured subscriptions of over twelve hundred dollars in order to pay the necessary expense for the first year. The books will probably be opened by May 1st for the registration of nurses. The College is also to have its library opened in the evenings, to have a smoking and conversation room, a telephone, and a number of other modern conveniences. The library is rapidly increasing at the rate of one hundred or more volumes per month, and new cases are being put up to accommodate the rapid accumulation. The books are in excellent order, the card catalogue is approaching completion, and increased conveniences have been adopted to facilitate consultation of books, the librarian having the services of two assistants. The meetings of the college also show increased interest, and are more largely attended than they have been for a number of years.

At the last meeting of the County Medical Society, Dr. Frank Woodbury read a paper upon a Rational Treatment of Pulmonary Consumption, in which he spoke of chronic tuberculosis as a disease of nutrition, specific only in the sense that it has a recognizable morbid anatomy and clinical course, but not specific in its causation. The rational treatment that he considered appropriate being: (1) to relieve urgent symptoms, (2) to improve the hygienic conditions of the patient, and (3) to remove the dyscrasia by systematic exercise, living in elevated regions, and breathing pure, dry air. He condemned the alcohol treatment and the abuse of opium, advocated the use of the ordinary alteratives and anapleptics, but considered an out-door life as of primary importance.

The Mutual Aid Association held its Annual Meeting on April 3d, Dr. William Pepper, president of the Association, presiding. The usual business was transacted. Dr. R. J. Dunglison reported a balance of nearly \$3000 in the treasury. By the rule of the society no money can be disbursed for charity until the funds amount to \$5000. Several cases of distress were reported, which were partly relieved by private subscription among the members. The Association has an important work to perform, and will undoubtedly accomplish a great deal of good. Only members of the County Medical Society are eligible for membership.

#### IN RE GUITEAU.

MR. EDITOR, — It seems hardly necessary for me to repeat for the third time my statement that there were two measurements taken of Guiteau's head, one at the longest circumference by lead pipe, and one higher up, at the plane of the parietal. Dr. Kempster testified (see page 1522 of the evidence) that his "shape" was taken with a *conformateur*. This "shape" was that taken by Steinmetz, the Washington hatter, and shown to the principal medical witness for the defense (page 1005) as well as to one or more of the government witnesses.

As you well know, the cuts in my previous letter were reduced by the publishers of the JOURNAL by photographic process from the plates in the government report, so they are presumably accurate.

No reliance can, I think, be placed upon Clark Mills' mould of Guiteau's head. There are at least three casts from this in New York, each one of which differs from the other. In the evidence it is admitted that

the "face part of the cast had been smoothed out because Guitau smiled." It is the opinion of many, who should know, that the sculptor's peculiar phrenological views have led him to use his trowel in a ju-

dicious way upon other parts of the head. This would appear, after inspection of two of the casts now in this city, to be highly probable.

ALLAN McLANE HAMILTON.

# REPORTED MORTALITY FOR THE WEEK ENDING MARCH 25, 1882.

| Cities.                         | Population by Census of 1880. | Reported Deaths in each. | Deaths under Five Years. | Percentage of Deaths from         |                |                       |                |            |
|---------------------------------|-------------------------------|--------------------------|--------------------------|-----------------------------------|----------------|-----------------------|----------------|------------|
|                                 |                               |                          |                          | The Principal "Zymotic" Diseases. | Lung Diseases. | Diphtheria and Croup. | Scarlet Fever. | Small-Pox. |
| New York.....                   | 1,206,590                     | 763                      | 348                      | 30.79                             | 18.47          | 7.60                  | 10.74          | 1.83       |
| Philadelphia.....               | 846,984                       | 386                      | 127                      | 16.35                             | 10.38          | 6.75                  | 1.82           | 2.86       |
| Brooklyn.....                   | 566,689                       | 285                      | 126                      | 24.56                             | 23.16          | 9.12                  | 10.19          | —          |
| Chicago.....                    | 503,304                       | 288                      | 147                      | 29.88                             | 17.50          | 7.00                  | 1.35           | 9.80       |
| Boston.....                     | 362,353                       | 175                      | 49                       | 10.86                             | 13.29          | 3.03                  | 1.14           | —          |
| St. Louis.....                  | 350,522                       | 110                      | 43                       | 19.09                             | 14.54          | 1.82                  | 6.36           | 1.82       |
| Baltimore.....                  | 332,190                       | 149                      | 61                       | 18.12                             | 7.95           | 7.58                  | 3.36           | 2.68       |
| Cincinnati.....                 | 255,708                       | 98                       | 31                       | 32.65                             | 8.16           | 2.04                  | —              | 22.44      |
| New Orleans.....                | 216,140                       | —                        | —                        | —                                 | —              | —                     | —              | —          |
| District of Columbia.....       | 177,638                       | 84                       | 25                       | 16.67                             | 17.85          | 4.76                  | —              | 5.95       |
| Cleveland.....                  | 160,140                       | —                        | —                        | —                                 | —              | —                     | —              | —          |
| Pittsburgh.....                 | 156,381                       | 80                       | 40                       | 37.50                             | 2.50           | 3.75                  | 7.25           | 10.00      |
| Buffalo.....                    | 155,137                       | 65                       | 27                       | —                                 | —              | —                     | —              | —          |
| Milwaukee.....                  | 115,578                       | 48                       | 26                       | 20.83                             | 12.50          | 2.08                  | 8.32           | —          |
| Providence.....                 | 104,857                       | 35                       | 10                       | 8.57                              | —              | 2.85                  | —              | —          |
| New Haven.....                  | 62,882                        | 49                       | 8                        | 14.28                             | 10.20          | 10.20                 | —              | —          |
| Charleston.....                 | 49,999                        | 38                       | 11                       | 7.89                              | 7.89           | —                     | —              | —          |
| Nashville.....                  | 43,461                        | 25                       | 8                        | 12.00                             | 4.00           | —                     | —              | —          |
| Lowell.....                     | 39,485                        | 14                       | 5                        | 7.14                              | 21.42          | 7.14                  | —              | —          |
| Worcester.....                  | 58,295                        | 23                       | 10                       | 13.04                             | 39.12          | 4.35                  | 8.70           | —          |
| Cambridge.....                  | 52,740                        | 17                       | 6                        | 11.76                             | 17.65          | 11.76                 | —              | —          |
| Fall River.....                 | 49,006                        | 19                       | 8                        | 10.53                             | —              | 5.26                  | —              | —          |
| Lawrence.....                   | 39,178                        | —                        | —                        | —                                 | —              | —                     | —              | —          |
| Lynn.....                       | 38,284                        | 21                       | 9                        | 19.05                             | —              | —                     | —              | —          |
| Springfield.....                | 33,340                        | 12                       | 4                        | 16.66                             | 33.33          | 4.76                  | 9.52           | —          |
| Salem.....                      | 27,598                        | 19                       | 5                        | 15.79                             | —              | 5.26                  | 8.33           | —          |
| New Bedford.....                | 26,875                        | 14                       | 4                        | 21.43                             | 14.28          | 7.14                  | —              | —          |
| Somerville.....                 | 24,985                        | 12                       | 3                        | 33.33                             | —              | 16.66                 | —              | —          |
| Holyoke.....                    | 21,851                        | 7                        | 3                        | —                                 | 14.28          | —                     | —              | —          |
| Chelsea.....                    | 21,785                        | 14                       | 5                        | 7.14                              | 7.14           | 7.14                  | —              | —          |
| Taunton.....                    | 21,213                        | 8                        | 2                        | —                                 | —              | —                     | —              | —          |
| Gloucester.....                 | 19,329                        | 7                        | 4                        | —                                 | 25.00          | —                     | —              | —          |
| Haverhill.....                  | 18,475                        | 6                        | 0                        | —                                 | —              | —                     | —              | —          |
| Newton.....                     | 16,995                        | 4                        | 1                        | 33.33                             | 16.66          | 16.66                 | —              | —          |
| Brookton.....                   | 13,608                        | 6                        | 2                        | 16.66                             | —              | —                     | —              | —          |
| Newburyport.....                | 13,537                        | 6                        | 1                        | —                                 | —              | —                     | —              | —          |
| Fitchburg.....                  | 12,405                        | 6                        | 1                        | —                                 | —              | —                     | —              | —          |
| Malden.....                     | 12,017                        | 2                        | 1                        | —                                 | —              | —                     | —              | —          |
| Twenty Massachusetts towns..... | 157,684                       | 51                       | 10                       | 11.76                             | 7.84           | 3.92                  | 1.96           | —          |

Deaths reported 2946 (no reports from New Orleans and Cleveland): 1171 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and fevers) 672, consumption 576, lung diseases 438, diphtheria and croup 180, scarlet fever 151, small-pox 94, measles 48, typhoid fever 47, diarrheal diseases 39, whooping-cough 32, cerebro-spinal meningitis 31, puerperal fever 26, malarial fevers nine, erysipelas nine, typhus fever six. From measles, New York 24, Chicago nine, Brooklyn six, Pittsburgh three, Philadelphia two, Baltimore, Buffalo, Milwaukee, and New Haven one each. From typhoid fever, Philadelphia 13, Chicago eight, Pittsburgh four, New York three, Brooklyn, Boston, Baltimore, Cincinnati, District of Columbia, and Buffalo two each, Milwaukee, Charleston, Fall River, Lynn, Brockton, Newburyport, and Plymouth one each. From diarrheal diseases, New York 17, St. Louis seven, Chicago five, Boston, Cincinnati, and District of Columbia, two each, Brooklyn, Buffalo, Charleston, and Nashville one each. From whooping-cough, New York 14, Brooklyn and Pittsburgh four each, Chicago and Providence two each, Philadelphia, Boston, Baltimore, Nashville, Salem, and Attleborough one each. From cerebro-spinal meningitis, Buffalo six, New York five, Chicago and Pittsburgh three each, Philadelphia, Cincinnati, Worcester, New Bedford, and Somerville one each, Charleston, Springfield, Salem, and Weymouth one each. From puerperal fever, New York seven, Chicago and Boston five each, Milwaukee two, Brooklyn, St. Louis, Baltimore, Cincinnati, District of Columbia, Buffalo,

and New Haven one each. From malarial fevers, New York four, Chicago and St. Louis two each, Nashville one. From erysipelas, Baltimore two, New York, Philadelphia, Brooklyn, Boston, Cincinnati, Buffalo, and Milwaukee one each. From typhus fever, New York six.

One hundred and four cases of small-pox were reported in Cincinnati, Pittsburgh 36, St. Louis 12, Baltimore seven, Milwaukee three, District of Columbia two, and Salem one; diphtheria 29 cases, scarlet fever 11, typhoid fever nine, in Boston; scarlet fever 12, and diphtheria two, in Milwaukee.

In 40 cities and towns of Massachusetts, with a population of 1,071,042 (population of the State 1,783,086), the total death-rate for the week was 21.50 against 19.27 and 19.34 for the previous two weeks.

For the week ending March 4th, in 173 German cities and towns, with an estimated population of 8,519,888, the death-rate was 28.2. Deaths reported 4622; under five 2116; pulmonary consumption 699, acute diseases of the respiratory organs 558, diphtheria and croup 233, diarrheal diseases 155, scarlet fever 102, whooping-cough 63, typhoid fever 59, measles and rubella 33, puerperal fever 17, small-pox (Königsberg, Dortmund, Essen, Trier) four, typhus fever (Danzig, Thorn) two. The death-rates ranged from 11.3 in Freiburg i. B. to 41.6 in Munich; Königsberg 32.6; Breslau 29.7; Dresden 27.3; Berlin 25.6; Leipzig 23; Hamburg 31.2; Hanover 27.6; Bremen 25.3; Cologne 35.4; Frankfurt-on-Main 20.8; Strasburg 34.1.

In the 28 English towns, with an estimated population of 8,455,320, for the week ending March 11th, the death-rate was 24. Deaths reported 3801: acute diseases of the respiratory organs (London) 473, whooping-cough 233, measles 144, scarlet fever 68, diarrhoea 48, fever 38, diphtheria, 29, small-pox (London) 19 25. The death-rates ranged from 16.9 in Birmingham to 31.4 in Blackburn; Bristol 22.8; Liverpool 23.7; London 24; Sheffield 25.3; Leeds 25.8; Manchester 27.6.

For the week ending March 11th in the Swiss towns, popu-

lation 479,934, there were 53 deaths from acute diseases of the respiratory organs, pulmonary consumption 48, diarrhoeal diseases 18, diphtheria and croup 14, typhoid fever and whooping-cough each four, measles and puerperal fever each three, scarlet fever two. The death-rates were, Geneva 23.3; Zurich 43.6; Basle 30.2; Berne 26.4.

The meteorological record for the week ending March 25th, in Boston, was as follows, according to observations furnished by Sergt. O. B. Cole, of the U. S. Signal Corps:—

| Date.            | Barom-eter. | Thermom-eter. |          |          |            | Relative Humidity. |             |       | Direction of Wind. |            |             | Velocity of Wind. |            |             | State of Weather. <sup>1</sup> |            |             | Rainfall.              |                   |
|------------------|-------------|---------------|----------|----------|------------|--------------------|-------------|-------|--------------------|------------|-------------|-------------------|------------|-------------|--------------------------------|------------|-------------|------------------------|-------------------|
|                  | Mean.       | Mean.         | Maximum. | Minimum. | 7.23 A. M. | 3.23 P. M.         | 11.23 P. M. | Mean. | 7.23 A. M.         | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.        | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.                     | 3.23 P. M. | 11.23 P. M. | Direction, Hrs. & Min. | Amount in inches. |
| March, 1882.     |             |               |          |          |            |                    |             |       |                    |            |             |                   |            |             |                                |            |             |                        |                   |
| Sun., 19         | 30.007      | 40            | 51       | 29       | 96         | 50                 | 65          | 70    | W                  | W          | W           | 5                 | 8          | 9           | O                              | C          | C           | —                      | —                 |
| Mon., 20         | 29.952      | 47            | 61       | 33       | 59         | 16                 | 37          | 37    | W                  | NW         | NW          | 5                 | 20         | 9           | C                              | F          | O           | —                      | —                 |
| Tues., 21        | 29.837      | 32            | 51       | 29       | 61         | 88                 | 94          | 81    | NE                 | NE         | N           | 16                | 19         | 13          | O                              | S          | S           | —                      | —                 |
| Wed., 22         | 29.940      | 32            | 38       | 25       | 77         | 73                 | 78          | 76    | NW                 | SE         | NW          | 7                 | 6          | 8           | O                              | F          | O           | —                      | —                 |
| Thurs., 23       | 30.221      | 32            | 44       | 23       | 76         | 30                 | 60          | 55    | NW                 | SE         | S           | 13                | 8          | 11          | C                              | C          | C           | —                      | —                 |
| Fri., 24         | 27.977      | 33            | 48       | 23       | 73         | 53                 | 48          | 58    | SW                 | NW         | NW          | 18                | 19         | 13          | F                              | F          | C           | —                      | —                 |
| Sat., 25         | 30.311      | 24            | 32       | 15       | 53         | 29                 | 61          | 48    | NW                 | NW         | W           | 12                | 21         | 5           | C                              | C          | C           | —                      | —                 |
| Means, the week. | 30.035      | 34            | 61       | 15       |            |                    |             | 59    |                    |            |             |                   |            |             |                                |            |             | 21.47                  | .46               |

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., snow; R., rain; T., threatening; X., clearing.

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE HOSPITAL SERVICE. JANUARY 1, 1882, TO MARCH 31, 1882.

**BAILHACHE, P. H., surgeon.** To proceed to Richmond, Va., as inspector. January 31, 1882.

**VANSANT, JOHN, surgeon.** Detailed as president Board of Survey for the physical examination of officer of the Revenue Marine Service. March 18, 1882.

**WYMAN, WALTER, surgeon.** When relieved by Surgeon Austin to proceed to Baltimore, Md., and assume charge of the service at that port. March 4, 1882.

**FESSENDEN, C. S. D., surgeon.** To proceed to Greenport and Sag Harbor, New York, as inspector. January 26, 1882.

Detailed as president Board of Survey for the physical examination of pilot, to meet at Boston, Mass., February 16, 1882. February 7, 1882.

**PERVANCE, GEORGE, surgeon.** To proceed to Gloucester, Mass., to extend relief to shipwrecked seamen. January 12, 1882.

Detailed as recorder Board of Survey for the physical examination of pilot, to meet at Boston, Mass., February 16, 1882. February 7, 1882.

**AUSTIN, H. W., surgeon.** To proceed to Cincinnati, Ohio, and assume charge of the service at that port, relieving Surgeon Wyman. March 4, 1882.

**GOLDFREY, JOHN, passed assistant surgeon.** When relieved by Passed Assistant Surgeon Goldborough to proceed to New Orleans, La., and assume charge of the service at that port. March 4, 1882.

**GOLDSBOROUGH, C. B., passed assistant surgeon.** When relieved by Surgeon Wyman to proceed to Mobile, Ala., and assume charge of the service at that port. March 4, 1882.

Granted leave of absence for eight days. March 24, 1882.

**HEWES, FAIRFAX, assistant surgeon.** Granted leave of absence for seven days. January 18, 1882.

**O'CONNOR, F. J., assistant surgeon.** To report to General Superintendent, L. S. S., for duty as member of Board to examine keepers and crews of the Life-Saving Service. January 4, 1882. Relieved on account of sickness, and directed to report to surgeon-in-charge, New York, N. Y., for temporary duty. January 18, 1882. To proceed to Detroit, Mich., and report for duty to the surgeon-in-charge. February 9, 1882.

**BANKS, C. E., assistant surgeon.** To proceed to Portland, Oregon, and assume charge of the service at that port. March 1, 1882.

**DEVAN, S. C., assistant surgeon.** Detailed as recorder Board

of Survey for the physical examination of officer of the Revenue Marine Service. March 18, 1882.

**URQUHART, F. M., assistant surgeon.** To report to General Superintendent, L. S. S., for duty as member of Board to examine keepers and crews of the Life-Saving Service. January 18, 1882.

**KALLOCH, P. C., assistant surgeon.** To proceed to New York, N. Y., for temporary duty. January 24, 1882.

**RESIGNATION.**—**HELENSMITH, ERNEST.** Resignation as surgeon accepted, to take effect November 26, 1881. January 17, 1882.

**PROMOTION.**—**SMITH, HENRY, surgeon.** Promoted and appointed surgeon from January 20, 1882. January 20, 1882.

**APPOINTMENT.**—**KALLOCH, PARKER C., M. D., of Pennsylvania,** having passed successfully the examination required by the Regulations, was appointed an assistant surgeon, by the Secretary of the Treasury, January 23, 1882.

**THE SECTION FOR CLINICAL MEDICINE AND PATHOLOGY OF THE SUFFOLK DISTRICT MEDICAL SOCIETY** will meet at 19 Boylston Place, on Saturday, April 8th, at 7.45 o'clock. Papers: Dr. Hall Curtis, A Case of Addison's Disease, with Autopsy. Dr. E. W. Cushing, Pseudo-Membranous Laryngitis complicating Typhoid Fever and causing Death. Dr. W. A. Dunn, and Dr. H. I. Bowditch, The Therapeutics of Venesection. Dr. S. W. Langmaid, A Case of Intussusception, with Recovery. F. S. Billings, S. V., Experiments on the Stomach and Intestine in Animals.

It is important that the meeting should open punctually at the time appointed. **ALBERT N. BLONGETT, Secretary.**

**MASSACHUSETTS COLLEGE OF PHARMACY.**—The regular monthly pharmaceutical meeting of the College will be held at 7.30 p. m., on Tuesday, April 11, 1882, in the College Hall, No. 1151 Washington Street. Mr. Henry W. Lincoln, Pharmacy Laws, are they Desirable? Discussion pro and con. All persons interested in pharmacy and collateral pursuits are invited to be present. **DR. B. F. DAVENPORT, Registrar.**

**THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT** will meet April 10th, at 8 p. m., in the Medical Library. Dr. Porter will report some cases of Popliteal Aneurism, and there will be a discussion on the Surgical Treatment of Aneurism. Election of new members.

## Original Articles.

SUBINVOLUTION OF THE UTERUS.<sup>1</sup>

BY A. D. SINCLAIR, M. D.

ABOUT ten years ago I made a communication to this Society, on subinvolution of the uterus, in which was given the details of several cases, chiefly under my care at the City Hospital. At that time this disorder was seldom, if at all, recognized by the general practitioner, who, though not ignoring the possibility of its existence, was skeptical as to its reality. But the times have changed. We live and learn. Much has been written on this subject, of late, at home and abroad, and all the best recent systematic treatises on diseases of women have each a chapter devoted to its consideration. The disorder to which Simpson, in 1852, gave the name of subinvolution of the uterus existed at all times, as now, but the affection was regarded as one of chronic inflammation of the uterus, and as such described and treated. It was the work of the facile principles of modern gynecology that first led to its true appreciation in an article entitled *Morbid Deficiency and Morbid Excess in the Involution of the Uterus after Delivery*.

What is the recent idea as to the pathology of subinvolution of the uterus? Dr. Thomas, in accordance with the results of his own researches, and the views of other writers and observers, has adopted the term "areolar hyperplasia" as being the condition present in this disorder. He says,<sup>2</sup> "The vast majority of cases are due to interference with that retrograde metamorphosis occurring in the puerperal uterus styled involution."

The normal uterine elements, according to Arthur Farre in the *Cyclopedia of Anatomy and Physiology*, are five in number, namely: (1.) Fusiform fibre cells or smooth muscular fibres. (2.) Round or oval nuclei, or elementary corpuscles. They are apparently an embryonic condition of the fusiform fibre cells. (3.) Amorphous or homogeneous connective tissue in an unformed state constituting a transparent matrix in which the fibre cells and nuclei are imbedded. (4.) Fibrillated connective tissue, white fibrous tissue found chiefly among the middle and outer muscular laminae, serving here the purpose of a connecting medium between the several layers, and supporting the blood-vessels ramifying between them. (5.) Elastic fibrous tissue. These several tissues, together with the blood-vessels, nerves, and lymphatics, constitute the structure of the uterus, which is covered with serous membrane or peritoneum, and lined with mucous membrane. There is this difference between the body and the neck of the uterus, that while in the former the muscular element predominates in the latter the fibrous prevails.

Impregnation causes a wonderful change in the uterine tissues, vessels, and nerves, which grow and develop rapidly. Kölliker states that, in addition to the development and growth of preëxisting tissues and cells, "a new formation of muscular fibre also takes place." Simpson, in this connection, writes as follows: "During the forty weeks of utero-gestation the uterus enlarges from nearly three inches in length and one and three quarters inches in breadth, to twelve

or fifteen inches in length and nine or ten inches in breadth. It increases from two ounces in weight to twenty-five or thirty ounces. The cavity of the uterus before impregnation is less than one cubic inch, while at the full term of pregnancy it is extended to above 400 cubic inches; and the surface of the organ increases from about five or six square inches to nearly 350 square inches. Before impregnation the uterine cavity would not hold above a drachm or two of fluid; at the ninth month of utero-gestation its contents usually weigh from 120 to 150 ounces. The rapidity, however, with which the uterus diminishes in size after delivery is perhaps still more marvelous than the rapidity with which it increases in size after impregnation. The celerity of its involution in the puerperal state is a fact more striking and remarkable than the celerity of its evolution during the pregnant state; . . . whilst the human uterus takes forty weeks to attain the dimensions pertaining to the fully developed state of pregnancy it requires only, on the contrary, from four to eight weeks to decrease from the extreme size peculiar to pregnancy down to the small size peculiar to the same organ in its unimpregnated condition."

But in the vital mechanism of the involution or reduction of the uterus after delivery, various pathological derangements are liable from time to time to occur. This, like every other process in the animal economy, is apt, for example, to fail, either in the way of defect or excess, involution becomes impeded or arrested, and the organ is in consequence liable to be found weeks or even months—he might have said years—after parturition, still so large and unrelaxed as at first to be readily mistaken for a tumor of the uterus or ovary." Simpson then relates the following typical case of arrested involution, and, so far as I know, the first on record. "During the summer of 1842," he writes, "I attended, along with Dr. Abercrombie, a lady who, after a premature confinement in the country, had suffered from a smart attack of puerperal fever. After so far recovering for a few weeks, she was sent from a considerable distance into town, to be treated for what appeared to be a large tumor, stretching upwards from the pelvis into the right iliac region. The tumor had not been observed before delivery, and was somewhat painful to the touch. It seemed at first sight extremely doubtful whether the mass consisted of an inflamed uterine fibrous tumor, or enlarged ovary, or of one of those chronic purulent collections which are apt to form towards one or other iliac region in connection with puerperal fever or inflammation. The uterine sound, when introduced into the os uteri, passed easily and directly upwards for several inches to the superior end of the tumor, and its apex could be felt there by the hand placed externally. This at once showed the supposed diseased mass to consist of enlarged uterus. Further examination proved that there was nothing abnormal about the uterus, except its great size. In fact, it was a case where the organ had apparently remained nearly undiminished after delivery, probably from the puerperal attack arresting the usual progress of its absorption and diminution. It decreased rapidly under leeches and other local antiphlogistic treatment."

On November 1, 1871, Dr. Snow showed the Obstetrical Society of London the uterus and appendages of a woman, aged thirty-eight, who died from convulsions during a short illness of typhus fever. She had been the mother of several children in quick succession;

<sup>1</sup> Read before the Obstetrical Society of Boston, January 14, 1882.

<sup>2</sup> Diseases of Women, page 313.

had been an invalid for several years, etc. The uterus presented one of those forms of enlargement that are apparently caused by an arrest of those processes which reduce the organ to the unimpregnated condition after impregnation, and restore the inner surface to its original state, etc. The following conclusions were arrived at after a careful microscopical examination of the uterus:—

(1.) The essential condition of the organ consisted in the elements of the different tissues retaining a portion of the natural enlargement consequent upon impregnation. But this enlargement was more due to the increased size and amount of the soft tissue present in the walls of the uterus, as well as at the internal surface, than to the increased size of the contractile fibre-cells.

(2.) Although the blood-vessels were large and loaded with fluid blood, yet there was no evidence to prove that any morbid process, similar to inflammation or otherwise, had at any time been present. Indeed, everything indicated an opposite conclusion.

(3.) The whole of the blood-vessels to the minute capillary network at the inner surface formed one continuous system, though the character of the distribution changed towards the inner surface, and considering there is no division in the uterine walls to justify the description of an internal mucous membrane, this distribution appears to offer a strong argument against the idea that the internal surface could be the seat of inflammation independent of the other portion.

(4.) The pulpy condition at the inner surface, with the loaded state of the blood-vessels throughout, appear to afford a probable explanation of the frequent and severe hemorrhages which attend similar enlargements.

(5.) This uterus, which presented in a marked manner all the characters attributed to the so-called inflammatory ulceration, is one evidence amongst many of the extreme fallacy of such statements. There was no evidence of any inflammatory action ever having existed, nor was there the least abrasion or destruction of surface anywhere. The tissue of the inner surface of the neck looking red and soft, and bounded by a distinct margin at the junction of the mucous membrane of the vagina, is no evidence of the presence of ulceration.

The uterus to which the foregoing details pertained was three and a half inches in length, two and a fourth inches across the fundus, the walls one and three eighths of an inch thick, and the uterine cavity full three inches long. The os was large, admitted easily the end of the finger; its lips large, of a strong violet-blue color, and projected half an inch into the vagina. Six or eight, small pin head in size, cysts were found at the inner os.

Although there may be influences which favor areolar hyperplasia in the uterus of a woman who has never been pregnant, such as the presence of fibrous growths in its walls; excessive sexual relations, as with prostitutes; and, I dare say, imperfect coition to prevent impregnation, etc., yet these play an unimportant part in its causation as compared with utero-gestation.

In this connection, Thomas<sup>1</sup> summarizes his conclusions thus:—

(1.) "The condition ordinarily styled chronic metritis consists in an enlargement due to hypergenesis of

its tissues, especially of its connective tissue, which induces nervous irritability, and is accompanied by congestion.

(2.) "Decidedly the most frequent source of this state is interference with involution of the puerperal uterus. A very large proportion of the cases of so-called chronic parenchymatous metritis are really later stages of subinvolution.

(3.) "Areolar hyperplasia is often induced in a uterus which has once undergone the development of pregnancy; by displacement, endometritis, and other conditions inducing persistent hyperæmia.

(4.) "The same influence may possibly produce it in the multiparous uterus, most frequently they do so in the neck, but such a result is exceedingly infrequent.

(5.) "However produced, the condition is one of vice of nutrition engendering hyperplasia of connective tissue as its most striking feature, and, although attended by many of the signs and symptoms of inflammation, it in no way partakes of the character of that process."

Subinvolution of the uterus is a disorder frequently met with in practice, and nearly always in women who have undergone utero-gestation. An exciting cause may be ascertained in many cases; there may be a history of septicæmia, or pelvic inflammation; the presence of laceration of the cervix uteri, or perineum; or a generally feeble condition; or organic disease of some kind, especially of the heart and liver. As already stated, this affection was formerly regarded as a chronic inflammation of the uterine tissues, and described at great length as such by writers on uterine diseases. Although we may not have yet arrived at the true nature of its pathology, sufficient has been learned to entirely upset our former notions regarding its frequency, behavior, and treatment.

Subjects of subinvolution complain of various discomforts, chief among which are too frequent and profuse menstruation, leucorrhœa, dragging sensations about the hypogastrium, and backache, dysuria, disordered digestion, depression of spirits, exhaustion, etc.

Examination of the pelvic organs finds the uterus heavy and lying low, often retroverted, sometimes anteverted, tender at the junction of the body with the cervix, os patulous admitting the first joint of the index finger, margins rough, cervix often fissured. The uterine cavity generally measures from three and a half to four and a half inches, sometimes more, in depth. Probing the cavity when there is a displacement gives, oftentimes, much pain, and is followed sometimes with the escape of blood from the uterus. Specular examination discloses great congestion of the cervix, vagina, and vulva.

In this connection we must always bear in mind that there are cases which simulate the conditions existing in this disorder, but caused by an entirely different disease; for example, a uterus with a polypus within its cavity, or a fibrous growth in its walls, might give origin to symptoms similar to these I have described.

Subinvolution or areolar hyperplasia of the uterus has proved itself obstinate to treatment, although great relief may be afforded the sufferer in every case. When of long duration, complicated with displacement and its effects, with profuse menorrhagia, indicating engorgement of the lining membrane of the uterus, with eroded cervix, when the general system, but especially the nervous, has suffered from long continued

<sup>1</sup> Diseases of Women, page 320.



local irritation, the restoration of the womb to a comparatively healthy state is generally slow, and the results of treatment at times discouraging.

The treatment consists in removing the obvious causes so far as they can be ascertained. To recapitulate:—

After a careful examination the uterus may be found displaced, engorgement of its lining membrane may be present, as shown by the escape of blood on probing its cavity; there may be granular erosion or cystic disease of the cervix and endocervix; there may be laceration of the neck of the womb, — and the cavity will measure an inch or two more than that of the healthy uterus. All this may be present in a case which commenced its pathological career as one of sub-involution, which, had there no complications ensued, would have probably given but little discomfort to the patient.

The following is a plan of the treatment pursued by me under the above circumstances:—

(1.) To rectify the displacement which, if it existed for some time, has given rise to endometritis and increased vascular engorgement.

(2.) To reduce vascular turgidity by local bleeding, repeated at intervals from seven to ten days.

(4.) Menorrhagia usually dependent on an altered state of the endometrium, relieved by the use of the wire curette; so, also, the morbidly altered cervical glands.

(4.) To promote healthy and absorptive action of the endometrium and cervix, Churchill's tincture of iodine is applied by means of a probe covered with absorbent cotton, or injected into the uterus by aid of a double catheter. This may be used once a week.

(5.) Daily vaginal enemata of water at a temperature of 115° F.

(6.) If there be deep and gaping laceration of the cervix, repair by plastic operation as indicated; although what appears to be a pretty deep fissure on first examination becomes shallow and insignificant after a course of treatment.

(7.) General constitutional treatment. This must vary with the conditions present, but generally a mixture containing sulphate of iron, dilute sulphuric acid, and sulphate of magnesia with ergot, is given to strengthen the system and diminish local plethora.

(8.) Suitable diet and clothing.

(9.) I have not ordered rest in the treatment of these cases, provided patients could take exercise, for I have found less chronic invalidism accompany uterine disease generally where the subjects of them were advised to go into the open air as much as possible, and to avoid passing their days on the bed or sofa.

It is with the hope that this important condition of the pelvic organs of woman will receive from this Society the consideration which it deserves that these observations of myself and others have been related.

—The commencement exercises of the Chicago medical colleges are over. Rush College graduated, February 21st, a class of 179. Honorary degrees were conferred upon J. Milner Fothergill, of London, and Giovanni Paladino, of Naples.

The commencement exercises of the Woman's College occurred February 28th, and a class of twenty-three was graduated.

# A CASE OF PULMONARY EMBOLISM ON THE NINTH DAY AFTER DELIVERY. RECOVERY.<sup>1</sup>

BY C. E. STEDMAN, M. D.

Mrs. W., aged twenty-nine, was delivered of her third boy on the 25th of November, after a short and normal labor. She was a healthy and active young lady, but had suffered much during this pregnancy, at first from nausea, latterly from fleeting pains and sleeplessness, and was apprehensive of the issue. There was no albuminuria, and little loss of blood after delivery. Having been made comfortable, she fell asleep, and enjoyed a rest to which she had been a stranger for months. Her appetite was good, the milk abundant, the lochia normal, and convalescence speedy. She seemed to make the best puerperal case of the year. But on the forenoon of the ninth day, as I stopped at the house to make a farewell visit, I was surprised to be hastily called indoors, and told that the patient had had a violent convulsion. On entering the chamber and seeing her face I thought she was dead, such was the ashy hue and cadaveric expression of the features. She was nearly pulseless, her lips white, the respiration rapid and shallow. The nurse, who had seen eclampsia, syncope, apoplexy, and hysteria, was badly frightened, for she said the symptoms were different from any she had encountered. The patient had been helped to a cabinet by the bedside, and had attempted without success, but without straining, to have a movement of the bowels. She was then helped by the nurse to bed, and while sitting on its edge suddenly turned livid, stillly extended her arms and fingers, with her eyes staring, teeth set, face purple, as she gasped and struggled for breath, without being able to speak, for several minutes; the muscular tension then relaxed, and she tried to tear open her dress at the neck, breathing very quickly. This state continued half an hour, when, on being laid down in bed, she turned deadly pale, again threw her hands and arms stiffly out, the struggle for breath was renewed, and she appeared to be dying. In this state I found her, three quarters of an hour after the seizure. Finding that she could swallow, I gave her some sherry, which stood near, with a spoon, and by the time she had taken a second glass a faint color returned, respiration was perceptible, and rapid, thready pulse could be felt. She whispered that I was not to leave her, and complained of oppression on the chest; her hands, legs, and face were deathly cold, and the pupils dilated widely. An hour after the pulse was wiry, 130, respirations 40, temperature 98.2° F. All that could be heard through the stethoscope was rapid and tumultuous cardiac action with blowing respiration at the summits of both lungs. She rallied during the day, took milk and brandy, and in the evening the pulse had fallen to 125, the respirations to 32, and the temperature remained normal. She said she felt as if an iron weight lay on the upper part of her chest and bore backwards to between the shoulder blades, and told me, "I know what it was, it was death." During the day there were two or three moderate accessions of dyspnoea. The next day report was made of a good night; the pulse 112, and respiration 28. She was kept perfectly quiet, and took milk and wine in good quantities; at one o'clock there was a tendency to recurrence of dyspnoea; at five she was resting, and com-

<sup>1</sup> Read at the meeting of the Obstetrical Society of Boston held January 14, 1882.

plained of pain in the shoulders; pulse 108; respiration 28; temperature 100.2° F. The temperature remained elevated for one or two evenings, and then subsided till the pulse and respiration became normal, on the seventh day after the attack.

Her mother told me that her sister (the patient's aunt) died suddenly with symptoms resembling my patient's, three weeks after labor.

The awful suddenness of this attack, the date after labor of its occurrence, the struggle for breath, the livid face succeeded by pallor, the thready pulse, the short breath, the sense of suffocation and impending death, the recurrences of dyspnoea, point to but one diagnosis, that of pulmonary obstruction. Her recovery made me doubt my diagnosis, and I could find nothing that was reassuring till I consulted Barker and Playfair, whose chapters on this subject are the fullest and most satisfactory treatment of it which I can find. I therefore freely quote from the latter as follows:—

Playfair asks, "Have we any ground for supposing that there is a possibility of recovery after symptoms of pulmonary obstruction have declared themselves? That such a result must be of extreme rarity is beyond question, but I have little doubt that in some few cases, entirely inexplicable on any other hypothesis, life is prolonged until the coagulum is absorbed and the pulmonary circulation restored. In order to admit of this it is of course essential that the obstruction be not sufficient to prevent the passage of a certain quantity of blood to the lungs to carry on the vital functions. The history of many cases tends to show that the obstructing clot was present for a considerable time before death, and that it was only when some sudden exertion was made, such as rising from bed or the like, calling for an increased supply of blood, which could not pass through the occluded arteries, that fatal symptoms manifested themselves. This was long ago pointed out by Paget, who says, 'the case proves that in certain circumstances a great part of the pulmonary circulation may be arrested in the course of a week (or a few days more or less) without immediate danger to life or any indication of what had happened.' And after referring to some illustrative cases, yet in all these cases the characters of the clots by which the pulmonary arteries were obstructed showed plainly that they had been a week or more in the process of formation. If we admit the possibility of life for a certain time, we must, I think, also admit the possibility, in a few rare cases, of eventual complete recovery. What is required is time for the absorption of the clot. In the peripheral venous circulation coagula are constantly removed by absorption. So strong, indeed, is the tendency to this that Humphrey observes with regard to it, 'It appears that the blood is almost sure to revert to its natural channel in process of time.' If, then, the obstruction be only partial, if sufficient blood pass to keep the patient alive, and a sudden supply of oxygenated blood is not demanded by any exertion which the embarrassed circulation is unable to meet, it is not inconceivable that the patient may live until the obstruction is removed."<sup>1</sup>

Barker gives two cases of recovery, one in a primipara, who had dismal forebodings about the issue of her confinement, having lost her mother and two sisters from post-partum hemorrhage. She lost no more than a normal amount of blood, but in an hour and a

half after delivery she collapsed with symptoms of pulmonary embolism. It was eight hours before she rallied, but ultimately recovered.

Another patient, four or five hours after the birth of twins, was asphyxiated. She recovered, but subsequently had phlegmasia dolens.

The cases which Playfair gives as recoveries from this condition, I have condensed as follows:—

The first occurred in a delicate primipara, after an easy labor, followed by flooding profuse enough to weaken her. The alarming dyspnoea came on the seventh day. For several days she remained in a critical condition, the most trifling exertion bringing on the attacks; a slight blowing murmur was heard at the base of the heart, and then disappeared. For two months she remained in this state, any attempt at sitting up in bed bringing on the embarrassed respiration; during all this time it was found necessary to administer stimulants profusely to ward off the attacks, but she recovered completely.

The second was in a woman of forty-four, the mother of twelve children. On the eleventh day after confinement she went to bed feeling well, with no local or general symptoms. At 3.30 A. M. she was sitting up in bed when she was suddenly attacked with an indescribable sense of oppression in the chest, and fell back in a semi-unconscious state, gasping for breath; she remained in a very critical condition with the same symptoms of embarrassed respiration for three days, when they gradually ceased. Two days after the attack phlegmasia dolens of the left leg supervened, and remained for several months.

A primipara, aged twenty-four, thirty hours after delivery complained of great weakness and dyspnoea; this was alleviated, but on the ninth day, after sudden exertion, the dyspnoea returned, and continued fourteen days, the least excitement or talking inducing the most aggravated dyspnoea, which threatened almost instant death. Air entered the lungs freely in front and behind; immediately over the site of the pulmonary arteries there was a distinct, harsh, rasping murmur confined to a very limited space, and not propagated either upwards or downwards; the heart sounds were feeble and tumultuous. Though a fatal prognosis had been made she slowly recovered, and six weeks later the murmur had disappeared.

Playfair gives a fourth, which proved fatal although the local symptoms had disappeared.

A primipara flooded severely from an adherent placenta, the dyspnoea attacking on the fourteenth day; at the fourth interspace, near the sternum, there was a loud, blowing, systolic murmur, not before present; she had oedema of the neck, and two days after the chest symptoms phlegmasia dolens developed in the right leg. She had frightful attacks of dyspnoea in which she called for stimulus, which always relieved. The seizures became less frequent, and after the twenty-fifth day she had no more. She, however, sunk, and died of exhaustion forty-four days after delivery.

All but one of these cases differ from that I have reported in having flooding before or phlegmasia dolens after the attack. Mrs. W. had no other weakening influence than a troublesome pregnancy which prevented sleep, which she fully made up for after the baby was born. Her speedy convalescence was exceptional, and the recurrences of dyspnoea were few and trifling.

This is the only case of the kind I have seen in the

<sup>1</sup> Vol. ii., p. 340.

lying-in room, but in two patients who died after placenta prævia, where hemorrhage was controlled by treatment, and no excessive amount of blood had been lost, I am convinced that the issue, preceded by dyspnoea, and at the time (ten or more years ago) ascribed to shock, was due to heart-clot. In examining records of typhoid fever in the City Hospital there is found one example of sudden death in which the diagnosis of pulmonary embolism was confirmed by autopsy.

Sudden death in labor is described by Denman, Chevalier, Robert, and others, and attributed to various causes. "Dr. Meigs, of Philadelphia, was the first to point out, in 1849, the spontaneous coagulation of the blood in the right side of the heart and pulmonary arteries as a cause of sudden death in the puerperal state, but Paget had written of the lesion in other than lying-in women in 1845. In 1855 Hecker attributed most of these cases to embolism proper, and since that date most authors have taken the same view, believing that spontaneous coagulation occurs only in exceptional cases, such as those in which, on account of some obstruction in the lung, or in the debility of the last few hours before death, coagula form in the smaller ramifications of the pulmonary arteries, and gradually creep backwards towards the heart."

"A case related by Richardson in his clinical essays was that of a man who, for weeks, had symptoms precisely similar to those described by Playfair. In one of his agonizing attacks he died, and after death it was found that a fibrinous band extended into the pulmonary artery. This observation proves to a certainty that life may continue for weeks after the deposition of a coagulum, and, moreover, this condition was precisely what we should anticipate, since, of course, the obstructing coagulum must necessarily be small, otherwise the vital functions would be immediately arrested."

Playfair considers the strongest argument in favor of the spontaneous origin of pulmonary thrombosis to be one which he originally pointed out in a series of papers on Thrombosis and Embolism of the Pulmonary Artery as a Cause of Death in the Puerperal State. "He then showed, from a careful analysis of twenty-five cases of sudden death after delivery, in which accurate post-mortem examination had been made, that cases of spontaneous thrombosis and true embolism may be divided from each other by a clear line of demarcation depending on the period after delivery at which the fatal result occurs. In seven out of these twenty-five cases there was distinct evidence of true embolism, and in these the death occurred at a remote period after delivery, in none before the nineteenth day. This contrasts remarkably with the cases in which the post-mortem examination afforded no evidence of embolism. These amounted to fifteen out of the twenty-five, and in all of them, with one exception, death occurred before the fourteenth day, often on the second or third. The reason of this seems to be that in the former time is required to admit of degenerative changes taking place in the deposited fibrin leading to separation of an embolus, while in the latter the thrombosis corresponds in time and to a great extent, no doubt, also, in cause, to the original peripheral thrombosis, from which, in the former, the embolus was derived. Another clinical fact points in the same direction. In one or two cases distinct signs of pulmonary obstruction have shown themselves without proving immediately fatal, and shortly afterwards peripheral thrombosis, as evinced by phlegmasia dolens

of one extremity, has commenced. Here the peripheral thrombosis obviously followed the central, both being produced by identical causes, and the order of events necessary to uphold the purely embolic theory was reversed."

The most satisfactory discussion of these points by authorities at my command I find in Barker, Simpson, and Playfair. I note nothing about it in Ramsbotham or the first edition of Leishman. Schroeder dismisses it in a few lines on sudden death after labor.

The opinion I formed of my patient was that a small embolus was picked up from the uterine sinuses, carried into the right side of the heart, and at the pulmonary valve stopping the circulation and causing lividity, the clot passed on into the artery at its bifurcation, when the patient became pale, and nearly ceased breathing; rallied by the stimulus, and respiration re-established, the body was swept further on and absorbed in less than forty-eight hours. It may be of comfort to some practitioner, whose patient does not die instantly of an attack like the one reported, to know that there is a chance of life, however weak.

## THE FIRST MEDICAL SCHOOL IN AMERICA; AN HISTORICAL ITEM.

BY FRANCIS H. BROWN, M. D.

IN the report of a recent meeting of the Massachusetts Historical Society<sup>1</sup> it was noted that inquiry had been made concerning a "certain gentleman of Boston" who in 1739 liberally offered to establish a professorship of medicine "in this Province, and who deserves the honor of having been the first promoter of medical education in America," even though his plans appear at the time to have been fruitless.

By reference to the journal of the House of Representatives for July 7, 1739, one may find this record: "Information being given to the House by the Member from Worcester, that a certain gentleman of the town of Boston, well disposed for the Encouragement and Support of a Professor of Physick within this Province, and that for good Purpose would cheerfully contribute out of his own Estate a considerable Sum of Money, provided this Court will join in making a Grant of Lands, or other wise establish a good Fund for the valuable Ends aforesaid; and the same being considered:

"Ordered, That the Members of Boston, Charlestown, Roxbury, and Chelsea, be a committee to treat with the said Gentleman, hear him on his Proposals, and report their Opinion of what may be proper to be done for the encouragement of so good a Scheme."

Whether the gentleman indicated appeared before the committee cannot be ascertained; but no action was taken on his suggestion, certainly during that session of the General Court.

The learned gentleman who propounded this inquiry is in error in considering this the first attempt at a medical school in the provinces. In making investigations regarding the history of medicine in America previous to 1700, and especially in reference to biographical memoranda concerning the earliest physicians of Boston and its neighborhood, I find in the first general letter issued by the Massachusetts Bay Company to Endicott, under date of April 17, 1629, the following passage:—

<sup>1</sup> Boston Daily Advertiser, March 9, 1882.

"We have entertained Lambert Wilson, surgeon, to remain with you in the service of the Plantation: with whom we are agreed that he shall serve this Company and the other planters that live in the Plantation, for three years, and in that time apply himself to cure not only of such as came from hence for the general and particular accounts, but also for the Indians, as from time to time he shall be directed by yourself or your successor and the rest of the Council. And moreover he is to educate and instruct in his art one or more youths, such as you and the said Council shall appoint, that may be helpful to him, and, if occasion serve, succeed him in the Plantation: which youth or youths, fit to learn that profession, let be placed with him; of which Mr. Hugesson's son, if his father approve thereof, may be one, the rather because he has been trained up in literature; but if not he, then such other as you shall judge fittest."

Young, in his *Massachusetts Bay Chronicles*,<sup>1</sup> very truly says:—

"We have here the embryo of a medical school, undoubtedly the first contemplated on the Continent of America."

No record, however, exists of the success of this school, or of that to which reference is made in the letter to the Historical Society; but as an historical fact the *attempt* to found a medical school in 1629 has the precedence of the other by one hundred and ten years.

## PROGRESS IN GENITO-URINARY SURGERY.

BY ARNER POST, M. D.

### NEPHRO-LITHOTOMY.

A CASE of removal of a calculus from an otherwise healthy kidney was reported to the Clinical Society, of London, by Mr. Henry Morris.<sup>2</sup> By the term nephro-lithotomy Mr. Morris means the removal, through a lumbar incision, of a renal calculus from a kidney in which the pelvis is not dilated and which, but for the presence of the stone, is presumably healthy.

This operation is to be distinguished from the numerous cases in which the kidney is cut for the evacuation of fluid accumulated within it, whether as the result of a renal calculus, of tubercular disease, or some other cause, and to which, from ancient times, the name nephro-lithotomy has been applied, as well as from those cases, also numerous, in which a stone has been removed after it has been detected through a sinus in the loin.

The opinion of writers has been universally adverse to the attempt to remove a stone from the kidney unless it could be reached through a distended pelvis, fatal hæmorrhage being feared if the excreting substance of the kidney was cut or torn. The case described by Mr. Morris proves the feasibility of the operation.

A servant girl, aged nineteen, had for eight years been subject at times to pain in her right side, accompanied occasionally with a feeling of sickness and even actual vomiting. There was tenderness but no swelling in the right loin.

No relief being gained from treatment, and employ-

ment aggravating her symptoms, chloroform was administered and the right kidney exposed through an oblique lumbar incision. The right index finger was then passed over the posterior surface of the kidney and at once detected something faintly projecting from the renal substance near the hilus. The renal substance was incised near the spot with a probe-pointed bistoury and a mulberry calculus of triangular shape, weighing thirty-one grains, was extracted by means of a scooping movement of the finger tip. There was no hæmorrhage at any stage of the operation. The upper end of the ureter was not dilated. No attempt was made to examine the front side of the kidney.

Urine ceased to flow through the wound in less than three months, and the patient made a good recovery. Thus the operation shows that a stone may be removed from a healthy kidney by incision without serious hæmorrhage, and without greater risk than is warranted by the sufferings and disability which the operation was designed to remove.

Mr. Morris propounded four questions necessary to be considered before the success of one case is allowed to influence treatment in others. (1.) Can the diagnosis as to the disease and the organ affected be made with certainty? (2.) What are the prospects of being able to complete the operation when a stone is found? (3.) What are the dangers of the operation? (4.) What is the best result which can be hoped for from the operation if successful?

In the discussion which followed Mr. Barker gave the history of a case in which he had cut down upon the kidney and incised the organ, but the calculus was of large size and branched. He removed part of it and some pus escaped. Unfortunately a large portion of the calculus was left behind and its extraction being difficult he was led to attempt the removal of the whole organ, but, unable to remove it perfectly, he found it easier to extract the calculus, which he accordingly did. In this case the diagnosis rested between renal calculus and tubercular disease. By passing a needle through the loin he struck the stone, and he believed this the first case in which a renal calculus had thus been sounded through the loin.

Mr. Bryant supported Mr. Morris as to the advisability of performing the operation. For as it was not one of great difficulty, was not always of great simplicity and should not be undertaken without grave consideration. Granting the diagnosis of stone in the kidney and the want of relief in spite of medical skill, then there would be but little hesitation in the surgeon's cutting down to remove the calculus. But all knew of cases where a calculus settles down and the patient lives for years no longer troubled by it; such cases make one hesitate in arguing in favor of the operation. The method of diagnosis alluded to by Mr. Barker was interesting, but he doubted the expediency of such attempts in view of the important structures in the neighborhood which might be injured. To clear up a doubt it might be expedient to use these means.

Mr. Heath, without wishing to detract from the value of the operation, considered that it was done under remarkably favorable circumstances. The patient was young and the stone presented on the surface so as to be readily identified. As it protruded the renal substance there was not much of the organ incised. Mr. Barker had opened the kidney in his case by means of Paquelin's cautery. Mr. Heath thought a

<sup>1</sup> Page 165.

<sup>2</sup> The *Lancet*, October 30, 1880. Clinical Society's Transactions, vol. xiv., p. 9.

puncture might be made in the loin for the diagnosis of calculus without any risk; it only required a fine aspirating needle and the large vessels were far out of danger. In the case of a small calculus — as in Mr. Morris's case — it would be very fortunate if detection could be effected in this way.

Mr. Morris agreed with Mr. Heath that his case was a remarkably fortunate one from the small size of the stone and its projection; but there was considerable incision and laceration of the kidney in the extraction of the stone.

Dawson had detected a stone by puncture through the loin. If acupuncture were used it would be far more certain of success if applied to the kidney itself after an incision in the loin.

During the discussion Mr. Barker mentioned a case published in the *Berliner Med. Wochenschr.* by Peters. There were symptoms of renal calculus which the author verified by passing a trocar and canula into the kidney and striking a stone. Unwilling to subject the patient to the risks involved in cutting down onto the kidney, he left the canula *in situ* for some time, and afterwards dilated the wound by tents until the sinus was large enough to admit the finger. He then passed in the lithotrite and crushed the stone before removing it. The fistula healed up completely.

Within the past few weeks Dr. Bardenheuer,<sup>1</sup> of Cologne, has performed the operation for complete suppression of urine, with success. The patient had been long in the hospital; her urethral sphincter had been divided to secure incontinence as a relief for certain bladder symptoms, and the left kidney had been destroyed by suppuration. On the 8th of February, 1882, she was unable to pass any urine; the bladder contained only a little slime and a small stone; pain in the region of the right kidney, radiating towards the bladder, set in accompanied by nausea. The following day complete anuria continued, and the accompanying symptoms had increased. As death was the only possible result, Bardenheuer resolved to attempt operative measures. Accordingly, a flap was raised over the region of the kidney, the fatty capsule divided, and the kidney easily reached. To gain the pelvis and the ureter, the anterior portion of the organ was gradually loosened from the surrounding fat. At the moment when the operator reached the hilus of the kidney a stone was felt, which slipped back under the operator's fingers into the pelvis. Immediately a stream of urine shot from the urethra; the communication between bladder and kidney was momentarily reestablished. To extract the stone the kidney and ureter were further loosened from the surrounding connective tissue until it was possible to turn the kidney upon itself so that the hilus presented at the bottom of the wound. The stone, which had again fallen into the beginning of the ureter, was then fixed by two fingers of the left hand, the wall of the ureter divided upon it, and a smooth stone, about the size of a bean, was thus extracted. Four small stones were discovered by the finger in the pelvis of the kidney, and removed. Stitches were taken in the ureter, and the external wound stuffed lightly with antiseptic gauze. For three days the patient did fairly well, urine escaping from the wound only. On the fourth a chill supervened, and finally it became necessary to abandon the attempt to reestablish the normal course of the urine; the ureter was divided and the cut end brought out

through the wound in the loin. The last report from the patient (March 12th) reads, "Free from pain, and partially convalescent. The part of wound over which urine does not flow is clean."

#### DIAGNOSIS OF RENAL CALCULUS.

The majority of urinary calculi are primarily formed in the pelvis of the kidney. Even in new-born infants urinary concretions have been met with in that organ. The demonstration of the feasibility of operations for the removal of renal calculi gives additional interest to the study of the surgical disorders of the kidney and to systematic attempts at accurate diagnosis. In ordinary text-books little attempt is made to group the symptoms attending the presence of stone in the kidney. Dr. Coupland has published a clinical lecture<sup>2</sup> in which he has given the history and grouped the symptoms of a single case in which he diagnosed renal calculus and advised the operative interference which resulted in the brilliant operation of Mr. Morris's mentioned above. Although no new symptoms are given, the subject is so important that Dr. Coupland's recapitulation may prove of interest and possibly benefit. After giving the general history of the patient, he thus summarizes her symptoms:—

"Localized pain in the region of the right kidney, sometimes passing downwards to the thigh or else across the back, occurring paroxysmally more or less for ten years, with increasing frequency and severity during the past two years, notably influenced by movement and active occupation — so much that her ordinary duties were hampered, and life rendered miserable, by the attacks. She used to say that as long as she was perfectly at rest she felt no pain; but this was not strictly accurate, for sometimes her nights were disturbed by its occurrence.

"Then, bearing some relation to this, inasmuch as it was always at its height, when she came into the hospital, there was hæmaturia; and hæmaturia of undoubtedly renal origin. The blood was diffused equally throughout the urine; it came from the pelvis or from the kidney itself, and the local pain and tenderness pointed to the right kidney as its source.

"*Pain in the kidney, or nephralgia*, may owe its existence to many causes. The first and simplest is that which is accompanied by a loaded state of urine, where the imperfect oxidation of nitrogenous materials taken in by the food stops short of the formation of urea, and leads to a greater excretion than normal of lithic acid and its derivatives, of which oxalic acid has been proved to be one. In that case, as a rule, the pain is of a dull, aching character in both loins, the digestion is deranged, and the bowels are torpid. Undoubtedly such a condition may be the precursor of calculous formations, and it is intimately related to the gouty state. But in it the urine is loaded with lithates, and hæmaturia is not a symptom.

"The presence of *hæmaturia* points, indeed, to a more advanced affection, and, in association with the unilateral character of the nephralgia, we must look to lesion of one kidney to account for it.

"I think we may expunge all idea of a simple *neuralgia* of this kidney or its surroundings, although I would not deny the existence of such an affection. But the passage of blood takes the case out of that category.

"On the other hand, the curious and interesting dis-

<sup>1</sup> Centralblatt für Chirurgie, No. 12 (March 12), 1882.

<sup>2</sup> Medical Times and Gazette, February 18, 1882.

ease called '*paroxysmal hæmaturia*' must not be considered at all in connection with this case. For, although, to be sure, the presence of blood in the urine was most paroxysmal and intermittent in its occurrence, yet it was *blood*—actual corpuscles, and not mere hæmatin—that appeared; not to mention the fact that no other symptoms or any other facts in the history pointed to this affection.

"*Congestion of the kidney* there undoubtedly was; but mark that it was congestion of *one* kidney only, and if there was any actual nephritis (of which we have no clear evidence) it was unilateral and required a local cause.

"It seems, then, that we are narrowed to organic causes affecting the right kidney—limited, in fact, to new growths, or to calculus.

"The pain and the hæmaturia are consistent with the diagnosis of a *new growth*—say a papillary villous growth in the pelvis of the organ; for a cancerous tumor it could not be, looking at the nutrition of the girl. But are the facts of the case, when analyzed, consistent with it? Assuredly not. The long duration of the symptoms, and, above all, the very intermittent character of the discharge of blood,—a discharge distinctly related to movement,—put it out of court.

"So that you see the case presented symptoms which could hardly be well explained except on the view of *renal calculus*. They were symptoms excited by the mechanical effects of the stone."

Before asking the surgeon to make an exploratory incision Mr. Coupland attempted to examine the kidney by passing the hand into the rectum, but in spite of steady and prolonged pressure found it impossible and desisted from the attempt.

#### WOUNDS OF THE BLADDER.

Wounds of the bladder are among the rarest of accidents. Their severity varies with the character of the injury. They are usually divided into two classes as to their connection with injury of the peritoneum, into extra and intra peritoneal wounds. The situation of such injuries has been most carefully studied by Bartels,<sup>1</sup> who concludes that: "These wounds are certainly fatal when they involve the peritoneum, large vessels, or the hip-joint.

The proper treatment of such cases, particularly of intraperitoneal wounds, has been within the past few years a subject for grave discussion. The great advance in surgery commensurate with the advance in ovariotomy points to the possibility of directly approaching the bladder through the abdominal walls. Three cases are recorded in which the peritoneal cavity was thus opened to reach a ruptured bladder. One recovered, that of Walter of Pittsburgh, two were fatal, those of Willett and Heath. The experience of Mr. Heath led him to say that in future he should prefer the more conservative practice of draining the peritoneum through the bladder by catheterism or perineal cystostomy if necessary.

Vincent<sup>2</sup> calls in question the truth of the conclusions reached by Bartels and the inference drawn by Heath, and has devoted much time and labor to the elucidation of the subject. His paper is a long one, and reviews critically all previous experiences on the subject and gives the details of his own numerous and

carefully conducted experiments. These experiments were made upon twenty-nine dogs, and his conclusions and applications are as follows:—

The insufficiency of other means than abdominal section, in intraperitoneal wounds of the bladder followed by an abundant outflow of urine into the peritoneal cavity, is shown by statistics; no other means permits the proper appreciation of the extent of the wound nor of its complications, caused by the concomitant wounding of other viscera or of the pelvic skeleton; no other course permits the treatment of such complications by proper means, as, for example, enterorrhaphy, extraction of bony fragments, etc.; no other prevents further extravasation of blood and urine or permits cleansing the peritoneal cavity of urine already extravasated.

Dwelling at some length upon the very evident advantages of peritoneal section in such cases, he continues: "Antiseptic surgery justifies this method of operation, if otherwise rational, by the numerous successes which it has procured in abdominal surgery; so much the more since death is almost certain if one does nothing or relies upon other means than laparotomy."

In the successful case of Walter of Pittsburgh, one circumstance ought to be made prominent: Walter operated ten hours only after the accident, that is to say, before the peritonitis had become marked, before the urinary intoxication was very far advanced. Willett and Heath, who failed, operated, the one thirty, the other forty hours after the rupture. It is to be supposed that the difference in the time which had elapsed from the accident to the operation explains better the difference in the results than any difference in the omission or the practice of the vesical suture.

From the analysis of these three known cases the following conclusion can be drawn: It is of the utmost importance to have recourse to laparotomy as soon as possible, and, secondly, that the suture of the bladder receive particular care, that it may not fail too soon.

Experience shows that intraperitoneal solutions of continuity of the bladder are capable of uniting by first intention with a good suture, and even spontaneously, in certain entirely exceptional conditions upon which one cannot count.

Reunion takes place with great rapidity in all the coats of the bladder walls, except the epithelial layer of the mucous coat, but most quickly by the union of the peritoneal covering in which proliferation commences a few seconds after coaptation. One ought, then, to have special reference to this coat in the establishment of suture.

• To obtain a solid suture that shall resist vesical tenesmus, that shall endure the active contractions and passive expansions of the bladder, the following points must be observed: to place the stitches close together, to avoid making them penetrate through the mucous coat, to bring closely together large surfaces of the peritoneal covering, doubling and superposing lines of sutures.

In making the suture as recommended one need not fear the appearance of urinary fistula, either between or around the stitches, an accident which may follow when the stitches are too far apart or penetrate the mucous coat. Nor need one fear the formation of lithic concretions about the threads following their fall into the bladder, since the threads, being only superficial to the organ, do not fall into the interior. If they detach themselves they become encysted by means of the exudation which they provoke; threads, whether

<sup>1</sup> Langenbeck's Archiv für klin. Chir., Bd. xxii.

<sup>2</sup> Revue de Chirurgie, vii, and viii., 1881.

organic or metallic, ought to be cut as short as possible to leave the smallest possible foreign body in the peritoneal cavity. Ordinary carbolized silk should be preferred when but a single row of sutures is used; when a double row is made catgut can be used for the deeper sutures without danger of its too early absorption. Before closing the abdomen it is advisable to assure one's self of the proper mechanical condition by injecting into the bladder a colored but indifferent fluid.

Gum-shot wounds may be closed like other wounds, cutting away, if necessary, the bruised edges of the perforation until a point is reached that bleeds; edges should be refreshed also in cases in which the suture is somewhat delayed, as in other solutions of continuity. Even the larger portion of the bladder may be removed, with the possibility of recovery with the suture.

Capillary punctures and perforations with cutting instruments of small diameter recover spontaneously.

In general, in the experiments, immediate union has been the rule in intraperitoneal perforations of the bladder, whatever the character of the perforation, whether forcible ruptures, done by cutting instruments, or firearms, when the suture has been immediate. The operation (that is, opening the abdomen, cleansing the peritoneal cavity of blood and urine, suture of the bladder) has been followed by recovery eight hours and a half after the perforation of the bladder only, according with the clinical experiment of Walter. But practiced twenty-four hours after the perforation and later it has constantly failed, and the animals have succumbed more to urinary intoxication than to the violence of the peritonitis, agreeing with the cases of Willett and Heath.

In the first ten to twelve hours the chances of success are very great; they diminish in proportion to the time which elapses from the moment of the accident. Nevertheless, if the general condition of the patient is not too compromising it is advisable to have recourse to the operation, whatever the interval of time.

These observations of Vincent were still further exemplified in a paper read before the London International Congress, in which he detailed a second series of experiments upon rabbits, and further gave an account of a wound of the bladder occurring in an ovariectomy, in which the woman died from causes unconnected with the vesical wound, which had conducted itself favorably. Other wounds of the bladder at the hands of several surgeons, occurring similarly during ovariectomy, have favorably united, showing the soundness of the conclusions in regard to early suture. They have been reported too recently in the JOURNAL<sup>1</sup> to need repetition.

In a paper on Excisions of the Bladder,<sup>2</sup> Dr. Adolf Fischer details experiments on dogs, and arrives at conclusions very similar to those of Vincent. He believes good results to be principally dependent upon the accuracy of the suture.

#### THE PREVENTION OF PROSTATIC OBSTRUCTION.<sup>3</sup>

Mr. Reginald Harrison has been led to believe that the effects of enlarged prostate may be in great measure prevented by proper treatment. His attention was first called to the point some years ago by the case of an

elderly gentleman who had been told, years before he came under Mr. Harrison's notice, that his slight urinary troubles were the early indications of an enlarged prostate. In consequence of his alarm he never allowed a day to go by without passing a full-sized gum-elastic bougie. Post-mortem examination showed that though the middle lobe was considerably enlarged, it was deeply bisected by a canal which secured the "maintenance of the water way." In consequence of the apparently good effect of constant catheterism in this case Mr. Harrison has since advised persistent dilatation in cases in which enlargement of the prostate seemed imminent or had already commenced.

On the recognition of symptoms indicating that enlargement of the prostate has commenced, he at once urges the regular and persistent employment of the prostatic bougie. For the most effectual carrying out of this treatment he instructs the patient, as early as practicable, in the introduction of the bougie, and when he has determined the size of the instrument, requires him to use it daily, or at least thrice a week, on going to bed.

"In the employment of instruments for this purpose it is of importance that a kind should be used which is efficient, and at the same time incapable of doing harm to the parts when placed in the hands of a non-professional person of average intelligence. After many trials of different shapes and descriptions of bougies I have come to the conclusion that the instrument which best answers the purpose is the *bougie oliveaire*, of which I have selected some different sizes. The olive-shaped dilators exercise as much pressure as can be desired on the obstructing portion of the prostate, whilst by reason of the small size of the stem no tension is thrown on the most sensitive portion of the urethra, namely, the orifice.

"I have these prostatic dilators made from two to four inches longer in the stem than ordinary urethral bougies, in order that the olive portion may be fairly passed into the bladder. In this way pressure is exerted on the prostate as the expanded part passes into the bladder and again as it is withdrawn. It is very important that the instrument should be used in this way, as the dilatation exercised by the bulb on the withdrawal of the bougie corresponds with that of the urine as it is expelled from the bladder.

"At first the instrument may be passed once in forty-eight hours, subsequently twice, and in cases where the prostate has already become large I have caused it to be used night and morning with most satisfactory results.

"When the prostate is already large and the bladder is never completely emptied, I use a catheter similarly shaped to the prostatic dilator, in order that all the urine may be removed at the same time that dilatation is practiced."

In addition to mechanical measures Mr. Harrison lays stress upon certain points in the hygiene of the bladder which should be regarded by persons suffering from the earlier symptoms of enlarged prostate. These points, somewhat abridged, are as follows:—

(1.) Avoid being placed in circumstances where the bladder cannot be emptied at will.

(2.) Avoid checking perspiration by exposure to cold, thus throwing additional work on the kidneys, the constant wearing of flannel being a means to this end.

(3.) Be sparing in the use of wines or spirits exercising marked diuretic effect, either by quantity or

<sup>1</sup> Article by John Homans, M. D., the JOURNAL, February 16, 1882.

<sup>2</sup> Langenbeck's Archiv, Band xxvii., Heft 3.

<sup>3</sup> The Prevention of Stricture and of Prostatic Obstruction. R. Harrison, F. R. C. S. London: J. & A. Churchill.

quality. Diuretics have no effect in removing residual urine.

(4.) Tolerable constancy in the quantity of fluids daily consumed. A large excess over the daily quantity of fluids consumed may lead to the over-distention of a bladder hovering between competency and incompetency. The retention thus occasioned has frequently been the first step toward establishing a permanent if not a fatal condition of atony of this organ.

(5.) It is important to test the reaction of the urine from time to time. When it has become permanently alkaline prudence and comfort indicate the regular use of the catheter.

(6.) Some regularity as to the time of performing micturition should be inculcated.

## Reports of Societies.

### PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. W. SWAN, M. D., SECRETARY.

#### A CASE OF RARE FORM OF DOUBLE VAGINA.

DECEMBER 12, 1881. DR. BOARDMAN reported the case of a single woman, who sought professional advice for the relief of tenderness and itching at, and a discharge from, the vulva. In searching for the cause of these symptoms it was discovered that there was a double hymen, together with a membranous septum which extended longitudinally, from the vulva throughout the vaginal canal, and was inserted in the cul-de-sac, on the right side of the cervix, at its junction with the vagina on that side. The right canal, therefore, terminated in a blind sac, while the cervix, unusually small in size, projected within the left canal. Bimanual examination determined the fact that the fundus was normal in shape and position, and no ridge, depression, or groove could be felt on its outer surface. It was impossible, of course, without dilatation, to ascertain if any septum existed within the cervix or fundus beyond the limit of vision. The os, at any rate, was single. The patient had never been conscious of any abnormality. The catamenia had always been regular in period and quantity, and there was no dysmenorrhœa.

The left canal, the one containing the cervix, was the longer, but it appeared that, at the vulva, the finger and the speculum entered more readily within the right cavity.

The patient was informed of the condition of things, and that, in view of her approaching marriage, it became of importance from the fact that coitus was likely to take place in the blind canal, so that conception would not ensue. She appeared, however, to welcome the fact, and therefore declined to have the septum divided.

Double vagina, resulting from the imperfect union of the lower segments of Müller's ducts, occurs under a variety of forms, of which the following are the more common:—

(1.) The septum may be complete, as in the present case, but when this occurs it usually extends from the middle of the os uteri, which itself also is divided, to the vulva.

(2.) It may be partial only, extending from the cervix to a greater or less extent within the vagina; at

the same time a septum usually exists within the cervix, and sometimes extends within the fundus.

(3.) The septum may be limited to the outer portion of the vagina, in which case the os and cervix may be either single or double.

(4.) Sometimes the septum is an imperfect one, being perforated more or less with holes.

The double vagina may be associated with either the *uterus bicornis*, or the *uterus bilocularis*,—septus or subseptus. The rarity of the case presented consists in the insertion of the upper extremity of the septum on the outer aspect of the cervix, at the summit of the vagina, instead of originating at the extremity of the cervix, as a continuation of a similar septum within the latter.

DR. SINCLAIR said that these cases must be pretty rare. A few years ago a lady came to him for hæmorrhage during the catamenia. The finger discovered at the uppermost part of the vagina an extraordinary keel, half an inch deep, extending from the urethra backwards to the cervix. In the lower part of the vagina posteriorly there was a similar ridge, less marked anteriorly, but deeper and falx-shaped before it joined the cervix, dividing the posterior cul-de-sac into two cavities, the right one of which was the deeper. The patient had had a child years before, and the question occurred as to the original existence of a complete vaginal septum subsequently torn by the process of labor, but was rather negated by the fact that the partial septa presented no ragged margins. There was an eroded cervix. The entrance to the vagina was peculiar, the parts being drawn out and made tunnel-like. A search for a second opening into the uterus was successful. Dr. Sinclair remarked that this was the only instance of double uterus he had seen.

#### TUMOR, SUBSEQUENTLY ABSCESS, IN THE RIGHT ILLIAC REGION.

DR. BLAKE reported the case. [To be embodied in a future report with other cases.]

DR. ABERT questioned Dr. Blake as to the propriety of tapping in his case, and queried if the tumor were non-inflammatory whether it would not have been better to await fuller developments first.

DR. SINCLAIR suggested the propriety of first getting a few drops of fluid by means of the hypodermic syringe.

#### CELLULITIS OF THE BROAD LIGAMENT; ABSCESS-TUMOR, BECOMING SUPRAPELVIC; EXTRAPERITONEAL INCISION; RECOVERY.

DR. HOSMER reported the case, which was that of a primipara aged thirty-five. She was delivered a year ago last April. Within forty-eight hours after labor she had a chill, followed by rise in pulse and temperature, and pain and tenderness in the right groin, succeeded by a swelling, which grew quite fast, became rounded, and rose distinctly above the brim of the pelvis. Four months elapsed before this tumor began to soften. The patient went to the country, and upon her return the characteristics of abscess were found to have increased, and half a pint of pus was withdrawn by aspiration. This process was repeated several times, the last time in January, 1881. The case was then lost sight of for some months, and reappeared in the summer, when the tumor was found growing larger, but without adhesions. Dr. Hosmer then etherized the patient, and made an abdominal incision an inch and a



half long near the anterior superior spinous process and parallel with Poupart's ligament, thence deepening the opening with the finger, outside of the peritonæum, the tumor was reached and opened and a drainage tube inserted. The patient has steadily improved, but has not yet fully recovered. This attack came on soon after labor; there could be no doubt of its inflammatory character. The tumor could not be reached by rectum or vagina, and it had no close connection with the uterus itself. It was considered to be a cellulitis of the broad ligament.

Dr. ABBOT asked if gentlemen had found these tumors more frequently upon the right than the left side, and stated that the most of those he had seen were upon the right side or in the median line.

Dr. BLAKE said he thought they were not liable to come on either side with great partiality.

Dr. FIFIELD stated that his experience was that abscess was more frequent on the right side, and remarked that recent advances in anatomy had taught us some things which seemed strange, and compelled us to give up certain points to which we had clung for a long time. He did not believe that an abscess of the broad ligament ever existed. The folds of the peritonæum of the broad ligament did not contain cellular tissue, or, if any, so little that it cannot be concerned in the origin of abscess. He believed that many of the cases which came before us as abscess of the broad ligament were collections of serous fluid roofed or walled in or formed in the ischio-obturator region.

The following is the statement of Messieurs A. Guérin and Lebec as translated from the *Gazette Hebdomadaire de Médecine et Chirurgie* for the *British Medical Journal*:—

"In detaching the peritonæum from the bony walls of the true pelvis a layer of cellular tissue is pulled up with it. This layer, almost as aponeurotic as the pelvic fascia itself, they call the *fascia propria*. This layer seals up hermetically the outer extremity of the broad ligament which lies entirely below the fibrous of the broad ligament tube and the ovary.

"Another layer of dense cellular tissue is given off horizontally from the *fascia propria*, and forms a complete floor to the broad ligament. Hence the interior of this ligament is bounded by the uterus internally, by the tube above, and by the *fascia propria* below and antero-externally.

"The amount of cellular tissue between the layers of the ligament is very small, and cannot be said to constitute a 'layer.' By carefully scratching a hole in the anterior layer of the broad ligament a few grammes of colored fluid or talcum may be injected between the layers, care being taken to stop when the least resistance is felt, otherwise the fluid will force itself under the peritonæum to any extent.

"When properly injected the real cavity of the broad ligament thus produced measures a little over an inch vertically, somewhat less laterally, and not quite half an inch posteriorly. Its boundaries will be those given above as bounding the broad ligament, except that it does not extend so high as the tube, and it will be found cut off from the walls and lower part of the pelvic cavity by the *fascia propria*.

"Now, a parametric phlegmon, long held to be entirely situated between the layers of the ligament, forms a mass far bulkier than the cubic capacity of the cavity of the ligament.

"It might, however, according to older theories, be believed that abscess could actually begin between the layers of the broad ligament, and readily extend lower and lower into the pelvic cellular tissue below. Guérin and Lebec deny that this extension of suppuration can occur, as the horizontal layer of thin *fascia propria* seals up the lower limits of the ligament. The development and extension of inflammatory deposit in the pelvic cellular tissue must be traced to their sources, in short, to the lymphatic vessels.

"The lymphatics of the vagina empty into larger vessels at the level of the superior cul-de-sac, the level, in fact, of the body and the cervix of the uterus. Under the cervical mucous membrane is a very dense lymphatic plexus, which communicates with the large vessels of the upper part of the vagina. From

these united vessels one or two large trunks pass outwards towards the pelvic walls running along the base of the broad ligament, but entirely below it, and therefore separated from its cavity by the impermeable flooring of the *fascia propria*. The trunk-lymphatics ultimately empty themselves either into one single gland, or else, more commonly, into a series of glands situated on the inner aspect of the ischium, close to the obturator foramen. From these lymphatics ascend behind the pubes, and directly communicate at the level of Poupart's ligament, with the vessels from the thigh. They then ascend in front of the peritonæum and behind the rectus and its sheath, and follow the epigastric vessels upwards. The lymphatics of the uterus, on the other hand, actually pass between the layers of the broad ligament on their way to the lumbar glands, but they pass in the very uppermost part, quite above its cavity.

"Pelvic cellulitis thus begins as lymphangitis, produced by any severe irritation of the vagina or cervix. Then the large lymphatic gland or glands close to the obturator foramen, to which the large lymphatic vessels lead, become involved, and enlarge, and may be detached, on examination, from the vagina. The inflammation may extend to behind Poupart's ligament or even form a hard mass, palpable through the rectus, and following from the groin upwards the course of the epigastric vessels."

In answer to a question of Dr. LYMAN'S, Dr. FIFIELD replied that the peritonæum covered three-fourths of the circumference of the Fallopian tube.

Dr. SINCLAIR, after referring to Dr. Winsor's case of imperforate hymen, once reported to this Society, the operation having been followed by a great abscess, said that his belief was that Dr. Blake's case was one of localized peritonitis.

Dr. BLAKE replied that tumors from localized pelvic peritonitis were recognized, in addition to which one must acknowledge a certain number of pelvic tumors, movable, not connected with the uterus and producing no impression on the vagina. In the case reported by the president there was, he thought, probably an inflammation of the broad ligament.

Dr. CUSHING, of Dorchester, spoke of the treatment of leaving pelvic abscesses to their own course. In a case which occurred under his observation many years ago, the pregnant woman, whose child had been dead a month, had acute febrile symptoms with general tenderness all over the bowels, beginning about forty-eight hours after delivery. The secretion of the milk, following delivery, was very good, and continued cathartics given for quite a number of days in succession brought away hardened feces. The general febrile symptoms abated, and the patient was up and about in two months, but with local tenderness and general nervous symptoms until the end of a year, then the whole affair was discharged through the vagina. Later a second purulent discharge occurred, and the woman finally recovered perfectly. In another case the abscess pointed over the symphysis pubis, and discharged spontaneously; no drainage tube was used, and the patient recovered perfectly in course of time. Dr. Cushing had seen several of these abscesses; they all did well.

Dr. BLAKE stated that he much preferred to elect the point of opening, and cited the case of a patient who died as the result of a spontaneous opening into the abdominal cavity, and several other instances of death in cases where the pus had been left to find its own exit.

Dr. FIFIELD said he had seen them break into all sorts of places and do well. He thought Dr. Blake's case might have been a cyst of the broad ligament. He mentioned the case of a little girl who was supposed to be suffering from retained menses, but in whose case there was coexistent diarrhoea. The rectal discharge proved to be pus, showing abscess as the

real difficulty. The tumor of this abscess was readily felt in the middle line above the pubis, and had been supposed to be the womb swollen with retained discharge, whilst the ostium vaginae had been taken for the mouth of the uterus. In this case the abscess had appeared after the child had spent some time lying on her abdomen on the ice, watching her companions skate. It was probably an abscess occupying the space known as that of Retzius or of Hertaux.

DR. CUSHING, referring to the fact that in an ordinary abscess one gets information from nature as to the point of selection for opening, said he would apply the same natural principles in gynecological practice.

DR. SINCLAIR remarked that the pelvic abscess is not always unilocular; one point may be indicated by nature, yet after the first opening the principal discharge may occur by some entirely different channel.

DR. CUSHING remarked that in Dr. Hosmer's case the opening had to be repeated, or at least it had been necessary to keep in the drainage tube.

DR. BLAKE admitted that cures sometimes occurred after spontaneous openings, but thought nature in these cases rather a blind guide, and remarked that where the opening was controlled the after-treatment was likewise to a great extent controlled.

DR. CUSHING observed that his own experience was probably limited, but he could not recall a case in his practice which did not get well spontaneously, and without leaving a fistulous opening. As to abscess of the breast, he said he was always glad to get a full and free opening, but when he had found the spot which nature indicated there had been generally but little trouble afterwards.

DR. RICHARDSON recalled two cases in which the abscess opened into the abdominal cavity with fatal result.

DR. SINCLAIR thought many years ago, from data then available, that the rate of mortality in pelvic abscess was about four per cent., he now believed it to be much larger.

JANUARY 14, 1882.

#### SUBINVOLUTION OF THE UTERUS.

A paper on this subject was read by DR. SINCLAIR.<sup>1</sup>

DR. BAKER remarked that the disease shows two pretty well-defined stages: first, that of increased vascularity; second, as the disease goes on and the connective tissue becomes disproportionately developed over the natural tissue, a want of vascularity. Thus to the tendency to menorrhagia succeeds a very scanty flow accompanied with very great pain. This latter condition is like that of cirrhosis, dense and firm and creaking under the knife. Then it is that local blood-letting will be of the greatest relief to the pain, and in this respect a leech, applied before the advent of menstruation, will relieve more than scarification. One could do a great deal by treatment to ameliorate the patient's suffering. As to the question of preventive measures, Dr. Baker had found subinvolution much less frequent among the poorer than the better classes. In a person whose nervous force had been sorely taxed, or in a nervous system of feeble force, there was less stimulative power to be aroused, and thus less contracting power of the uterus, hence a greater risk of subinvolution.

DR. LYMAN said that the cases to which Dr. Sin-

clair had referred in his paper were those of arrested involution after labor; but the condition found in chronic metritis was rather of enlargement from congestion and hypertrophy of the connective tissue. In puerperal subinvolution there was pathological evidence that the disease was due to some want of, or interference with, contractile power, the disintegration going on, but its products not being absorbed.

DR. SINCLAIR said he had examined his records of the past ten years and had found a larger number of cases than he had expected. He would not undertake to draw the line between subinvolution and chronic parenchymatous metritis, for he had learned to look at this condition as not metritis at all. He had now and then observed cases similar to those described by Dr. Baker, where the uterine tissue was very hard, and yielded with great difficulty to treatment.

DR. BLAKE was inclined to think with Dr. Baker, that this was a constitutional disease. From extensive practice among the middle classes he had inferred that it was not a common thing to find among them cases of subinvolution. Persons of robust constitution and good general health recovered well without this complication, but among those whose nervous systems were more taxed, the cases were more frequent.

DR. BIXBY asked Dr. Sinclair if the modern ideas of laceration of the cervix had not modified former notions of subinvolution. As a matter of fact, where there had been a deep, single or bilateral laceration the uterus had never come down to its normal size by actual measurement. In a case of bilateral laceration of five years' standing, the labor having been followed by frightful hemorrhage, there was very slow recovery. In a case, also, of laceration with procidentia, the depth of the uterus was five inches. In this instance Dr. Bixby sewed up the lacerations and kept the woman on her back for several weeks. She got well and had no further trouble.

DR. BLAKE remarked that Dr. Bixby had emphasized the most important point in the discussion, namely, that whenever these lacerations have been relieved the uterus has diminished in size.

DR. BOARDMAN said that his experience at the City Hospital, as well as in private practice, had led him to question the accuracy of the prevalent opinions with regard to the connection of cause and effect between lacerations of the cervix and subinvolution of the uterus. He was quite well convinced that the enlargement of the uterus, so frequently found in association with lacerations, is not usually the result of subinvolution, but of later pathological processes, which have their origin in an irritation induced by friction of the everted lips of the cervix against the walls of the vagina. But this friction cannot occur unless the uterus is out of its normal position. If the uterus is not displaced complete involution may, and probably will, ensue after labor; this view is confirmed by the fact that cases are met with constantly where there is a laceration without any enlargement of the uterus, and in these cases the organ always is in good position. On the other hand if a displacement exists before the laceration occurs, then subinvolution most likely will ensue.

DR. BLAKE said that he would consider a laceration extending through one or both sides of the cervix, and attended with eversion, a case for operation. Incisions for dysmenorrhœa, as in artificial openings for chronic cystitis, were never followed by permanent separation.

<sup>1</sup> See page 337 of this number of the JOURNAL.

Dr. BIXBY observed that any one who had had an extended experience in the treatment of uterine disease, would remember how obstinate are these so-called cases of ulceration. The longer he studied the subject of laceration of the cervix, both in its clinical and anatomical aspects, the more was he convinced of the fact that involution failed to take place because the contractile powers of circular or sphincter muscles were destroyed by the solution of continuity. Of this he thought we had abundant proof in the case briefly referred to above.

Dr. LYMAN remarked that he did not remember a case of lacerated cervix in which there was not so-called chronic metritis as the result of local congestion from the everted cervix, nor did he recall an instance in which, *the disease being due to this cause*, the uterus did not become reduced, and generally rapidly, after reparation of the laceration. Most of these cases of laceration may have been, doubtless *were*, followed at first (as indicated by Dr. Boardman) by a fair degree of uterine contraction, the subsequent enlargement being the result of local irritation, the so-called chronic metritis.

Dr. BOARDMAN remarked, in reply to questions which had been asked, that he would state, in the words of the originator of the operation, that a laceration exists when the tear extends beyond the crown of the cervix, and that in many cases where the cervix had been incised the parts had speedily reunited, as we know freshly cut, healthy tissues are prone to do; in others, no malposition of the uterus was present to cause eversion of the lips and friction; and in the remaining cases, where a displacement was present or occurred subsequently, he was confident that a series of events must have occurred similar to that which I have stated are observed as the result of laceration during labor.

Dr. BLAKE averred that it was almost impossible to discover without a post-mortem examination the difference between subinvolution and metritis; they were both the same pathologically. He thought the tear itself an interference with both the contractility and the circulation of the organ.

Dr. LYMAN suggested that it would be better to call the results of laceration evolution, the normal contractions of the uterus being not only arrested after reaching a certain point, but the organ actually enlarging in time under this condition.

Dr. BAKER said that as to the extent to which laceration could occur and disease follow or not, he agreed with Dr. Boardman. If the laceration should be confined to the crown, no trouble would be likely to follow, but if beyond, eversion and uterine disease would result. He did not agree with Dr. Reynolds as to laceration as necessary evidence of pregnancy. As to the effect of incisions, which had been already spoken of, these he regarded an altogether different condition of the uterus. In the large, heavy uterus, found after labor, a tear had the greatest tendency to produce subinvolution, and did not itself tend to heal. The eversion might affect both lips, or oftentimes the anterior alone would be the one to evert. In incisions, such as had been done for dysmenorrhœa, on the other hand, one was dealing with a different uterus, small and healthy, showing the greatest tendency for the incision to heal up, making the healing, in fact, difficult to prevent. Dr. Baker said he had seen an incision carried quite down to the vaginal junction without producing eversion.

Dr. SINCLAIR observed that cases of subinvolution occurred in the absence of laceration, and resulting, it might be, from diminution of nerve force, affections of the heart, dyspepsia, disease of the liver, etc.; and that there were so many cases from various causes that it was often impossible to fix the latter with great accuracy. He thought it marvelous if a true subinvolution had been cured by the simple sewing up of the cervix.

#### A CASE OF PULMONARY EMBOLISM ON THE NINTH DAY AFTER DELIVERY. RECOVERY.<sup>1</sup>

Dr. C. E. STEDMAN read the case.

Dr. FIFIELD remarked that Dr. Fordyce Barker had reported a similar case, with recovery, the syncope having been overcome by holding lighted matches near the apex of the heart, to stir it up. In the convulsions of children, in the critical condition, in which there had been suspension of the respiration with lividity, hot irons from the stove had proved efficacious. A gentleman at a Turkish bath once saw a bather brought from one of the rooms in a horrible condition, apparently dead, and suggested to the attendants to stand the patient on his head to restore the blood to the brain, as is done in syncope, but they, instead, applied boiling hot water to the region of the heart, by means of towels wrung out in it, and the man recovered.

### Recent Literature.

*Epilepsy and other Chronic Convulsive Diseases: their Causes, Symptoms, and Treatment.* By W. R. GOWERS, M. D., F. R. C. P. London: J. & A. Churchill. 1881. xiv. and 309 pages.

A desire to first read this book carefully has led to some delay in noticing it. Dr. Gowers is well known, through his earlier writings, as a careful, painstaking observer, not given to drawing hasty conclusions from a few data. It is a satisfaction to have a careful analysis of a large number of cases of epilepsy, such as is to be found in this volume. Fourteen hundred and fifty cases, treated chiefly at the National Hospital for the Paralyzed and Epileptic, furnish the material from which the book is built up.

Dr. Gowers classifies these cases into purely epileptic, 815 in 1000, and hysteroid attacks, 185 in 1000. By hysteroid he means those cases which Charcot has described as hystero-epilepsy. This is the only attempt to compare the frequency of the two forms of convulsive disorders which has come to our notice.

The book is chiefly a comparison of these many cases, and details his own experience with the disease. Many interesting facts are brought to light. More than one quarter of the patients were under ten years of age when they had their first fit; nearly one half were between ten and twenty; after forty very few began to have the disease. Twelve and a half per cent. commenced during the first three years of life. "In this group no cases of simple infantile convulsions are included, only such as, beginning in infancy, continued as chronic epilepsy." Dr. Gowers does not say at what date the second fit occurred in these cases; in many instances the second attack is long delayed; in such cases it is incorrect to call the early fit epileptic, it is infantile convulsion, and, as a result of the processes causing it, the brain is so af-

<sup>1</sup> See page 339 of this number of the JOURNAL.

fects as to favor or cause the subsequent attacks of epilepsy. Thirty-five per cent. showed evidence of neurotic inheritance.

In speaking of exciting causes the author refers to rickets as being associated with almost all convulsions during dentition, that is, the convulsions depend upon the irritability of the nervous system which accompanies rickets. He refers to the history of late teething, late walking, and in many the crooked limbs, as confirming this opinion. It seems to us that the above defects in development are quite as likely due to the shock which the nervous system sustains at the time of convulsions. When a child has convulsions leading to injury of the brain or caused by such injury, whether paralysis results or not, certainly it is not strange that the child should walk and talk later than normal.

Nearly ten per cent. of the cases were traced to fright as a cause. This is a very large percentage, much larger than we have found to exist: indeed, fright in our experience is more likely to give rise to chorea than to epilepsy. Sunstroke is much less common in England than here, and exposure to the sun is mentioned as cause in only twenty-seven, in six of these the exposure was in the tropics. Scarlet fever leads the acute diseases causing epilepsy in nineteen cases. Syphilis is credited as a cause in only a very few cases.

The chapter on symptoms contains many interesting observations, only a few of which can be noticed. An aura preceded the attack in half the cases, was unilateral in eighty-six cases, began in the arm in forty five of these, in the leg in fifteen, and the face in seventeen cases. He says, "A fit beginning in the face or tongue, if it involves the limbs, takes the arm before the leg, and we find that the arm centres intervene between those for the face and tongue, near the fissure of Sylvius, and those for the leg in the upper part of the hemispheres," and there are other interesting references in explanation of various phenomena. The whole question of the "aura" is considered quite exhaustively, and this is one of the best parts of the book.

He reports one case in which there was an epileptogenic zone at the upper edge of the *left* scapula, the spasms beginning in the right arm. Very few of such cases have been reported. Otto mentions one where snapping a hat elastic caused the attack. Triper mentions such a zone in a case of neuralgia of the face.

In considering the minor attacks Gowers recognizes that consciousness may be retained during the attack, though it is probably modified in some degree. The automatic actions which sometimes seem to replace an attack, and which have been called "masked epilepsy," he considers as post-epileptic phenomena occurring after a minor attack, and thinks that epileptic mania is of this nature.

In regard to the very important subject of mental failure in epileptics he says, "Mental failure is determined less by single conditions than by their combinations, and it is probable that a more potent cause than the attacks themselves consists in a predisposition to suffer under their influence, — a predisposition which is related to the ultimate causes of the disease rather than to its developed characters. Of the latter, early age at commencement, long duration of the disease, and frequency of attack, are more influential than the sex of the sufferer, the existence of heredity, or even the character of the attacks, so far as concerns the mere distinction between major and minor fits."

In speaking of the nature of the lesion in epilepsy

he rejects the theory of disease of the medulla oblongata and hippocampus major and the cerebral anemia theory. He says, in conclusion, "that all the phenomena of the fits of idiopathic epilepsy may be explained by the discharge of gray matter; that the hypothesis of vascular spasm is as unneeded as it is unproved; that there are no facts to warrant us in seeking the seat of the disease elsewhere than in the gray matter in which the discharge commences; that this is in most cases within the cerebral hemispheres, probably often in the cerebral cortex, although possibly in some instances lower down, even in the medulla oblongata; that epilepsy is thus a disease of the gray matter, and has not any uniform seat."

He very properly speaks of *arrest* of treatment and not of cure or recovery. But in giving statistics he does not state how long patients remained under observation after the arrest, hence his tables lose very much of their value; the numbers are also very small, considering how many cases were under observation, — only one hundred and forty-three cases are enumerated, unimproved forty-three, arrest of attacks one hundred.

In treatment bromides are strongly advised. He begins with doses of two or three drachms every second or third morning, and increases the dose to four drachms every fourth morning, and six drachms or an ounce every fifth morning. These large doses should be given after breakfast in a tumbler full of water. The maximum dose should be reached in two or three weeks and repeated three or four times, and the doses then gradually reduced, so that the whole course lasts six or seven weeks. After such a course of treatment the patient remains free from fits for four to six months; but if left without the remedy the fits recur, so the drug should be continued in ordinary doses.

Other drugs, as digitalis, belladonna, opium, zinc, etc., are considered, but the chief reliance is upon the bromides. This notice is already too long, and it is not necessary to dwell further upon particulars. The book is well worth reading. It gives an analysis of Dr. Gowers' experience, and is a careful review of the cases he has seen, rather than an abstract, didactic treatise made up of the observations of others; hence it is alive with useful, valuable observations and suggestions.

*Memoranda of Physiology.* By HENRY ASHEY, M. D. Third Edition, thoroughly revised, with additions and corrections by an American Editor. New York: William Wood & Co. 1882. 16mo. 306 pages.

This little volume, whose outer semblance is rather suggestive of poetical contents, is a quite prosaic *crum* book. It is confessedly published merely to enable students to get through the English medical examination in physiology, and may perhaps help some students in reviewing the subject, and assist others to acquire sufficient fictitious knowledge to pass. It is an abbreviated compilation from Quain and Gray's *Anatomy* and Foster's *Physiology*, but in the process of condensation a not small number of inaccuracies have crept in, which, however, are not important enough to interfere with the employment of the book in cramming for the sake of getting through an examination, but which suffice to render the book little adapted to any higher use. It is perhaps a fortunate modesty which has led the "American Editor," who made "additions and corrections," not to place his name upon the title page.

## Medical and Surgical Journal.

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## HOMICIDES BY CHLOROFORM.

THE readers of this JOURNAL know very well the stand heretofore taken in it concerning the administration of chloroform as an anæsthetic: deaths from such administration having long ago been herein characterized as unjustifiable homicides warranting judicial interference. For a long time the English medical periodicals, despite the almost weekly reports in their own columns of deaths directly due to this agent, controverted our arguments and denounced our position. Their conduct in this regard has always appeared inexplicable, for so crushing were the facts that it seemed hardly possible that this could be due, as some averred, to local vanity in an assumed discovery, — a “discovery,” as its advocates were pleased to call it, which after all amounted to nothing more than the substitution of a dangerous agent for one that elsewhere had been previously found to possess the power of safely producing anæsthesia.

At length the *British Medical Journal*,<sup>1</sup> moved apparently by the fearful number of deaths it was obliged to record on its pages, felt constrained to admit that “the reasons why chloroform is considered the best anæsthetic, in face of the numerous fatalities which attend it, and the greater safety of ether, are not apparent on the surface;” and again,<sup>2</sup> to declare that “we think it right to call attention to the advisability of preferring that which is held to be the less dangerous anæsthetic.”

Now, at last, comes the *London Lancet* taking a more decided stand. In a late number just received<sup>3</sup> it forcibly proclaims: “Another and yet another death from chloroform. This is the report which now nearly every week reaches us, suggesting one of the most solemn questions that can occupy the minds of the members of our fraternity. The responsibilities of the profession on this count are without limit. It applied and brought in the agent which causes the deaths; on its recommendation the general public accepted the agent, and by and through its voice declared the anæsthetic beneficent and its introducers the greatest benefactors of the human race. Is this all a delusion, and under the fascination of beneficent discovery has there crept into the world another form of death? This is the inquiry which now stares us in the face, and which must be met.”

Indeed it must be met; well may “the public mind

demand, and rightly demand,” it; for the wonder is that, having stared the profession in the face so long, it was not met and definitively decided long ago. Assuredly we can answer for the *Lancet* that it is all a delusion; that the “general public” was deceived by those it honored, who could not avoid knowing the facts of the case, however much they endeavored to ignore them, and who should have done better. For it is true, in the words of the *Lancet* itself, which a little further on candidly says that “from the very first days when it was itself brought in, chloroform brought in death. Within ten weeks of its discovery as an anæsthetic, and long before it had come into general use, it caused the death of a girl of fifteen years of age in this country. Within another month it caused the death of a woman thirty-five years of age, in Cincinnati; a month later it caused the death of a man in Boston, U. S. Before two other months had passed it caused the death of a woman in Boulogne; and from then until now, a period of thirty-four years, probably not a month has elapsed without one or more deaths from its employment.” Notwithstanding all this, and the facts are far from being over-stated, the *soi-disant* discoverer of the anæsthetic power of chloroform, who was well aware of the terrific lethaliferous character of the agent (he had a fatal case under his own administration), did none the less persistently urge its general use, inducing, as far as he could and not always by most reputable means, “patients themselves to force this remedy on us” physicians; and did not hesitate to secure with unseemly eagerness unmerited honors which a temporary local enthusiasm heaped upon him, not as an experimenter merely with an agent brought to his notice by another, but as the veritable discoverer of anæsthesia itself.<sup>4</sup>

In the course of its remarks the *Lancet* adverts to the question, often asked, it says, by “outside observers” as well as by those in the profession, “why the fatalities occur at all,” and deprecates the usual responses, which it appears to consider shallow apologies. Years ago Richardson gave to this question, we contend, the only possible answer. “Chloroform,” said he, “kills because it does kill.” “If it kills,” wrote Petrequin, “it is because it is in its nature a poison.” Why, we may also pertinently inquire, why does aconitine kill? an agent which, on the adjoining page of the *Lancet*, is called “the most active probably of all the poisonous alkaloids.” Why does aconitine kill? Why? because there is in it the killing power! Knowing thus much about it and no more, or about the deadly power of any other poison, the further question seems pertinent also, — What moral difference is there in the administration of the two drugs “in face of” their well-known properties and results.

After all the vital question is, Why, in the name of common-sense and all that is reputable, is the administration of chloroform as an anæsthetic persisted in, or, rather, why is it even permitted by the medical profession, when it is known to all to be so fatal; and when there is another agent, equally good or better, also known to every one to be so safe; an agent,

<sup>1</sup> October 25, 1879, page 667.

<sup>2</sup> October 30, 1880, page 715.

<sup>3</sup> March 18, 1882, page 414.

<sup>4</sup> See this JOURNAL, March 10, 1870, page 187 et seq.

which, there is still good reason for believing, has never killed any one inhaling it, certainly not unmistakably, outright or instantaneously, as chloroform kills every week? Surely personal following, national prejudice, and a propensity to arrogate for one's country what the Edinburgh Provost called "the greatest of all discoveries in modern times," have each and all had victims enough over the water; and it is time that the profession there should be required, if it does not volunteer, to return to the use of the safer agent, whose "beneficent" powers have little or no serious drawback; although by so doing it be tacitly admitted, as Simpson once said, that "for the great thought, that of producing insensibility, the world is indebted to Morton."

And, moreover, the still further question is appropriate and timely, — Why, if the practice of administering chloroform as an anæsthetic is not frowned upon and prevented by the medical profession itself, should not the courts, "without fear or favor" (the *Lancet's* words), interfere and put a stop to such unjustifiable homicides?

#### SUMMER COURSES IN MEDICAL INSTRUCTION. HOW TO UTILIZE CLINICAL MATERIAL.

THE present tendency of medical instruction seems every year to make the graduating student more and more accomplished in the fine distinctions which can be taught in a laboratory, in the differentiation of one kind of cell from another, or in the nice analysis of some fluid, rather than in the broader and varied forms under which disease presents itself, and in the infinite variety of human nature which it is necessary to consider in properly treating it, and the question arises whether as much is done in the way of clinical work as the circumstances of the case will allow.

No one would wish to curtail the advantages which are now offered, and which should be held at their full value, but do we not have a large amount of clinical material annually passing through our hospitals which might be used to better advantage than at present, especially in summer?

There is probably no city of its size which is more bountifully supplied with hospitals and dispensaries than Boston, and the men who carry on the work in them are, as a rule, well prepared both by home and foreign study for their posts.

It occurred to some of them, two years ago, to use the material which passed through their hands for the purpose of instruction, and to give the students, in the summer recess, a chance to see more of actual cases than they could while occupied with the routine of winter lectures.

The aim, as expressed in their announcement, was "to bring within the reach of students the clinical material which comes to the hospitals and dispensaries during the summer months, and to give an opportunity for the formation of numerous small classes under separate instructors."

With this object in view fifteen courses were pre-

pared, most of them being given at six of the hospitals and dispensaries of the city.

The number of students in each class was limited, the largest number being seven, and the average four, the idea being rather to give the student a chance to see and examine the cases for himself, under competent direction, than to afford the instructor an opportunity to display his erudition.

In a few details the methods were new, but in general the courses resembled those of the Vienna hospitals, as given by the privat-docenten, and lasted about six weeks.

The course in obstetrics has been already mentioned in this JOURNAL,<sup>1</sup> each student attending on the average six cases.

In materia medica the plan was introduced, in addition to the ordinary methods, of providing a small laboratory in which the students were required to compound the drugs previously written for, and thus acquire a practical knowledge of the preparation as well as of the therapeutic value of their prescriptions.

Beginning with a few students the first year, the plan has proved a decided success, and the increase last year was so great that a number were refused admission, including some graduates from schools at a distance, on account of the classes being filled.

So long as the idea is kept in view of giving the students an opportunity to see a large number of cases, and so long as the instructors remain, as at present, men who have had the advantage of careful training in foreign schools, as well as at home, the plan bids fair to serve as a very useful addition to the medical opportunities of Boston.

#### MEDICAL NOTES.

— M. Herveux has sent to the Paris Academy of Medicine an interesting report of a new stock of cow-pox, furnished by a heifer sent from Bordeaux. This heifer had, in the vicinity of the teats, about thirty pustules, which, on the fourth and fifth days of their development, showed the characteristics of true vaccine. The matter obtained from these pustules, either by puncture with the lancet or by expression, and inoculated either into heifers or children, produced a crop of pustules entirely identical with normal vaccine. With a few exceptions only the inoculations have produced as many positive results as there have been children vaccinated, and very nearly as many as there were punctures. The transmission of the vaccine from the Bordeaux heifer to those bought for the purpose by the Paris authorities was completely successful, as they yielded as many pustules as there were incisions made. The Paris animal vaccine service has, therefore, been able to substitute fresh cow-pox from the Gironde for their official stock, and this is held to be the more satisfactory as this particular animal vaccine is considered to be of a first-rate quality. — *British Medical Journal*.

— There are established at Paris, along the banks

<sup>1</sup> Page 99, vol. cxi.

of the Seine and Saint Martin's Canal, eight Humane Society houses (*pavillons de secours*). A store of blankets, mattresses, and every appliance necessary to restore life to the drowning is kept at every house. The number of apparatus intended to succor the drowned, deposited at the different police stations in Paris and its environs, including those of the *pavillons de secours*, amount to 267, with 210 stretchers at the prefecture of police. There are besides this ample provision tents, which are requisitioned by the *service de secours* on the days of public *fêtes*, and also for reviews. They are pitched where the crowd is the most dense, and are furnished with all the appliances of an ambulance; a medical man is attached to each of these movable ambulances during the duration of the *fêtes*. From 1805 to 1877, 11,500 sick and injured persons were relieved. Since 1875, 88 out of 196 apparently drowned persons have been restored to life.

—The prophylaxis of small-pox by vaccination and by revaccination is strictly attended to in the English navy, in which the highest danger of infection is in foreign ports, where vaccination is not enforced and revaccination is but little attended to, especially in China and Japan. In 1880, when the total force was 44,700 men, there occurred, in all parts of the world, only six cases, of which the Cape of Good Hope and East Indian stations presented each two, cases, and the China and Pacific stations one each. At the Cape the infected men were both blacks, of whom one had not been vaccinated, and the other was said to have had previously a mild attack of small-pox; of the two in the East Indies, both bore marks of vaccination without revaccination; on the Pacific station, the case ran a modified course, most probably from revaccination; in China, the sufferer had been revaccinated unsuccessfully nine years before.

## NEW YORK.

—The following statistics for the first quarter of 1882, as compared with the same period of last year, have just been reported to the Board of Health by Dr. John T. Nagle, registrar of vital statistics:—

| 1881          | Deaths. | Births. | Marriages. | Stillbirths. |
|---------------|---------|---------|------------|--------------|
| January.....  | 3188    | 2587    | 700        | 212          |
| February..... | 2826    | 2659    | 679        | 191          |
| March.....    | 3141    | 2885    | 828        | 194          |
| Total.....    | 9155    | 6832    | 2228       | 594          |
| 1882          |         |         |            |              |
| January.....  | 3498    | 2278    | 925        | 200          |
| February..... | 3208    | 2002    | 946        | 218          |
| March.....    | 3481    | 2486    | 818        | 199          |
| Total.....    | 10,277  | 6866    | 2689       | 617          |

Of the deaths in the first quarter of the present year, 15 were due to typhus fever, 174 to small-pox, 1146 to scarlet fever, 562 to diphtheria, 403 to measles, 276 to croup, 147 to whooping-cough, and 67 to cerebro-spinal meningitis.

—A stated meeting of the Medical Society of the County of New York was held on the 27th of March,

when, on recommendation of the Committee on Hygiene, endorsed by that of the Comitia Minora, a series of resolutions were adopted to the effect: (1) that it was the imperative duty of the proper authorities to set apart from the lands belonging to the city an appropriate place for the erection of a hospital or hospitals for persons sick with scarlet fever, measles, and diphtheria; (2) that the Society should memorialize the legislature to direct the commissioners of the sinking fund of the city to transfer to the care of the Board of Health, with the approval of the mayor, suitable lands for this purpose on the East River front; (3) that the proper authorities should appropriate sufficient funds for the erection and maintenance of such hospital or hospitals; and (4) that the president of the Society, Dr. A. Jacobi (who originally suggested the proposition), and the chairman of the Committee on Hygiene should be appointed a committee to urge upon the authorities named the speedy execution of this undertaking. At present no hospitals exist upon Manhattan Island proper at which cases of the above diseases are received for treatment, and when such patients cannot be suitably cared for in their own homes it is necessary to expose them to the danger of transportation to Blackwell's Island. In a short time, also, they will have to be carried to North Brothers Island (instead of Blackwell's Island), and this is a much greater distance. The paper of the evening was by Dr. Charles F. Stillman, on Obliquity of the Pelvis, or Sacro-Lumbar Curvature and its Treatment.

—A number of prominent medical men were recently invited to the Ashland House to make an examination of Herr Haag, the "India-rubber man," who was lately at the Westminster Aquarium, and is now on exhibition in this city. It is a case of dermatolysis or loosening of the skin, and almost unique. Haag was born in Erlangen, Bavaria, and he has spent a considerable time in Vienna, where the remarkable elasticity and mobility of the skin attracted much interest among the dermatologists. He is about thirty-two years of age, and has several children, none of whom inherit the father's peculiar cuticle. On this occasion he first took the integument of his chest in both hands, and having drawn it upwards easily put it in his mouth. The skin of his arms and legs was then stretched out until he looked like a bat or flying-squirrel, and he was also able to draw out that of his nose and chin to a most extraordinary extent. The skin upon his ears, hands, and feet also exhibited the same elastic quality. When he was in Vienna a portion of integument about four inches in length was removed from the right arm, and it was found that there was a lack of subcutaneous fat and cellular tissue, which permitted the skin to move very freely over the muscles. Since his appearance at the Ashland House Herr Haag has been presented to the students of the University Medical School and the College of Physicians and Surgeons by Professors Piffard and Fox, respectively.

—Mr. Moses Taylor, of this city, for many years a director of the Delaware, Lackawanna, and Western

Railroad Company, has delivered in trust to Samuel Sloan, president of the company, and Edwin F. Hatfield, president of the Lackawanna Coal and Iron Company, \$250,000 par value of first mortgage bonds of the Delaware, Lackawanna, and Western Company, to be used as a fund for the erection and maintenance of a hospital at Scranton, Pa., for the disabled and sick employees of the two companies. The bonds, with accrued interest, are worth \$270,000 in the market, and the cost of the building will not exceed \$70,000, thus leaving at least \$200,000 for the permanent endowment. The hospital will probably be built on a site tendered by the Coal and Iron Company, and it is expected that articles of association, providing for a board of trustees, will be adopted under the general corporation laws of Pennsylvania. Other patients than employees will probably be received in the hospital, but the terms of their admission have not yet been decided upon.

—At the fifth social meeting of the Yale Alumni Association this season, recently held at Delmonico's, Mr. James T. Gardner, of the class of 1868, read a paper on How to Escape Sewer Poison.

#### WASHINGTON.

*The Garfield Memorial Hospital.* The bill for the incorporation of this hospital came up before the United States House of Representatives, and, after considerable debate, was so disposed of as to probably never again be brought before that body, at least in its present shape. One reason for asking for incorporation by Congress was that the laws of the District do not issue an act for this purpose for a longer period than twenty years, and it was desirable to have an act which should be perpetual. This was met by the recommitting of the bill to the proper committee, with instructions to report amendments to the general law in relation to the formation of corporations in the District of Columbia by extending the time for the duration of such corporations, and otherwise for the establishment of hospitals and other charitable institutions.

Another reason was to enable the incorporators to merge into their proposed hospital the property and funds of the Soldiers and Sailors Orphan Home, representing some \$30,000 to \$50,000, now no longer of use for the purpose for which it has accumulated, because the orphans of the late war have disappeared by the influence of time, but not available until Congress shall sanction its further disposal. All of those interested in the disposal of this fund, except Congress, are desirous that the hospital shall so utilize it. Congress, however, by its action evidently agrees with the views expressed by Mr. Cobb, that there is a very grave question as to whether the board of trustees of this fund of the Soldiers and Sailors Orphan Home can so dispose of it, it having been in great part devised by one person, and the object of the bequest having ceased it should revert to the testator or his heirs perhaps, if there are any.

These were the only valid reasons brought out in the discussion as to why the bill as presented should

not be passed, and both could readily have been put into such a shape as to insure the passage of the bill, were it not for the strong hostile spirit shown, evidently stimulated by other hospital interests; there was a yearly appropriation of \$15,000 to bid for, now used for the support of hospitals in the District, which from its purposes would certainly sooner or later find its way into the projected hospital as a broader, more liberal, and more satisfactory institution than any here at present.

Some of the objections were certainly very forcible. One was a well-timed comment on the use of Garfield's name to better foster such enterprises; there is no doubt it was used mainly to foster the enterprise, and so long as not seen through would have been a commendable act; but Congress did see through it, and Mr. Butterworth very properly so condemned it. Only it is to be hoped that all other enterprises with the name of Garfield as an invocation, and which are not so necessary and praiseworthy, will be similarly treated by Congress.

Another objection was the possible calling for appropriations in the future. This objection was based upon experience and sound reasoning. Mr. Wilson offered an amendment looking to this objection, which is worthy of standing on record, to be taken up from time to time and applied as exigencies arise. It reads: Provided, That if said corporation shall at any time hereafter apply for an appropriation of money for its aid, such appropriation shall operate as a repeal of this act.

After all that has been said and done, there is a great want for such a hospital in this city, and it should receive in every way the proper support from Congress, but failing in that support there is no reason why it should not be attempted, as independent of that body. Once a success, it will be all the more useful and all the more satisfactory for being independent of legislation. Money has come in as donations in considerable amount; the city is no longer simply a home for office holders and government contractors, but intelligent and wealthy property holders are settling in our midst, and every year will see more and more of that class of persons among us who have been accustomed at home to make it their duty to assist in supporting charitable institutions.

*Scientific Lectures.* There is no better evidence that Washington has become a city than the attendance upon the course of scientific lectures now being given at the National Museum. An old resident can look around and say: Who are all these well-dressed people, they appear to be ladies and gentlemen, yet I know very few of them; I do not see them at the receptions or parties? And he may well wonder, for it is only a few years since he knew in that way everybody in town who was worth knowing. These lectures are given every Saturday at 3.30 p. m., are free, and are by selected members of the Anthropological and Biological Societies; they embrace a wide range of subjects, and, besides being in a popular framework, are worthy of permanent preservation for reference; they are accordingly being printed in pamphlet form, as



they appear. Dr. Robert Fletcher is soon (April 15th) to deliver one on the subject of Paul Broca and the French School of Anthropology, and Dr. Swan M. Burnett (April 29th) on How We See. On the day of the last lecture, by actual count at the door, fourteen hundred persons passed into the National Museum; the trouble now is that there is not room for those who wish to attend these lectures, and their success has led to the presentation of a bill before Congress which shall provide for the selection by the proper persons of suitable lecturers and subjects for a regular free course of scientific lectures, — the necessary expenses to be defrayed by an appropriation.

The interior of the National Museum building is still chaotic, but the medical visitor who goes there properly introduced can see much that is of professional interest, although not yet open for general inspection. The collection of *materia medica* is of especial interest, and the Chinese have a case which, although taken from the Centennial Exhibition, is perhaps not well remembered. They have taken panels of different woods, encased them in a framework of the bark, and given cross cuts of the same as a finish to the four corners of the frame; upon the panel of each is delicately painted the leaf, the flower, and the seed, — all pertaining to the same specimen.

### Miscellany.

#### CREED OF AN OLD M. M. S. S.

MR. EDITOR, — In a very cordial letter received a day or two ago from a valued professional friend occurred an incidental remark as to what "we both admit, I suppose," in regard to certain modern assumptions. This remark induced a reply to qualify his supposition; and has since led to the idea that, while the current "scare" about small-pox is passing away, or has in a measure subsided, the publication of an ancient practitioner's creed, containing nothing new perhaps to coevals, may not be inappropriate or wholly useless, though the doctrines implied in it seem to have been somewhat overlooked or disregarded in recent practice.

#### CREDO

That the degree of susceptibility to a given disease depends upon and is a part of the inborn bodily idiosyncrasy of the individual, and cannot be known or estimated except by a thoroughly adequate exposure to the disease in question.

That this susceptibility to a given disease is not the same in any two persons; and that any two diseases will not affect the same person with equal severity.

That acute diseases, especially those of a contagious or infectious nature, are seldom repeated in the same person; in popular language, are seldom taken twice.

That the degree of protection against a second invasion of a disease is not in proportion to the severity, either during the progress or in the sequelæ, of the first attack. Nor is the damage, general or local, done by a disease a trustworthy guide in this respect. Thus, in small-pox or vaccine disease a scar is good for nothing as a measure of immunity, a person having large scars being as likely as any other to have an after-attack or second taking; these scars, not essential to the

disease, indicating, if they indicate anything, a severe local result of a previous affection, and, if large or many, in consequence of mishap or of great natural local susceptibility.

That vaccination, once thought infallible, be it ever so thorough or often repeated, will not protect *every one* against a subsequent attack of small-pox; a fact believed to be pretty generally admitted nowadays.

That small-pox itself will not prevent in all instances a second attack of the same disease; witness, almost every practitioner's observations, and cases reported by Drs. Green and Webb in a former epidemic.

That susceptibility, not time or change, organic or functional, from infancy to adult age, determines a second or after-attack; witness, oft occurring instances and a case reported by Drs. Green and Webb, where under their own observation throughout, a child less than a year old had small-pox twice; the second attack, one month after the first, being fatal.

That in small-pox and vaccination what is once done is done for all time; revaccination, if resorted to, being useful merely as a *test* to determine whether the first vaccination fully exhausted the susceptibility (to itself, not to other disease), and being needed, if needed at all, as much within a few days as at any time afterwards, or no more at one time than another; witness, many examples (the writer's case among others). Ordinarily, therefore, after such a test, revaccination should not be repeated, as, to say nothing of "misadventures," it may cause severe and possibly characteristic disturbance without adding to the immunity from small-pox. Even after small-pox itself, and in those insusceptible to it, similar results will sometimes occur upon vaccination.

It has been surmised, probably from imperfect knowledge, that were custom to compel every physician to revaccinate his own patients whenever requested, *without extra charge*, there would be much less said about the necessity of third, fourth, and more vaccinations.

That the true test of complete immunity from small-pox through vaccination, and the only one absolutely trustworthy, is repeated and thorough exposure to small-pox itself, that is, by inoculation or by close contact with it. Many years ago Dr. Gregory thought so, and inoculated his own child with variolous matter after vaccination.

That contagion and infection have a more limited range than generally accredited to them; and that it would be well always to receive *cum LIBRIS suis* the varied and sensational stories of disease being communicated through old garments, rags, letters, etc., including also the "traditional trunk." In an account of "shoddy" manufacture in England it was stated, in 1867, that "old woollen rags . . . come to Yorkshire from districts where plague, fever, small-pox, and loathsome skin diseases prevail; they are sorted by human fingers when the bales are opened before being placed in machines which tear up and clean the fibre for manufacture; but the Pollution of Rivers Commission [a Government Commission, — good authority certainly] mention that fifty years' experience has proved that these rags are not in any degree dangerous to the health of those who work among them, although in many of the countries where they are collected they are believed to be peculiarly plague-bearing materials. . . . The dirt, dust, and fine particles blown

out by the machine are collected and sold for manure at from ten to twenty shillings per ton. . . . From seventy to eighty millions of pounds' weight of shoddy were used in a year."

Two years ago the writer was told by a gentleman that his family, father and sons, had been owners and managers of paper mills for more than a hundred years: that in their business of paper-making they had consumed hundreds of thousands of tons of rags, these rags coming, often in most filthy condition, from hospitals, lazarettos, dead-houses, and the like, from Russia, and all European ports, from Turkey, Smyrna, and the East, yet in all their experience they had never known a case of disease to be contracted from these rags by persons working in them. Frequently over a hundred women, as well as men, had been employed at a time in picking over and cleaning these rags by hand. Similar testimony comes from other mills, which have had like experience, though the work is described to be often loathsome *usque ad nauseam*.

That, while cleanliness may be next to godliness, neither of these attainments will effectively bar out disease, which at times seems to have an especial taking for the pure and upright; and that, while isolation is sometimes absolutely imperative, segregation of the sick is always desirable, as much for themselves as for the well, who should never be allowed free access to the sick, when conveniently prevented, except for some appropriate service.

#### ETIAMQUE CREDO, TREMISCENS.

That in the spread of diseases less is due to other causes than to epidemic influences, of the coming and going of which not so much is known as of the wind which bloweth where it listeth: and that it would seem more becoming, as well as more truly scientific, so long as an actual preventive or a real disinfectant is yet to be discovered, to use less laxity of speech in claiming control over epidemics or discovery of their causes; to talk less positively of "stamping out" disease; and to be a little more cautious in laying down rules and orders, many of which as promulgated are too impracticable, not to say absurd, to gain the active co-operation of experienced persons, out of as well as in the medical profession, and which, to that extent, are worse than useless, nay, are seriously detrimental to the peace and safety of a community. MORTOCULUS.

#### "UNUSUAL OR ACCIDENTAL RESULTS OF VACCINATION."

BOSTON, March 27, 1882.

MR. EDITOR,—Having noticed Dr. Alfred H. Holt's article on Unusual or Accidental Results of Vaccination in the JOURNAL of March 23d, I should like to call your notice to three of my dispensary cases which resemble Dr. Holt's in almost every detail. The first two cases were brothers, aged ten and twelve years, who had been vaccinated by the city authorities ten days previous to my being called to see them. At least seven eighths of the elder boy's body was covered with an eruption resembling exactly that described by Dr. Holt, although, as I did not examine it with a lens, I cannot say what the microscopic appearances were. The mother said the eruption had appeared on this boy the previous day, with no accompanying symptoms whatever. An eruption had begun to break out on the surface of the younger boy early that morning, and

I noticed several papules on the face, which made me think of varioloid, but as there had been no prodromic symptoms whatever I doubted it, and upon visiting them the next day the eruption on the younger boy resembled exactly that of his brother on the previous day, while the eruption on the latter was beginning to fade. In three or four days both eruptions had entirely disappeared, having gradually assumed the brownish hue mentioned by Dr. Holt. In both cases the vaccination pustules were well marked, with a good deal of swelling and redness about them. Neither of the boys had been exposed to small-pox to my knowledge, and the cases differ from those of Dr. Holt in that there was not the slightest feeling of malaise either before or during the appearance of the eruption.

The third case was that of a boy, aged seven, who was covered with exactly the same kind of eruption as the others, it having appeared about nine days after vaccination. In this case there were also well marked vaccination pustules, and there was marked constitutional disturbance, fever, headache, and malaise. There was no history of exposure to small-pox, but the boy had always been rather delicate. The result was the same as in the other cases. I have been able to find no description of a similar eruption following vaccination in any book on the subject. I think there are other physicians in this city who have had similar cases, and it would be well to report them.

Very truly yours,

VINCENT Y. BOWDITCH.

#### ICE-WATER AND AMERICAN DYSPEPSIA.

MR. EDITOR,—I am somewhat surprised at the query of your correspondent S., and at your own skepticism in regard to the injurious effects of excessive ice-water. I have always looked upon the dictum of the State Board of Health as gospel in matters connected with medicine. Let me quote a few sentences from a paper by its first secretary, Dr. George Derby, on the Food of the People of Massachusetts: "Dyspepsia is too common a complaint among our people to warrant the overlooking things that, to other people, may seem trivial and unimportant." "In our manufacturing of all kinds, water (very often iced) is placed within easy reach of every person, and the effect of this constant invitation is seen in the drinking of what physicians must regard as unreasonable amounts; the food is thereby diluted, and the stomach is oftentimes chilled below the temperature of the blood, and by repeated draughts may be kept in this condition. The process of digestion is in this way seriously interfered with." Many similar quotations might be made from the same article to show the opinion of a man who has done much to mould public opinion in this vicinity on the subject of dyspepsia. Has a strictly American education made me too credulous in regard to our local authorities? AMERICUS.

#### ETHER VERSUS CHLOROFORM.

WE feel sure that the gradual introduction of ether into general use in Great Britain is a source of great interest to our readers, and that they will welcome the following paper on the subject by Mr. T. Pridgin

Teale, Surgeon to the General Infirmary at Leeds, which we reproduce from the *British Medical Journal* of March 11, 1882:—

It is confessedly difficult, perhaps even impossible, to settle by statistics the question of the relative danger of these two anaesthetics; chiefly for the reason that, whilst we know pretty nearly how many deaths from each agent occur during the year, we have not the means of ascertaining the relative proportions of the cases in which each anaesthetic has been used.

Such being the case, it may be worth while to record the opinions of those who, having for a great number of years had experience of chloroform, have also for many years (in my own case, more than six years) almost abandoned it in favor of ether. I wish, therefore, to tender my conclusions for what they are worth, based, as they are, upon what I have seen in the practice of my colleagues and myself at the Leeds Infirmary, and upon experience of anaesthetics in my private practice. My conclusions are as follows:—

(1.) Ether, *properly administered*, is a much safer anaesthetic than chloroform. So much safer do I believe it to be, that I counsel every surgeon whom I can influence in the matter to study the method of its right administration, and to let ether take the place of chloroform. The exceptions I make in favor of chloroform, are: in infants, in patients subject to asthma or chronic bronchitis, and also, perhaps, in cases of abdominal obstruction, with difficult breathing, in which an operation has to be performed.

(2.) When many operations have to be done in rapid succession, to use ether is a great economy of time. A good "etherist" can get most patients under its influence in from one and a half to two minutes, whereas, in my experience, chloroform must be given from six to fifteen minutes before an operation can be commenced. I am aware that chloroformists trained in Edinburgh usually administer chloroform more rapidly than those trained in English hospitals.

(3.) A patient under the influence of ether is far more passive, and therefore in a more convenient condition for operation, than one under chloroform. As soon as the effect of chloroform is passing off, the patient becomes, as a rule, and often very suddenly, very sensitive to pain; whereas, in the case of ether, especially if the patient have been kept for some time under its influence, the return of sensibility to pain is very slow. In fact, a patient may become so far conscious as to converse with the surgeon whilst stitches are being placed in the wound, and at the same time be entirely unconscious of pain. This was not my experience of chloroform.

(4.) When ether is administered without food on the stomach troublesome sickness is very rare.

(5.) In using ether, the *safety and comfort of the patient, the rapidity of the anaesthesia, and the convenience of the surgeon* in operating depend very directly upon the *method of administration* employed, and the *manner* in which the administrator does his work.

(6.) There are good methods of administration of ether and bad methods, and there are good and bad "etherists." The varying opinions of the value of ether which prevail in the profession probably depend very directly upon the varying methods and manners of administration.

(7.) It is a bad method to give ether "on a towel," as first taught us by Dr. Joy Jeffreys, to whom Eng-

land is deeply indebted for his successful crusade in favor of ether. This involves a great waste of ether, ten to twenty ounces being required. The patient's lungs are chilled, and bronchial râles, struggling, and maniacal excitement not infrequently result. I, along with my colleagues, commenced ether under this system as a duty, and by no means an agreeable one, and held on doubtfully when I suspected that some patients probably died from the effects of the chilling of the lungs.

(8.) It is a bad method to give ether with the American basket-work frame, which, though not much better than the towel, served a good purpose as a step to better things.

(9.) The good methods are those in which the patient breathes over ether into an India-rubber bag, a method, I believe, introduced into practice by Dr. Ormsby of Dublin, and carried to further perfection by Mr. Clover. In this method, the patient breathes the same air over and over again for six or eight times, thereby economizing the heat of the air-passages, economizing ether, and enhancing the effect of the ether by partial asphyxia. My experience of the use of Clover's smaller inhaler, under good management, is this: *a.* A patient can generally be ready for operation in a minute and a half, sometimes in less than a minute; *b.* There is rarely any struggling; *c.* Noisy excitement hardly ever occurs—perhaps, in my private practice, once in a hundred times; *d.* Râles in the trachea are but seldom heard; *e.* Instead of six or eight ounces of ether being used in a short operation, and sixteen to twenty in one lasting an hour or an hour and a half, half an ounce or less suffices for a short operation (such as "splinter-stretching" or "iridectomy"), and two to three ounces for an operation of an hour's duration, such as colotomy or excision of a joint.

(10.) The administration of ether by inferior methods is too common, and was until recently prevalent in some of our larger hospitals.

(11.) Even with Ormsby's or Clover's inhalers, there is an infinite variety of skill in different etherists.

(12.) In order to become a good etherist, the administrator must *study how* to give ether, must *watch* the patient *attentively* whilst giving it, and during the earlier inhalations must very carefully and *studiously* adjust the anaesthetic to the sensations of the patient.

(13.) A careful, attentive student, with tact, and not hard and unfeeling, can easily and in a short time be taught to give ether properly.

Since the adoption of Clover's inhaler, I have had singular freedom from anxiety about my anaesthetics—far greater freedom than in the previous period, when I had to depend upon chloroform.

Finally, I would say that this favorable opinion of ether is based upon my experience of its use by a series of very able administrators—some in the Leeds Infirmary, others whilst acting as my private clinical assistants. Speaking as a looker-on, rather than as an administrator, I should say that the chief points in the right administration of ether are: first, to overcome the nervous dread of the patient by applying the mouth-piece only; then to turn on the ether gently, until the glottis becomes tolerant and the patient is slightly unconscious; lastly, to complete the anaesthesia rapidly. In advising beginners, I compare the regulation of the quantity of ether to the "curve of harmonic progression."

A COMPARATIVE VIEW<sup>1</sup>

OF THE

## NATURAL SMALL-POX, INOCULATED SMALL-POX, and VACCINATION,

IN THEIR EFFECTS ON INDIVIDUALS AND SOCIETY.

## NAT. SMALL-POX.

For 12 centuries this disorder has been known to continue its ravages, destroying every year an immense proportion of the population of the world.

It is in some few instances mild — but for the most part violent, painful, loathsome — dangerous to life, and always

## CONTAGIOUS.

One case in three dangerous, ONE IN SIX DIES.

At least half of mankind have it, consequently one in twelve of the human race perish by this disease. In London 300 die annually : 40,000 in G. Britain and Ireland.

The eruptions are numerous — painful, and disgusting. Confinement, loss of time and expence are certain, and more or less considerable. Precautions are for the most part unavailing. — Medical treatment necessary, both during the disease and afterwards. It occasions pits, scars, fevers, &c. disfiguring the skin, particularly the face. The subsequent diseases are scrophula in its worst forms; diseases of the skin, glands, joints, &c. and lots of lentic, fight, or hearing, frequently follow.

It is attempting to cross a large and rapid stream by swimming, when one in six perishes.

## INOCULATED SMALL-POX.

For the most part mild, but sometimes violent, painful, loathsome, and dangerous to life, always

## CONTAGIOUS,

and therefore gives rise to the Natural Small-pox — and has actually, by spreading the disease, increased the general mortality 17 in every 1000.

One in forty has a dangerous disease, ONE IN THREE HUNDRED DIES. — And in London one in 100.

Eruptions are sometimes very considerable, confinement, loss of time and expence certain, and more or less considerable — preparation by diet, and medicine necessary, extremes of heat and cold dangerous, — during ill health, teething and pregnancy to be avoided — medical treatment usually necessary. When the disease is severe deformity probable, and tubercular disorders as in the Natural Small-Pox.

It is plying the river in a boat subject to accidents, where one in 300 perishes, and one in 40 suffer partially.

## VACCINATION.

Is an infallible preventive of the Small-Pox ; — always mild, free from pain or danger, NEVER FATAL, NOR CONTAGIOUS.

No eruption but where VACCINATED. No confinement — loss of time, or expence necessary. — No precaution ; — no medicine required, no consequent deformity. No SUBSEQUENT DISEASE.

It is plying over a safe bridge.

the fatal consequences of the small-pox, think it a duty thus publicly to declare our opinion that inoculation for the Cow-Pock, is a certain preventive of the small-pox ; that it is attended with no danger, may be practiced at all ages and seasons of the year, and we do therefore recommend it to general use.

JAMES LLOYD, { Consulting Physicians.  
ISAAC RAND, {  
JOHN FLEET, junr. {  
SAML. HUNT, junr. { Attending Physicians.  
JAMES JACKSON, }

## BOSTON DISPENSARY.

AT a meeting of the Managers, June 10, 1803. — The Attending and Consulting Physicians of this institution having informed the Managers, that they have found Inoculation for the COW-POX mild, unattended with danger, and a full security against the Small-Pox — and the Managers desirous that the superior advantages of the Cow-Pox may be fully experienced by the objects of this charity and all others —

Resolved — That we do entirely accord with the sentiments of the Physicians, and earnestly recommend to the poor of the town, to embrace the means now offered of preserving themselves and families from a dangerous and loathsome disease, by the newly discovered and happy mode of Inoculation for the Cow-Pox, which will be performed by the Physicians of the Dispensary — recommendations to whom may be obtained from any of the Contributors to said Institution.

Published by order of the Board of Managers,

S. PARKER, Chairman.

N. B. A Certificate similar to the above has been given to the Managers of the Philadelphia Dispensary, signed by fifty physicians.

Boston, June 25, 1803.

## TYPHOID AND MALARIAL FEVERS.

THE Connecticut State Board of Health's report for January states that the renewed frequency of typhoid fever and the prevalence of malarial fevers side by side is shown by the returns from Hartford, New Haven, and Waterbury, as also in other parts of the State, usually where malarial diseases have prevailed for some years, and the type is changing back to continued fevers. Typho-malarial fever is also reported from Thomaston, or, perhaps, congestive fever rather, in one or two cases causing death after a very brief illness. The milder forms of malarial fever have previous to this been the only existing types. As is usually the case, the severer and more fatal forms come after the others have existed some years. Indeed, there have been but few cases comparatively of any form of malarial diseases about this region. Malarial fevers are also reported from Willington as a recent invasion, and one or two towns in Windham County must, apparently, soon be added to the malarial territory. In Plainville the latent or masked variety is reported as most frequently met, and this is also true of many places where this type has been long prevalent. The frequency is stated to be decreasing in Suffield, but an unusual prevalence of jaundice, both in children and adults, is reported, probably produced by the malarial influences. From South Manchester, Bloomfield, Berlin, and Granby they are reported as being fully as prevalent as last month. The unusually mild winter has been a predisposing cause of malaria, and if any inference can be drawn in so capricious a disease it would seem that this year is to be a favorable year for the increase and spread of malaria. The type is stated to be milder in Oxford while the frequency is unchanged. The principal diseases reported from Unionville are bilious, remittent, and gastric fevers, and but little sickness except of this nature.

— Condensed mare's milk from the Russian steppe is soon to be added to the numerous infant foods.

<sup>1</sup> Parents and others are earnestly requested to attend scrupulously to the above Comparison and to the following Certificate and Recommendation :—

We the consulting and attending physicians of the Boston Dispensary, having carefully considered the nature and effects of the newly discovered means of preventing by Vaccination,

<sup>1</sup> Columbian Centinel and Massachusetts Federalist, July, 1803.

## REPORTED MORTALITY FOR THE WEEK ENDING APRIL 1, 1882.

| Cities.                            | Population by Census of 1880. | Reported Deaths in each. | Deaths under Five Years. | Percentage of Deaths from         |                |                       |                |            |
|------------------------------------|-------------------------------|--------------------------|--------------------------|-----------------------------------|----------------|-----------------------|----------------|------------|
|                                    |                               |                          |                          | The Principal "Zymotic" Diseases. | Lung Diseases. | Diphtheria and Croup. | Scarlet Fever. | Small-Pox. |
| New York.....                      | 1,206,590                     | 846                      | 400                      | 31.09                             | 17.38          | 8.63                  | 8.63           | 1.42       |
| Philadelphia.....                  | 846,984                       | 439                      | 126                      | 13.21                             | 7.29           | 5.01                  | 1.37           | 9.11       |
| Brooklyn.....                      | 566,689                       | 277                      | 123                      | 25.27                             | 19.85          | 9.75                  | 9.39           | —          |
| Chicago.....                       | 503,304                       | 264                      | 133                      | 21.96                             | 15.53          | 4.17                  | 4.73           | 7.57       |
| Boston.....                        | 362,535                       | 176                      | 36                       | 12.50                             | 17.18          | 6.25                  | 1.35           | —          |
| St. Louis.....                     | 350,522                       | 147                      | 49                       | 14.96                             | 11.56          | 1.36                  | 2.72           | —          |
| Baltimore.....                     | 332,190                       | 147                      | 55                       | 11.56                             | 13.60          | 4.08                  | 2.72           | —          |
| Cincinnati.....                    | 255,708                       | 158                      | 46                       | 34.17                             | 11.76          | 4.43                  | 1.27           | 23.40      |
| New Orleans.....                   | 216,140                       | —                        | —                        | —                                 | —              | —                     | —              | —          |
| District of Columbia.....          | 177,638                       | 79                       | 25                       | 5.06                              | 20.25          | 1.26                  | —              | 1.26       |
| Cleveland.....                     | 160,140                       | —                        | —                        | —                                 | —              | —                     | —              | —          |
| Pittsburgh.....                    | 156,381                       | 69                       | 25                       | 26.07                             | 17.39          | 4.35                  | 4.35           | 11.60      |
| Buffalo.....                       | 155,137                       | 84                       | 50                       | 30.96                             | 28.58          | 9.53                  | 9.53           | —          |
| Milwaukee.....                     | 115,578                       | 39                       | 23                       | 5.13                              | 15.38          | —                     | —              | —          |
| Providence.....                    | 104,857                       | 33                       | 7                        | 9.09                              | —              | 3.03                  | 3.03           | —          |
| New Haven.....                     | 62,882                        | 21                       | 6                        | 19.05                             | 4.76           | 4.76                  | —              | —          |
| Charleston.....                    | 49,999                        | 30                       | 11                       | 9.99                              | 13.33          | 3.33                  | —              | —          |
| Nashville.....                     | 43,461                        | 18                       | 6                        | 5.55                              | 33.33          | —                     | —              | —          |
| Lowell.....                        | 59,485                        | 27                       | 9                        | 11.11                             | 3.70           | 3.70                  | —              | —          |
| Worcester.....                     | 58,295                        | 28                       | 8                        | 7.14                              | 35.71          | 3.57                  | 3.57           | —          |
| Cambridge.....                     | 52,740                        | —                        | —                        | —                                 | —              | —                     | —              | —          |
| Fall River.....                    | 49,006                        | 26                       | 13                       | 7.69                              | 23.08          | 3.84                  | —              | —          |
| Lawrence.....                      | 39,178                        | —                        | —                        | —                                 | —              | —                     | —              | —          |
| Lynn.....                          | 38,284                        | 13                       | 6                        | 23.07                             | 15.38          | 7.69                  | 15.38          | —          |
| Springfield.....                   | 33,340                        | 14                       | 3                        | 21.43                             | 21.43          | 7.14                  | 14.28          | —          |
| Salem.....                         | 27,598                        | 11                       | 6                        | 18.18                             | —              | —                     | —              | —          |
| New Bedford.....                   | 26,875                        | 14                       | 6                        | 21.42                             | 7.14           | —                     | —              | —          |
| Somerville.....                    | 24,985                        | 12                       | 6                        | 50.00                             | 8.33           | 25.00                 | —              | —          |
| Holyoke.....                       | 21,851                        | —                        | —                        | —                                 | —              | —                     | —              | —          |
| Chelsea.....                       | 21,785                        | 6                        | 2                        | —                                 | 33.33          | —                     | —              | —          |
| Taunton.....                       | 21,213                        | 5                        | 0                        | —                                 | —              | —                     | —              | —          |
| Gloucester.....                    | 19,329                        | 6                        | 2                        | —                                 | 16.66          | —                     | —              | —          |
| Haverhill.....                     | 18,475                        | 1                        | 0                        | 100.00                            | —              | —                     | —              | —          |
| Newton.....                        | 16,995                        | 6                        | 2                        | 16.66                             | —              | —                     | —              | —          |
| Brooklyn.....                      | 13,608                        | 5                        | 0                        | 61.00                             | —              | 60.00                 | —              | —          |
| Newburyport.....                   | 13,537                        | 10                       | 3                        | 10.00                             | 30.00          | 10.00                 | —              | —          |
| Fitchburg.....                     | 12,405                        | 7                        | 2                        | —                                 | —              | —                     | —              | —          |
| Malden.....                        | 12,017                        | 7                        | 2                        | —                                 | —              | —                     | —              | —          |
| Seventeen Massachusetts towns..... | 131,628                       | 31                       | 4                        | 9.67                              | 9.67           | 3.22                  | —              | —          |

Deaths reported 3056 (no reports from New Orleans and Cleveland); 1215 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and fevers) 656, consumption 426, lung diseases 466, diphtheria and croup 185, scarlet fever 136, small-pox 82, measles 63, typhoid fever 40, diarrheal diseases 37, whooping-cough 36, cerebro-spinal meningitis 27, erysipelas 18, puerperal fever 15, malarial fevers 13, typhus fever three, intermittent fever one. From *measles*, New York 44, Brooklyn seven, Chicago six, Philadelphia and Buffalo two each, Baltimore and Pittsburgh one each. From *typhoid fever*, Philadelphia 17, Chicago five, St. Louis four, New York and Boston three each, Buffalo and New Haven two each, Brooklyn, District of Columbia, Providence, and Lowell one each. From *diarrheal diseases*, New York 15, St. Louis five, Baltimore three, Chicago, Cincinnati, Buffalo, Charleston, and Somerville two each, Brooklyn, Pittsburgh, Lowell, and Haverhill, one each. From *whooping-cough*, New York 19, Brooklyn, Chicago, and Boston three each, Philadelphia and Salem two each, Pittsburgh, Buffalo, Nashville, and New Bedford one each. From *cerebro-spinal meningitis*, New York seven, Philadelphia five, Chicago four, Cincinnati and Buffalo two each, District of Columbia, Fall River, Springfield, Somerville, Newton, Brooklyn, and Woburn one each. From *erysipelas*, New York five, Brooklyn four, Cincinnati three, Baltimore two, Boston, St. Louis, Buffalo, and Fitchburg one each. From *puerperal fever*, St. Louis four, New York, Chicago, Boston, and Milwaukee two each, Brooklyn, Cincinnati, and Pittsburgh one each. From *malarial fevers*, New York seven, Chicago three, St. Louis two, and New Haven one. From *typhus fever*, New York three. From *intermittent fever*, Baltimore one.

One hundred and fifty-one cases of small-pox were reported in Cincinnati, Pittsburgh 30, St. Louis nine, Brooklyn five, Baltimore four, Boston three, Buffalo and Milwaukee each one; diphtheria 18 cases, scarlet fever 10, typhoid fever five, in Boston; scarlet fever 15, and diphtheria four, in Milwaukee.

In 35 cities and towns of Massachusetts, with a population of 961,395 (population of the State 1,783,086), the total death rate for the week was 21.80 against 21.50 and 19.27 for the previous two weeks.

For the week ending March 11th, in 173 German cities and towns, with an estimated population of 8,526,789, the death-rate was 28. Deaths reported 4597: under five 2213; pulmonary consumption 691, acute diseases of the respiratory organs 499, diphtheria and croup 235, diarrheal diseases 185, scarlet fever 80, whooping-cough 65, measles and *roteln* 46, typhoid fever 36, puerperal fever 19, small-pox (Cassel, Dortmund, Essen seven, Coblenz) 10, typhus fever (Königsberg, Elbing, Thorn two, Posen two) six. The death-rates ranged from 14.6 in Stettin to 46.8 in Essen; Königsberg 30.1; Breslau 38; Munich 44.5; Dresden 25.2; Berlin 25; Leipzig 21.7; Hamburg 29.8; Hanover 30.1; Bremen 27.1; Cologne 25.5; Frankfurt a. M. 19.7; Strasburg 36.1.

In the 28 English towns, with an estimated population of 8,457,514, for the week ending March 18th, the death-rate was 22.8. Deaths reported 3699: acute diseases of the respiratory organs (London) 397, whooping-cough 301, measles 153, scarlet fever 85, fever 60, diarrheal 52, diphtheria 23, small-pox (London eight) 11. The death-rates ranged from 13.3 in Portsmouth to 37.7 in Nottingham; Sheffield 18.7; Birmingham 19.4; Leeds 21.3; London 22.7; Bristol 23.1; Liverpool 26; Manchester 30.7.

For the week ending March 18th in the Swiss towns, population 479,934, there were 60 deaths from pulmonary consumption, acute diseases of the respiratory organs 49, diarrheal diseases 16, diphtheria and croup 15, typhoid fever eight, whooping-cough four, puerperal fever two. The death-rates were, Geneva 27.1; Zurich 38.9; Basle 24.4; Berne 28.7.

The meteorological record for the week ending April 1st, in Boston, was as follows, according to observations furnished by Sergt. O. B. Cole, of the U. S. Signal Corps:—

| Date.              | Barom-eter. | Thermom-eter. |       |          |          | Relative Humidity. |            |             |       | Direction of Wind. |            |             | Velocity of Wind. |            |             | State of Weather. <sup>1</sup> |            |             | Rainfall.             |                   |
|--------------------|-------------|---------------|-------|----------|----------|--------------------|------------|-------------|-------|--------------------|------------|-------------|-------------------|------------|-------------|--------------------------------|------------|-------------|-----------------------|-------------------|
|                    |             | Mean.         | Mean. | Maximum. | Minimum. | 7.23 A. M.         | 3.23 P. M. | 11.23 P. M. | Mean. | 7.23 A. M.         | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.        | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.                     | 3.23 P. M. | 11.23 P. M. | Duration, Hrs. & Min. | Amount in inches. |
| March-April, 1882. |             |               |       |          |          |                    |            |             |       |                    |            |             |                   |            |             |                                |            |             |                       |                   |
| Sun., 26           | 30.286      | 33            | 40    | 20       | 64       | 51                 | 79         | 65          | W     | S                  | S          | 5           | 15                | 9          | O           | O                              | O          | —           | —                     |                   |
| Mon., 27           | 29.743      | 50            | 58    | 33       | 87       | 86                 | 93         | 89          | SW    | SW                 | SW         | 7           | 26                | 14         | O           | R                              | R          | —           | —                     |                   |
| Tues., 28          | 29.789      | 42            | 54    | 31       | 71       | 36                 | 46         | 51          | W     | NW                 | NW         | 14          | 27                | 9          | O           | C                              | C          | —           | —                     |                   |
| Wed., 29           | 30.217      | 34            | 41    | 26       | 60       | 61                 | 78         | 66          | NE    | SE                 | SE         | 6           | 12                | 7          | C           | C                              | C          | —           | —                     |                   |
| Thurs., 30         | 29.992      | 40            | 53    | 32       | 72       | 44                 | 43         | 53          | S     | W                  | W          | 12          | 25                | 18         | O           | F                              | C          | —           | —                     |                   |
| Fri., 31           | 30.375      | 28            | 35    | 24       | 57       | 36                 | 67         | 53          | NW    | W                  | N          | 16          | 21                | 5          | F           | C                              | C          | —           | —                     |                   |
| Sat., 1            | 30.305      | 35            | 43    | 49       | 64       | 57                 | 82         | 68          | SE    | SW                 | W          | 6           | 17                | 10         | O           | S                              | C          | —           | —                     |                   |
| Means, the week.   | 30.101      | 37            | 58    | 19       |          |                    |            | 64          |       |                    |            |             |                   |            |             |                                |            | 23.15       | .33                   |                   |

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., snow; R., rain; T., threatening; X., clearing.

# OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM MARCH 25, 1882, TO APRIL 7, 1882.

ALEXANDER, R. H., major and surgeon. Having reported at these headquarters, will report to the commanding officer, District of New Mexico, Santa Fe, for duty as attending surgeon at district headquarters and post surgeon, Fort Marcy, New Mexico. S. O. 59, Department of the Missouri, March 20, 1882.

TREMAINE, W. S., captain and assistant surgeon. Assigned to duty at Fort Porter, N. Y. S. O. 51, Department of the East, March 24, 1882.

DICKSON, J. M., captain and assistant surgeon. Assigned to duty at Fort Adams, R. I. S. O. 51, Department of the East, C. S.

DICKSON, J. M., captain and assistant surgeon. So much of Paragraph 2, S. O. 51, C. S., as relates to him is revoked, and he will proceed to Fort McHenry, Md., and report to the commanding officer for duty at that post. S. O. 52, Headquarters, Department of the East, March 25, 1882.

GARDINER, JOHN DE B. W., captain and assistant surgeon. To report in person to the commanding general, Department of Arizona, for assignment to duty. S. O. 71, A. G. O., March 28, 1882.

GARDNER, EDWIN F., captain and assistant surgeon. To report in person to the commanding general, Department of the Columbia, for assignment to duty. S. O. 71, A. G. O., March 28, 1882.

ROBINSON, SAMUEL Q., captain and assistant surgeon. To report in person to the commanding general, Department of the Columbia, for assignment to duty. S. O. 71, A. G. O., March 28, 1882.

LAUDERDALE, J. V., captain and assistant surgeon. Having reported by letter to these headquarters, is assigned to duty at Fort Sully, D. T., to which post he will proceed and report for duty. S. O. 47, Department of Dakota, March 27, 1882.

CUNNINGHAM, T. A., captain and assistant surgeon. Granted leave of absence for fifteen days, to take effect on arrival of Assistant Surgeon Artaud at Mount Vernon Barracks, Ala. S. O. 40, Department of the South, April 3, 1882.

CHEERONVILLE, A. V., captain and medical storkeeper. Granted leave of absence for four months on surgeon's certificate of disability. S. O. 77, A. G. O., April 4, 1882.

BOSTON SOCIETY FOR MEDICAL OBSERVATION.—A regular meeting will be held on Monday evening, April 17, 1882, at the Medical Library, 19 Boylston Place. Reader, Dr. C. B. Porter. Subject, A Disease of the Mammary Areola preceding Cancer of the Mammary Gland. C. M. JONES, Secretary.

RUTLAND COUNTY MEDICAL AND SURGICAL SOCIETY.—The quarterly meeting of this Society will be held in Rutland, Vermont, April 12, at the Bardwell House, commencing at 10.30 A. M. Order of exercises: (1.) Report of a Case, Dr. J. Knowlson. (2.) A Case in Obstetrics, Dr. J. H. King. (3.)

Membranous Croup, Dr. L. D. Ross. (4.) Paper, Dr. A. T. Woodward. (5.) Paper, Dr. J. Sanford. (6.) Paper, Dr. H. R. Jones. (7.) Miscellaneous business.

BOOKS AND PAMPHLETS RECEIVED.—University College Course of Practical Exercises in Physiology. By J. Burdon-Sanderson, M. D., LL.D., F. R. S., Jodrell Professor of Physiology in University College, London, with the Cooperation of F. J. M. Page, B. Sc., F. C. S., W. North, B. A., F. C. S., and Aug. Waller, M. D. Philadelphia: P. Blakiston, Son & Co. 1882.

Manual of Dental Surgery and Pathology. By Alfred Coleman, L. R. C. P., Senior Dental Surgeon and Lecturer on Dental Surgery to St. Bartholomew's Hospital. Thoroughly revised and adapted to the use of American Students and Practitioners, by Thomas C. Stellwagen, M. A., M. D., D. D. S., Professor of Physiology at the Philadelphia Dental College. Philadelphia: Henry C. Lea's Son & Co. 1882.

Note on the Microscopic Appearances presented by the Blood of Scarlatina and Typhoid Fever. By J. H. Kidder, Surgeon, U. S. Navy. (With six Photographic Illustrations.) Washington: Office of the Surgeon-General of the Navy. 1882.

Elevation of the Larynx due to Congenital Syphilis. By W. Allen Sturge, M. D. (Reprinted from the Transactions of the Pathological Society of London.)

On the Study of Muscular Atrophy as an aid to the Physiological Investigation of the Spinal Cord. By William Allen Sturge, M. D., Assistant Physician to the Royal Free Hospital. (Reprint.)

Two Cases of Simultaneous Paralysis of both Third Nerves, with Remarks upon Ophthalmoplegia. By W. Allen Sturge, M. D. (Reprint.)

Infant Feeding and Infant Foods. The Anniversary Address delivered before the New York State Medical Society, February 8, 1882. By Abraham Jacobi, M. D., President of the Society. (Reprint.)

Report of the Pennsylvania Hospital for the Insane for the Year 1881. By Thomas S. Kirkbride, M. D., Physician-in-Chief and Superintendent. Published by order of the Board of Managers.

Massachusetts Institute of Technology. Seventeenth Annual Catalogue of the Officers and Students, with a Statement of the Courses of Instruction and a List of the Alumni and of the Members of the Society of Arts, 1881-1882.

Consumption: Is it a Contagious Disease? What can be done to prevent its Ravages? A paper by Bela Cogshall, M. D., of Flint, Michigan, read at a Sanitary Convention at Battle Creek, Michigan, March 30, 1881.

Based Eruptions of Constitutional Origin. By Edward Wigglesworth, M. D., and E. W. Cushing, M. D. (Reprinted from the Archives of Dermatology.)

Epidemic Convulsions. By David W. Yandell, M. D., Professor of Surgery, University of Louisville. (Reprinted from the American Practitioner.)

A Discourse on the Life and Character of Dr. Richard Oswald Cowling. A Valedictory Address delivered to the Graduating Class of the University of Louisville, February 28, 1882. By David W. Yandell, M. D., Professor of Surgery, University of Louisville.

## Original Articles.

CASES OF POPLITEAL ANEURISM.<sup>1</sup>

BY C. B. PORTER, M. D.

IN order to better appreciate the advantages of the present methods for the treatment of aneurism, it will be well to review in a hasty manner the various measures which have been devised from time to time for its cure. According to Guthrie, "Aetius, who lived thirteen hundred years ago, recommended for the cure of brachial aneurisms, that the artery should be exposed near the armpit; and that two ligatures should be applied to it, a little distance from each other, when the artery should be divided between them. If he had stopped here, he would have performed the modern operation for aneurism, and have left nothing for posterity to discover. He directed, however, that after this had been done, the sac should be laid open and completely emptied, and the artery sought for, and raised with a blunt hook. A ligature was then to be applied above and below the opening into it, and the vessel was afterwards to be divided." "It is very remarkable that he should have combined in one the two methods of proceeding of modern times." "Paulus, a century later, recommended the cutting out of the tumor and its contents after opening it, having previously applied a ligature above and below it." Peter Keiser in 1644 operated upon popliteal aneurism by first opening the sac, then introducing a probe into the upper end of the artery, and applied a ligature above to avoid the diseased and dilated part of the vessel; the cavity was then filled with lint dipped in vinegar and water, and the whole bandaged.

In 1646 Severinus operated upon femoral aneurism by laying open the sac, evacuating its contents, and placing a ligature above and below the opening in the artery.

Mr. Hunter, in 1785, proposed and practiced the operation which justly bears his name, — the ligature of the artery on the proximal side of the aneurism. In his first operation he applied four ligatures on the artery drawn with varying degrees of tightness, but the process of separation was so slow, and their discharge subsequent to the healing of the wound was the source of so much inconvenience, that in his second operation he tied the artery only once.

Without entering into a recital of the various claims to the first proposal to tie the artery on the distal side of the aneurism, which is known in different countries as that of Brasdor, Wardrop, or Desault, and claimed for them by their countrymen respectively, I find that Guthrie says that the operation owes its origin to Brasdor and Desault, but that Deschamps performed the first operation on a femoral aneurism, and Sir Astley Cooper on an aneurism of the external iliac, both of which resulted fatally.

Down to the middle of the eighteenth century pressure directly applied to the aneurism by means of a variety of instruments, bandages, etc., was the usual method of cure, and this was limited to traumatic aneurism at the bend of the elbow, the result of a wound of the brachial artery in venesection. Heister, according to Bellingham, was the first to propose the extension of this mode of treatment to popliteal aneurism,

and although he never put this method into practice, he treated a case of wound of the femoral artery on similar principles, which resulted favorably, though the patient wore afterwards a leather belt, with an iron plate attached, covering the seat of injury. Guitani, an Italian surgeon who flourished about the middle of the last century, was the first who successfully treated popliteal aneurism by compression, his first case being in 1765. "The patient, aged forty, was admitted into the Hospital of the Holy Ghost towards the end of August, 1765, laboring under popliteal aneurism. The tumor was about the size of a large goose egg, was hard and resistant to the touch, had a strong pulsation, and was attended by pain, swelling of the leg and foot, and fever. The patient was directed to remain in bed, was put upon low diet, and bled several times. Towards the end of September the aneurism had ceased to increase, pain was nearly gone, the pulsation had diminished, and the swelling of the limb had in a great measure subsided. Guitani was obliged to leave Rome at this period to accompany the Pope on a journey. On his return, in November, the tumor had not increased, and the edema of the limb having disappeared, he determined to try the effects of compression. Having first covered the tumor with lint, he laid two oblong compresses over its centre, which crossed one another and passed round the limb above and below the knee; another compress was laid along the course of the femoral artery up to the groin. He then took a long roller, three fingers' breadth, with which he encircled the knee, commencing above the centre of the tumor and passing it above and below the joint many times; it was then carried up the thigh to the groin, and for further security he gave it a turn round the body. The whole was moistened with spirits of wine, the patient was bled, and a rigid diet enforced. The bandage was not disturbed for eighteen or twenty days, and then only in order to be tightened, and venesection was repeated whenever the leg or foot swelled." In three months from the first application of the compression the patient left the hospital perfectly well. The treatment in the case quoted extended over a period of three months, and was what would be called direct or immediate compression applied to the aneurismal tumor, and in some cases the whole extremity was bandaged. Treatment of popliteal aneurism by genuflexion was first brought to notice by Mr. Ernest Hart in 1858, though others had used it before him. Flexion seems applicable only to small aneurisms at the bend of the elbow, in the popliteal space, and possibly in the groin. Mr. Lawson Tait says: "The plan by flexion I have tried, and should say of a man who had his aneurism cured by it that he had powers of endurance beyond anything else I know. I have tied up my own leg and the healthy legs of others, and I have not yet seen one who could stand it an hour, while the three men with popliteal aneurism in whom I have seen it tried always let down their legs within ten minutes after they were put up." Treatment by manipulation, by coagulating injections, galvano-puncture, acupressure, is available in cases where other and better methods cannot be used or have failed.

Esmarch rubber bandage and tourniquet have been used a number of times successfully. The first case reported, by Dr. Walter Reid in 1875, was one of popliteal aneurism. The bandage and rubber tubing, having been kept in place fifty minutes, were removed on

<sup>1</sup> Read before the Boston Society for Medical Improvement, April 10, 1882.

account of severe pain, after which compression was applied for two hours, when the aneurism was found to have ceased pulsating. Dr. Lewis A. Stimson, of New York, in the American edition of Holmes's Surgery, gives fifty-two cases treated by this method, with twenty-eight cures, twenty-two failures, and two deaths; that is, twenty-eight successful cases to twenty-four unsuccessful. The subject of treatment of aneurism by compression on the proximal side of the tumor I have reserved to the last, as it is the one to which I wish to call the attention of the Society especially this evening and in conjunction with anesthesia by ether. The first case which I can find of this method, chloroform being used, however, instead of ether, was published in the *Dublin Medical Press*, March 29, 1865, by Dr. Mapother, — a Case of Ilio-Femoral Aneurism cured by Pressure on the Common Iliac and Superficial Femoral Arteries under the Influence of Chloroform. A Signorini's abdominal tourniquet was applied above the tumor one inch above the umbilicus, and a Skey's tourniquet on the common femoral below the tumor. Compression was maintained for four and a half hours without interruption, when, on removal of the instruments, the aneurism was found to be solid and pulseless.

Another case, by the same writer, of popliteal aneurism, was cured by proximal compression under chloroform for seven and a half hours, the flow of blood from the sac being impeded by tight bandaging and elevation of the leg; in other words, proximal and distal compression at the same time. Holmes states that there are "two theories as to the best method of making compression in the cure of aneurism: one that a slow current through the sac is, if not necessary, yet desirable, in order to the deposit of laminated fibrin, . . . and this involves protracted treatment; . . . the other that if the blood can be completely arrested in the sac by compression stopping the circulation absolutely for some hours, the soft coagulum which is at first formed will gradually go on to complete induration and lamination, and the cure will be effected much more speedily and much more surely." It is upon the latter theory that the cases which I have to report to-night have been treated. They are all cases of popliteal aneurism. The treatment was prosecuted from beginning to end under anesthesia by ether.

CASE I. J. H. D., aged forty-nine, entered hospital September 22, 1877, with the following history: One year ago the patient sprained his right leg so that he could not walk for four or five days. Four weeks ago his calf began to swell just below the popliteal space; swelling has steadily increased since then. He is unable to straighten the leg, but holds it slightly flexed.

Examination shows the right leg from knee to ankle to be much larger than the left. On placing the hand over the chief swelling just below the popliteal space distinct pulsation is felt, synchronous with the pulse. Pressure upon the femoral in Scarpa's triangle stops the pulsation. A thrill is also felt with the hand, and a *bruit* is distinctly heard. Patient has considerable pain in leg, especially on movement.

| Measurements.          | Above Ankle. | About Calf. | Above Calf. |
|------------------------|--------------|-------------|-------------|
| Well leg . . . . .     | 8½ inches.   | 12½ inches. | 11½ inches. |
| Affected leg . . . . . | 10½ inches.  | 15 inches.  | 15 inches.  |

Patient was put upon extra diet, with tinct. ferri chloridi twenty drops every three hours. Absolute rest in bed.

September 25th. Patient has great pain, relieved at night by opiates.

September 26th. Some œdema of leg; bandage loosely applied over cotton batting, and leg elevated on an inclined plane.

September 29th. Bandage removed; swelling above ankle three fourths of an inch less than before bandaging.

September 30th. Operation. Patient under ether. Ether given very gradually, tourniquet applied over femoral artery in Scarpa's triangle, the point of pressure being protected by eight thicknesses of cotton batting. Two tourniquets were used, the point of application being changed every half hour. The tourniquet was kept on for about nine hours, two pounds of ether being used during that time. The *bruit* ceased at end of six hours, pulsation at end of eight hours. Emetics (beef tea one ounce, brandy half an ounce) every two hours. Pulse, body temperature, and surface temperature over tumor taken every hour. Patient came out of ether very well, being sensible five minutes after reaching ward.

October 1st. Doing well, no *bruit*, no pulsation. October 2d. Doing well, slight pulsation, no *bruit*. October 3d. More decided pulsation, still no *bruit*. October 4th. Pulsation has returned three days after first compression. Operation. Ether used. Tourniquet applied as before, for six hours. Pulsation ceased at end of four and one half hours. October 5th. No return of pulsation, leg bandaged loosely. October 6th. No pulsation, leg bandaged tightly. October 10th. No pulsation. Patient has but little pain in leg. October 13th. No pulsation. Leg much straighter than before compression. October 15th. Doing well. October 22d. Seventeen days after second compression. Slight pulsation over tumor. Tourniquet reapplied and kept on for nine hours, pulsation then having ceased for two hours. October 24th. No return of pulsation. October 27th. No pulsation, tumor steadily diminishing. December 13th. Patient allowed to get up and walk a little about ward. December 25th. Thirty-one days after last compression. Nothing abnormal about leg except simple œdema relieved by daily bandaging. December 28th. Swelling of knee, patella floats, evidently a large effusion into joint. No pain. Leg placed upon ham-splint, compressed sponge to knee. January 10th. Effusion much reduced. Splint removed. Patient can walk well, only a little weakness. January 20th. Effusion diminishing slowly. January 25th. Discharged well, less than four months from first operation.

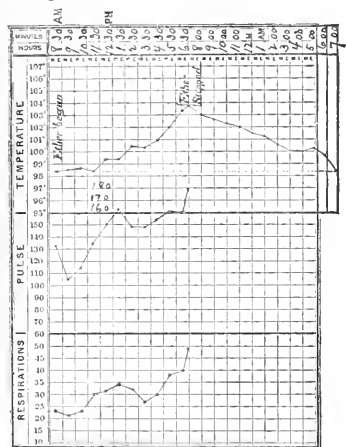
CASE II. M. J. L., aged thirty-five. Entered hospital May 31, 1879. Patient is a mill operative, and has always been healthy. About eighteen years ago had a sore on his penis, but he says that it was followed by no eruption, his hair has never fallen out, he has no pain in bones and no nodes. Three months ago he first noticed a bunch in left popliteal space. This came on without known cause, and he cannot remember that he has ever received a blow or strain in that region. The tumor has become more and more painful, and now the leg is almost useless, the knee is slightly flexed and swollen, and the pain keeps him awake at night unless he has an opiate. The tumor is about the size of a small orange, and gives a well-marked expansile thrill



to the touch synchronous with the pulse, and a well-marked *bruit* may be heard and its thrill felt.

| Measurements.        | At Calif.   | Below Patella. | Middle Patella. | Above Patella. |
|----------------------|-------------|----------------|-----------------|----------------|
| Right Leg .          | 11½ inches. | 10½ inches.    | 13½ inches.     | 12 inches.     |
| Left (affected) Leg. | 12½ inches. | 12 inches.     | 14½ inches.     | 14 inches.     |

June 3d. It being decided to attempt a cure by instrumental compression under ether, the patient was etherized at 8.27 A. M., and a pair of Massachusetts General Hospital femoral tourniquets were applied, alternating every fifteen minutes, one tourniquet being kept on until the other was applied. All pulsation was stopped, and heaters wrapped in blankets placed about the leg. When the upper tourniquet was on, the leg became quite purple from pressure on veins about the saphenous opening, but on changing, this almost entirely disappeared. A thick pad of cotton-batting was placed under the block of the tourniquet. Patient was kept under ether until seven P. M., or ten hours and a half, taking two pounds and two ounces of ether. Six nutritive and stimulating enemata were given during the time. Ether given at 8.20 A. M. Tourniquet applied at 8.27 A. M. Tourniquet changed at 8.45 and every fifteen minutes after. Enema of beef-tea, one and a half ounces, milk one half ounce, at 11.20 A. M., one, three, and four P. M. Tourniquet let up for first time at 1.25 P. M. Aneurism still pulsates. Reapplied. Same at four P. M. Reapplied. At five P. M. Enema as before with brandy one half ounce, and urine was drawn. Nothing abnormal about urine except large increase in uric acid. At six P. M. Tourniquet let up. Pulsation. Reapplied. The pulsation was feeble, however, and did not appear for nearly a minute after tourniquet let up. Enema of beef-tea and milk, of each one half ounce, brandy one ounce, quinine two grains at six and at seven P. M.



At seven P. M., pulse and respiration were so rapid, and temperature so high and rising rapidly, and the patient appeared to be in such poor condition, that the ether was stopped and tourniquets removed. No pul-

sation could be felt in tumor, and leg was bandaged with cotton batting from toes to groin. The temperature, pulse, and respirations were taken every hour during the treatment. The temperature, after the first four hours, commenced to rise, and rose quite steadily until it reached 103.8 F., at which point the ether and compression were removed, when it commenced at once to decline and reached the normal point in twelve hours. The pulse marked 180 per minute, and the respirations 48 at the time the thermometer reached the highest point.

June 4th. Day after operation. Patient comfortable this morning. No pulsation in tumor. There is a blister on back of calf and a suspicious looking place on heel. June 7th. Patient kept still in bed. The two places spoken of above were apparently due to burns from heaters and two sloughs are the consequence about the size of pennies. June 23d. Sloughs slowly separating. June 25th. Sloughs removed; dressed with absorbent cotton and resin salve. July 15th. Since last entry ulcers have been healing slowly. Patient has been in bed until within a week. There has been no return of pulsation in tumor. Forty-two days after operation discharged well.

CASE III. E. P., aged forty-three, entered hospital June 21, 1880. Last February patient first noticed a lumpness in left knee, and soon after discovered a pulsating tumor in popliteal space. The tumor continued to grow in size, and became very painful, the pain being felt mostly in the foot. He put himself under the care of a clairvoyant, under whose treatment he said he was cured so that he was able to go about, and that six weeks ago he was walking. At that time the tumor suddenly started up, and increased rapidly in size. Was confined to bed, and kept the knee flexed. Now there is a large pulsating tumor in left popliteal space, occupying the entire space, and extending up into thigh and down into calf of leg, making the tumor about six inches in length. He keeps the knee flexed all the time. General condition of patient is bad; he is very weak, and has no appetite, but the condition of the aneurism seems to demand immediate treatment.

June 25th. Operation under ether; commenced with ether at 9.30 A. M.; thigh tourniquet was put on femoral artery at 9.50 A. M., the tourniquet was put on just tight enough to stop all pulsation in the aneurism; a pad of cotton batting was placed over the thigh; the tourniquet was shifted every half hour. Nutritive enemata were given every two hours, but only one was retained. Later, the patient was allowed to partially come out of his ether, and at these times he was given brandy and milk by the mouth. After he had been etherized about six hours there was a marked change, pulse was very weak in right, and could not be felt at all in left wrist; the respirations were quick and labored. Ether was stopped at eight P. M.; the tourniquet was let up to see if the tumor pulsated, at one, four, six, and eight; at six there was only a feeble pulsation, at eight P. M. there was none; patient came out of ether well, and was perfectly conscious, but was very restless, and complained of being tired; no pain; foot was wrapped in cotton, and a heater put to it as it was of a suspicious purple color and very cold; patient was stimulated, and given as much nourishment as he could take during the night, pulse became stronger, and it was perceptible in left wrist.

June 26th. Patient conscious, but delirious at times; very restless; was failing fast, and died the second day

after operation from exhaustion, the leg and foot looking badly, though gangrene was not evident. No autopsy allowed.

CASE IV. E. K., aged thirty-nine, entered hospital April 14, 1881. In popliteal space was an aneurism as large as a large orange. The expansile pulsation was very marked. Had never been treated. Foot and leg were in good condition. Some pain lately from pressure of the tumor.

April 15th. All preparations being made, ether was started and tourniquet applied at 11.30 A. M. Nourished by rectal injections of brandy and milk. Pulse, respirations, and temperature taken half hourly. The tourniquet was let up every three hours, and pulsation found until twelve, midnight. The tourniquet was kept on until one A. M., thirteen and one half hours. Four pounds of ether were used, of which he took not more than one half. His temperature rose from 96° F. to 99° F., and stayed there; pulse from 80 to 90; respiration from 25 to 30. At twelve, midnight, violent hicough came on, and ether was stopped, and hicough relieved by morphia, one eighth of a grain subcutaneously. April 16th, at two A. M., pulsations began again, but his condition did not warrant reapplication of tourniquet; stimulated; very little pain during the day. April 18th. Feeling all right; no sloughs from pressure or heaters. April 19th, 5.30 P. M. Tourniquet applied, examined every two hours; pulsation stopped at 7.40 P. M.; tourniquet continued until nine P. M.; no pulsation again until 11.30 P. M., when it began, but not as strongly as at first; the tumor seems much more solid, and there are evidences of collateral circulation beginning. April 20th, five days from first operation. Feeling well, and of good courage; ether began at 4.50 P. M.; pulse did not rise above 84, temperature not above 99.5° F., and respirations not above 28; took about two pounds of ether; took brandy and milk by mouth, coming out of ether enough for that; tumor pulsated until five A. M. of April 21st; tourniquet kept on until seven, then Esmarch applied; there was no pulsation in tumor until two P. M., then very slight; the Esmarch was firmly applied, but gave so much pain ether was necessary until ten P. M., there was then pulsation. April 22d. Patient kept leg flexed, controlling the pulsation, but this was so painful it was frequently necessary to extend the leg. April 23d. Somewhat discouraged and used up from ether; collateral circulation well developed; leg somewhat swollen, but not oedematous. April 25th. Tourniquet applied at ten A. M.; borne for two hours without ether; pulse did not rise but once above 90, temperature not above 99° F., and respirations not above 30; took good quantities of milk and brandy by mouth; tumor pulsated until April 26th, five A. M.; tourniquet was kept on until eleven A. M., twenty-five hours; the tumor kept perfectly solid, but the collateral circulation was so developed that the surface of tumor was covered by arteries, whose pulsation gave movement to the tumor.

April 27th. Feeling rather weak from prolonged etherization, but coming up well under stimulants; no signs of sloughing. April 29th. Swelling of leg diminished; feels well. May 1st. Impossible to tell if tumor is pulsating, or if pulsation is due to posterior tibial. May 3d, seven days after last compression. It was decided that there was faint pulsation in tumor, which is very hard, and diminished to about the size of a very small orange; there is none of the expansile

character about it; there are several large arteries running over the face of it. May 12th. Given tourniquet, which he applied himself, keeping up pressure from one half to two hours in one place, and then varying it; the pain is severe, but he pluckily bears it. May 14th, five P. M. The above treatment has been kept up since twelve, and now on letting it up there was no pulsation; immediately reapplied. May 15th. Pulsation reappeared as soon as tourniquet let up; continue tourniquet. May 22d, thirty-seven days after first compression. Tourniquet let up, and not resumed. June 12th. Since last record there has been no resumption of pulsation. June 22d. Goes about in rolling-chair. July 1st. Goes about on crutches.

CASE V. J. P., aged sixty-five, entered hospital April 28, 1880. Four months ago patient was accidentally shot, the bullet passing through his right leg, just above the knee, to the inner side of the bone, entrance in front and exit behind. It was not until one month after the accident that he first noticed a pulsating tumor in the course of the femoral artery, at its lowest point. At the advice of his physician he kept absolutely quiet in bed, and applied pressure over the femoral artery, part of the time with his thumbs, and part of the time he had relays of men to take turns at pressing. He also used a shot-bag. Now there is a tumor on inner and posterior aspect of thigh, just above the knee, and over the inner ham-strings. The tumor is hard, does not pulsate, measures sixteen and one fourth inches around at largest point. Knee is flexed at a right angle.

May 1st. Tumor is diminishing in size; kept in bed, and not allowed to get out under any circumstances. May 10th. Flannel bandage has been applied from the toes to above tumor a few times, but it is so uncomfortable that he will not keep it on for any length of time. June 10th. Patient allowed to go about in a wheel-chair; condition of aneurism as before. June 13th. Patient given crutches. June 30th. Discharged; the tumor solid, and slowly diminishing in size.

In the method described in the cases reported, the principal dangers and obstacles to the treatment of aneurism by compression are either done away with entirely or reduced to the minimum. The pain of pressure sufficient to control pulsation can be endured without anaesthesia only for a short time by the most heroic. The danger of slough from continued pressure is avoided by the use of two tourniquets, shifting the point of pressure frequently, and by a thick pad of cotton batting placed between the block of the tourniquet and the skin, thus supplying elastic compression, which I consider a very important adjuvant. The shock and exhaustion of the operation is reduced to the minimum by anaesthesia with stimulating and nutritive enemata. The latter, in Case III., which terminated fatally, were not retained. Surrounding the affected leg with heaters supplies the warmth which is essential to its vitality, and which for the time being is reduced by the diminished supply of blood.

To briefly summarize: Case I. required the tourniquet three different times, three, six, and nine hours respectively, in all, twenty-four hours.

Case II. Tourniquet ten and a half hours.

Case III. Tourniquet eight hours and ten minutes.

Case IV. Tourniquet five times, thirteen and one half, three and one half, fourteen and one half, nineteen, and five hours respectively, with a few short ap-

plications without ether, in all, fifty-five and one half hours.

Four complete recoveries and one death in a bad case, which would probably have resulted fatally whatever had been done; though in treating another similar case, I think I should do the old operation of laying open the sac, evacuating the contents, and tying the artery above and below the tumor, with the addition of antiseptic precautions.

The method of proximal compression seems applicable to circumscribed aneurism of the extremities; the method of laying open the sac and tying above and below, to diffused or dissecting aneurism where the sac has ruptured; and one or the other should in most cases supersede the Hunterian operation.

In aneurism of the iliacs, the carotid or subclavian, or both of the latter conjoined, Brasdor's operation, distal ligature, or distal compression are the expedients available by the surgeon, all operations with the knife to be performed with the strictest antiseptic precautions.

## RECENT PROGRESS IN ORTHOPEDIC SURGERY.

BY E. H. BRADFORD, M. D.

### SYPHILIS OF THE JOINTS.<sup>1</sup>

RICHET, in 1853, in a monograph, described the effect of syphilitic virus acting upon the joint and altering the synovial membrane and the bony ends of the joints. The bone is affected at the later stages of the disease, and ankylosis may result. Brochin, Simon, Virchow, Hurt, Volkmann, Lancereaux, reported cases, the latter demonstrating the lesions by autopsy. He found the larger joints more liable to be affected than the smaller, and that the knee-joint is attacked by preference. The lesion in the subsynovial cellular tissue is regarded as being gummatous; the synovial membrane was not the only part affected, the cartilages being eroded in places, and a serous effusion in the joint being also noted.

Syphilitic arthropathies develop slowly; they do not tend to suppuration, and under specific treatment may end in recovery. A form of syphilis of the joint is to be met where the disease originates in the bone, this being followed by a hydrarthrosis.

Lücke met with well-marked cases in syphilitic patients, where thickening of the capsule and increase of the synovial fluid was found, the whole disappearing under mercurial inunction. The course of these cases resembled that of the ordinary chronic fungous joint inflammation.

Oedmasson and Risel have both had opportunity of examining cases of the affection, post mortem. The former found among other characteristic syphilitic bone lesions, — namely, extensive osteitis, periostitis, exostoses, necrosis, — a synovitis of the knee. The latter found, besides extensive evidence of ostitis, gummosa in the fingers and toes, hyperplastic enlargement of many of the long bones, cicatrices of old ulcerations of the cartilages of the size of a pen. In a second case the anatomical appearances were those of an extensive caries of the knee-joint, a condition which developed during life gradually, without suppuration.

Fournier states that the specific pseudo-rheumatism

is to be distinguished from ordinary rheumatism chiefly by the mildness of its course.

Zeissl, from his extensive experience, is led to believe that the specific joint affections are quite rare. On the average one thousand syphilitic patients pass annually under his observation, and frequently no case is seen during the whole year. In the few which he has observed, the knee and ankle were the joints most frequently affected; the acromial, elbow, and wrist joint were less frequently seen. The hip joint was never affected. Some of the joints were recently attacked and accompanied by severe pain; others were chronic, characterized by hydrarthrosis, tumor albus, and degeneration of the joint, and sometimes complete ankylosis. In a majority of the cases, he found antisyphilitic treatment to be followed by no special benefit.

Kohn distinguishes between the syphilitic congestion of the joint (the arthritis subacuta syphilitica) and a chronic form, which develops in the course of the disease. The first is accompanied by more pain than the second; the latter frequently leaves behind it crepitation on moving the joint, which may be so marked as to be heard at a distance.

According to the observations of Voisin, the joint pains which are observed in the first stages of syphilis are to be classed as a true arthritis. The true hydrarthrosis develops at a later stage. Sometimes the inflammation of the joint follows a contusion.

Similar to this specific synovitis is the syphilitic inflammation of the sheaths of the tendons. This appears usually in the secondary stages of the disease.

Gies reports an interesting case (with autopsy) of a peculiar arthropathy of the knee-joint occurring in a syphilitic patient, where deep destruction of the cartilages was to be seen, and a thickening of the synovial membrane. The appearances were different from the ordinary fungous disease, resembling more those of arthritis deformans, from which latter it differed in the absence of alterations in bone.

Gies classifies the specific joint affections as —

- (1.) Acute, occurring during the first stage of syphilis.
- (2.) The arthropathies accompanied by gumma.
- (3.) Subacute affection of the joints without marked evidence of gummata.

### TREATMENT OF OLD FRACTURE OF THE VERTEBRA.

Küster<sup>2</sup> adds to König's cases of fresh fractures of the spine treated by the plaster-of-Paris jacket four less recent cases treated successfully by extension.

He believes that recovery is more readily and more completely gained by this treatment than by simple confinement to bed. He advises an attempt at reposition under ether, to be made by extension or direct pressure. If reposition is successful, extension should be continued.

The application of a plaster jacket is attended with difficulty and danger on account of sloughs; a felt jacket which is adjustable may possibly be of more advantage.

### ON THE SO-CALLED RUPTURE OF THE INTERNAL LATERAL LIGAMENT OF THE KNEE JOINT.<sup>3</sup>

Jersey is of the opinion that the injury which is called the rupture of the internal lateral ligament of

<sup>2</sup> Archiv f. Klin. Chirurgie, 1881, page 841.

<sup>3</sup> N. Y. Med. Record, June, 1881, page 663.

<sup>1</sup> Gies, Deutsche Zeitschrift f. Chir., 1881, page 605.

the knee is in reality a separation of the tuberosity of the internal condyle of the femur.

As a support of this view, he quotes the results of experiments on cadavera as follows: in three adult cadavera a separation of the tuberosity, and in two young cadavera a separation of the epiphysis of the tibia, followed forcible turning the leg out, the femur being held firmly.

#### RUPTURE OF THE TENDON OF THE PATELLA IN THE COURSE OF CHRONIC RHEUMATISM.<sup>1</sup>

This accident is recorded as having happened to a patient thirty-eight years of age, who ten years before had suffered from a severe attack of acute rheumatism; a lighter attack followed later, and again another six months before the accident. The tendon was ruptured on the first attempt at walking after this attack, on making a step upwards, the separation taking place directly under the patella.

The treatment employed was simply an appliance to aid in locomotion.

#### PRIMARY DISEASE OF THE SEMILUNAR CARTILAGE OF THE KNEE-JOINT.

Kocher<sup>2</sup> reports three cases of circumscribed fungous disease of the internal meniscus. In one of these, ignition-puncture and removing the granulations by scraping resulted in recovery; in two extirpation of the affected meniscus was followed by a cure, with active motion of the joint. In a fourth case the external semilunar cartilage was removed on account of chronic inflammation and a relaxed condition which interfered with locomotion. The operation resulted in healing by first intention.

#### LUXATION OF THE SEMILUNAR CARTILAGE OF THE KNEE-JOINT.

Nicoladoni reports a case of this unusual affection, which he says is frequently confounded with a loose cartilage. Observations are on record where the meniscus could be readily felt as dislocated, and where after reduction, the symptoms disappeared.

In the writer's case (in which the symptoms followed an accident in the gymnasium) the joint was cut down on in the expectation of removal of a loose cartilage, when it was discovered that the semilunar cartilage caused the difficulty, and the synovial membrane was stitched together in the hope that the contraction of cicatrization would fix the cartilage. This did not take place, and the patient, after a ready recovery from the operation, was in no way better of his previous symptoms.

On a dissecting room cadaver a similar lesion was found, which on investigation was found to be a loosened and altered semilunar cartilage.

#### CONGENITAL SPASTIC CONTRACTURE AND STIFFNESS OF THE LIMBS.<sup>3</sup>

Little described a pathological condition under the head of congenital spastic rigidity of the limbs. Seelegmüller and Erb rediscovered the affection under the name of spastic spinal paralysis, classifying as well as investigating it more thoroughly than had been done before. Rupperecht has recently called renewed attention to this peculiar state. It is not a paralysis or

paresis, but proper locomotion is interfered with, for the reason that when a group of muscles act voluntarily, the antagonists at the same time are placed in a state of spasm. There is a marked increase of the tendon reflex. The spasmodic condition relaxes during sleep. The pathology of the affection is as yet not fully understood; it is clearly the result of a defect or atrophy in the spinal cord. It is not a paralysis *stricto nomine*.

The diagnosis is easily made by any one who has seen any case of the same affection. It is not possible to confound it with the ordinary infantile paralysis, but it may be difficult to distinguish it from the acquired form of cerebral or spinal paralysis unless the clinical history is clearly understood. The prognosis is necessarily unfavorable, but a certain amount of improvement may be gained.

The best method of treatment is tenotomy of the tendo Achillis and adductors, if necessary, followed by fixation in a corrected position by apparatus or plaster-of-Paris bandage. After this a relapse does not appear to take place. A perfect recovery is not to be expected.

Tenotomy in certain cases is apparently not essential, but treatment without it must be carried on for a long time.

#### SPONDYLOLISTHESIS AFTER FRACTURE OF THE SPINAL COLUMN.

Leser<sup>4</sup> describes a unique case of this affection which is characterized by a displacement of the spinal column into the pelvis. The patient was a boy fifteen years old, and was run over by a wheel of a wagon passing over the lumbar vertebra just above the pelvis. Four months later the boy had so far recovered as to be able to go about on crutches, the symptoms of paralysis which had followed the accident having gradually disappeared. There was marked lordosis; the spinous process of the last lumbar vertebra was not felt; the gait when the patient attempted to walk, which he could for a few steps, was like that of a patient with congenital double dislocation of the hip joint. There was paresis of the splinter of the rectum, and on examination by the finger per anum, a large, broad, bony substance could be felt, five centimetres in front of the tip of the sacrum; this was rounded in front and flattened on the under surface, and was manifestly the vertebra forced forward and downward. By pressing still further upwards with the fingers, the intervertebral substance could be felt. On suspending the patient, examination by the rectum showed that there was firm union of the displaced fragments. A felt jacket was applied and this enabled the patient to lay aside the crutches in walking.

#### PATHOLOGY OF JOINT DISEASES.<sup>5</sup>

The question of the connection between tubercle and the chronic joint affections continues to excite discussion. There can be no doubt that military tubercles are formed in great numbers in the affected bones and joints; to reason, however, from this that the disease is essentially tuberculous is to pass into the region of theory.

König classifies "joint-tuberculosis" under three heads:—

<sup>1</sup> Mém. Gaz. des Hôpitaux, 1881, No. 1121.

<sup>2</sup> Centralblatt f. Chirurgie, November 5, 1881.

<sup>3</sup> Rupperecht, Klin. Vorträge, No. 198.

<sup>4</sup> Deutsche Zeitschrift f. Chirurgie, 1881, page 106.

<sup>5</sup> Sonnenburg, Archiv f. Klin. Chir., 1881, page 789.

First, where the foci are developed independently, without the presence of any known general tuberculosis; second, where the affection of the joint follows a general tuberculous condition which has resulted from foci in the lungs, etc.; third, where the tuberculosis of the joint gives rise to a general affection. Deaths are much more frequent in the second group than in the third.

Sonnenburg agrees with Volkmann that tuberculosis of the joint readily inoculates itself locally, but only under certain conditions develops into general tuberculosis. Heredity undoubtedly plays an important part in the causation of tuberculosis. Volkmann is of the opinion that patients with fungous disease of the joints are almost invariably from families where tuberculosis or scrofula is inherited. Some of these die later of tuberculous process of other organs; this is especially true of younger children, but a proportion by no means small recover and remain well. Those writers who, with Schüller, believe in parasitic infection as the cause of fungous joint disease necessarily lay little stress on the influence of hereditary taint, but the bulk of opinion is at present decidedly in favor of the belief that joint-tuberculosis is more prevalent in families where the taint is hereditary than where the affection may be said to develop *de novo*. In such cases, also, the liability to generalization of the disease is greater.

Where there is no hereditary taint, recovery from joint-tuberculosis is not so uncommon as is thought by many German writers, not only after excisions, but also after expectant treatment. This, according to Sonnenburg, is a more prevalent opinion in England and America than in Germany, and therefore the prognosis of expectant treatment appears more favorable in the minds of English and American surgeons than among the German. So marked is this that König is led to query whether tuberculous hip disease in England is a different variety from that met with on the Continent, — a question which the writer suggests may be due to the possible fact that hereditary tuberculosis may be less prevalent in the other than in the continental countries, and also because the external conditions are generally better in England and America.

Sonnenburg shows, from quoted observations on undoubtedly localized joint-tuberculosis, that in many cases it is impossible to distinguish, from the anatomical appearances, the local from the general affections, and concludes that there is no other sure criterion of true tuberculosis than its infectiousness; but the theory of Schüller and others that joint-tuberculosis is the result of a specific virus, due to a particular micro-organism, has been by no means confirmed, and must be regarded at present as a pure theory.

The writer concludes that it will be better to entirely discard the term tuberculosis in speaking of this class of cases, using in its place that of scrofulous inflammation with or without the development of tubercles, and that tubercles are to be regarded as by no means the chief factor in the development of the disease, although probably an important one. Progress in the future may be looked for when we are able to diagnose the real tuberculous cases from the pseudo-tuberculous, regulating treatment, that is, radical surgical intervention or the reverse, accordingly.

Eighty-six cases of rickety curved limbs are reported by Albertini e Panzeri,<sup>2</sup> as treated by osteoclasis or os-

teotomy; forty-five cases were of genu valgum, eleven of curvature of the tibia, two cases of curved femora, and three cases of deformed callus in the femur.

The knock-knees were treated by *redressement forcé*, except in six cases according to Tillaux' method. The curved femora were straightened by osteoclasis, as was also the deformed callus. The osteoclasis was always performed with hand power; in cases where this was not sufficient the osteotome was preferred to the osteoclast. One patient died of pyæmia, the other cases, presumably, were successful.

#### CLUB-FOOT.

Wolff<sup>2</sup> describes a method of treating club-foot by means of bandages soaked in "water-glass" (silicate of potash). The method is as follows: After applying adhesive plaster around the foot and leg in the manner described by Sayre, thin cotton bandages are laid around the foot from the metatarsophalangeal joint to the tuberosity of the tibia, and over this a double layer of the same bandage soaked in silicate of potash; over this a temporary plaster bandage is placed, and while this is becoming hard the foot should be forcibly straightened by the hands of assistants, and the position held until the bandage is perfectly hard. The patient ordinarily suffers more or less pain the night following the application; this diminishes, and on the third day usually has disappeared. By this time the temporary plaster bandage can be removed, leaving the silicate hard underneath. This is facilitated by wrapping the whole in moist cloths, which softens the plaster to a degree, but has no effect upon the silicate. A new layer of silicate bandage is then applied over the original one, rendered rough by the removal of the plaster of Paris. The patient is able to walk about for a long time with the appliance, which can be covered with a stocking and worn inside a shoe.

#### REMOVAL OF LOOSE CARTILAGES FROM THE JOINT.<sup>3</sup>

The methods of removal of loose cartilages are two: (1.) The old open incision, first introduced by A. Paré, discarded by many later surgeons (among these was B. Bell, who preferred amputation of the thigh). Antiseptic precautions have of late given new life to this mode of procedure, but before this mode of dressing was introduced many successful cases resulted from direct incision. (2.) Subcutaneous extraction (*opération en deux temps*).

This latter is preferred by the writer, who in two successful cases made use of the method of Goyrand, which he found, however, not free from difficulties. The foreign body is pushed into the upper external cul-de-sac, and held by the finger of an assistant under the triceps tendon, and by the help of another aid kept from slipping upwards. An incision is then made with a tenotome in the subcutaneous tissue directly under the synovial cavity, and in the synovial wall directly under the foreign body, which is forced out into the cellular tissue; two weeks later the loose cartilage is removed by direct incision. The difficulties of the second step, namely, removal of the cartilage from the tissue, were such that the writer is doubtful whether a direct incision might not be preferable.

Richet<sup>4</sup> mentions that he has several times seen sur-

<sup>2</sup> Archiv f. klin. Chirurgie, page 375, 1882, 27th Band.

<sup>3</sup> Catrin, Gaz. Hebdom., September 23, 1881, page 610.

<sup>4</sup> Fr. Med., July 12, 1881.

<sup>1</sup> Centralblatt f. Chirurgie, No. 37, 1881.

geons of ability fail in attempting to remove a loose cartilage according to this method. He therefore prefers direct incision with antiseptic precautions. The cartilage is to be fixed by the aid, cut down on, and held by a hook between the lips of the incision. After freeing the surrounding tissues the pedicle is cut (if it is present), and compression is made to prevent the entrance of air into the articulation. In Richet's experience antiseptic precautions had not always conferred the immunity from secondary inflammation he had expected.

Gaujot<sup>1</sup> believes that surgeons have generally discarded the subcutaneous method in favor of the open incision, partly on account of the uncertainty of the former, and partly because statistics appear to show that the mortality at present from the subcutaneous incision is greater than from the direct incision (13 per cent. and 7.05 respectively). Gaujot has collected fifty-four cases where the results were as follows: twenty-nine dressed with the Lister dressing, twenty-seven recovered, two died; three, the simple Guérin cotton dressing, all recovered; three, cotton dressing with antiseptic precautions, two recovered, one died; seventeen with dressing to exclude air, but not a strict Lister dressing, one died, the others recovered. (In these latter cases great care was taken in the operation to prevent infection.) According to the writer, if the foreign body is a result from a proliferation of the synovial membrane, and not a portion of the cartilage separated by an injury, a relapse may be expected.

#### TRANSPLANTATION OF TENDON.

Nicoladoni,<sup>2</sup> in a case of *pes calcaneus* with paralysis of the calf muscles, "grafted" the peroneal tendons on to the stump of the tendo-Achillis, which had been divided. Healing by first intention followed, and the patient was found to have gained in walking and in plantar flexion.

Boger<sup>3</sup> describes a method of fixing the head in cervical curies. An ordinary plaster jacket is placed around the trunk; in this two strips of bent iron are incorporated, extending from the trunk to the head; this latter is fixed to the iron by plaster bandages, which should extend far enough down on to the head to hold it firmly. The writer claims that the head can be secured in this way so firmly that when strips of adhesive plaster applied to the head for suspension are cut the extension is still maintained.

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<sup>1</sup> *Revue de Chirurgie*, 1881, No. 5.

<sup>2</sup> *Centralblatt f. Chirurgie*, page 791, November 5, 1881.

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## Hospital Practice and Clinical Memoranda.

### TWO CASES OF CONGENITAL IRIDEREEMA, WITH LAMELLAR CATARACT IN ONE AND DISLOCATED CATARACTOUS LENSES IN THE OTHER.

BY GEO. C. HARRAN, M. D.,

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CASE I. N. J. M., aged twelve, says that he knows of no defect in the eyes of any other member of his family in this or preceding generations, except that his mother is "short-sighted." He is of medium size and, except his eyes, well developed.

His vision is  $\frac{6}{60}$ , and is not improved by glasses or the stenopæic hole. There is no photophobia, and he sees better in a bright light than in a subdued one. The cornea are clear, but perhaps very slightly below the normal size, though a constant and decided nystagmus makes it impossible to measure them accurately. The eyes are free from irritation, and their tension is normal. There is not a vestige of iris in either eye

There is well-marked lamellar cataract in both eyes. In each lens there are two opaque layers with clear lens matter intervening between them, beautifully seen by oblique illumination. Only occasional and partial glimpses of the fundus can be obtained, but the choroid seems normal. There is not sufficient vision for any satisfactory test of the accommodation.

CASE II. J. B., a well-grown boy of thirteen years, has rather prominent eyes, with full-sized cornea, and normal tension, but the iris is entirely absent in both. In the right eye the cornea is quite clear, and, though there are floating opacities in the vitreous, the details of the fundus can be seen fairly well. The lens, which is of normal size, is opaque and white, and is dislocated upwards, so that only about its lower half is seen beneath the corneo-sclerotic junction. The ophthalmoscope shows a hypermetropia of  $\frac{1}{2}$ , which, assuming  $+\frac{1}{2}$ , to represent the loss of refractive power induced by aphakia in the emmetropic eye, indicates a structure of the ball corresponding to a myopia of  $-\frac{1}{2}$ . The choroid and retina appear normal in structure, but the optic disk is atrophied and greatly distorted, the vertical diameter being twice that of the horizontal, and the retinal vessels crowded to its inner edge; vision is only quantitative. There is no nystagmus.

In the left eye there is a diffused haziness of the cornea, which, together with a greater opacity of the vitreous than in the other eye, makes the details of the fundus invisible. The lens, which presents the same form of cataract as that in the right eye, is still further out of position, and only a narrow edge of its periphery extends below the margin of the sclerotic. The lenses seem to be held in their unnatural position by some attachment of their upper margins, while the lower are free, and they swing backwards and forwards, as if on hinges, with the movements of the balls. In the left eye the lens has caused an absorption of the tissues, against which it rests until the choroid has disappeared from above it, and the sclerotic is very much thinned and slightly staphylomatous. When the cone of light, concentrated by a convex glass, is thrown upon it from below, the outlines of the lens become distinctly visible through the sclerotic.

Though irideremia (iris and eremia, absence), or aniridia, is an extremely interesting anatomical curiosity, it can scarcely be said, in the present state of our knowledge, to teach any useful lesson in embryology or pathology. Numerous hypotheses have been suggested to account for its occurrence, but most of them are more fanciful than philosophical, and perhaps none of them are more rational than that maintained long ago by Von Ammon, who, in view of the late appearance of the iris, after the choroid is fully formed, considered its absence as simply the result of an arrest of development of the uveal tract. It is a curious fact that this anomaly is almost invariably symmetrical. According to Manz,<sup>1</sup> but one case has been reported in which it occurred in one eye only. Another point of interest in the history of this defect is its decided tendency to hereditary transmission. A number of cases of inheritance have been reported; one (quoted from Von Ammon by Lawrence) in which one member of the first generation was affected, three of the second, and five of the third.

The fact that cataract is very generally associated with irideremia has given some support to a suggestion that the iris is concerned in the nourishment of

the lens, and to an ingenious theory of the causation of irideremia, which supposes that the iris has been crowded out as it were, by the lens remaining too long and too closely in contact with the cornea during embryonic life. This coincidence of cataract with irideremia is, however, not constant, as cases are recorded in which the lens was transparent. One is reported by Dr. Reuling,<sup>2</sup> in which vision was sufficiently acute to enable the observer to determine that the power of accommodation was unimpaired.

The normal intraocular tension found in cases of irideremia has been adduced to prove that the aqueous humor is not secreted by the iris, but chiefly, if not entirely, by the ciliary processes. In the rabbit the ciliary processes are connected with the iris, and when both are removed the eye becomes very soft and the aqueous humor is never regenerated.<sup>3</sup> This, so far as it goes, gives support to the advocates of sclerotomy instead of iridectomy in glaucoma.

Partial congenital luxations of the lens are usually upwards, as in Case II., and frequently occur without defect of the iris. In the left eye of this patient the lens is so far out of place that it would be entirely concealed if the iris were present, and this case might then be readily mistaken for one of the very rare anomalies of congenital aphakia.

After the reading of the preceding paper, Dr. W. F. NORTON said:—

"Through the kindness of Dr. Harlan, I have had an opportunity of making an examination of the eyes of the patients whose cases have been described. On first inspection of one of the cases I thought I could detect a slight peripheral remnant of the iris, but more careful examination, aided by the ophthalmoscope (oblique light), showed that every vestige of iris was wanting, that this appearance was due to the shadow cast by the limbus conjunctivæ corneæ on the periphery of the anterior chamber.

"It has occurred to me that at least some of the cases which have been reported in the older books as partial irideremia, might possibly be due to this similar appearance in the days when the above-mentioned methods of examination were unknown."

## BOSTON CITY HOSPITAL.

SURGICAL CASES IN SERVICE OF DR. GEORGE W. GAY.

REPORTED BY R. A. KINGMAN.

### I. PERINEAL SECTION.

THOMAS M., forty-four years old, was admitted with a stricture of the urethra and fistula in the perineum. Had gonorrhœa twenty years ago, and for the last eight or nine years has noticed his stream of urine constantly diminishing in size. Two years ago he had two swellings appear just below the scrotum, which finally burst and formed permanent openings, through which urine has escaped ever since.

September 17th he was etherized, and the urethra thoroughly explored. It was found to be extremely irregular in shape, and to contain several very tough strictures, which would admit only a small bougie.

After enlarging the meatus by cutting, a Keyes's straight staff was introduced and carried down to the

<sup>1</sup> Handbuch, Augenheilkunde II., page 90.

<sup>2</sup> Am. Journ. Med. Sci., January, 1875.

<sup>3</sup> Deutschman, Grafe Archiv, v., 26, No. 3.

perinaeum, where an incision one and a half inches long was made upon it. A probe-pointed director was carried through this opening into the bladder. The Otis operation of cutting and stretching was now performed upon the anterior portion of the urethra, and a No. 16 English steel sound passed without much difficulty. A silver catheter was introduced through the entire urethra into the bladder and strapped in. Perinaeum dressed with a poultice.

September 20th. Catheter removed. After September 24th no urine was passed through the perineal incision, and patient could make a good stream through the penis. He was catheterized every two or three days, and the bladder irrigated with warm water, on account of cystitis, from which he had been suffering for a long time.

October 6th a No. 15 steel sound was easily passed, and October 10th he was discharged, the perineal wound being healed.

## II. TREPHINING FOR EPILEPSY.

Robert M., sixteen years old, was born in New Brunswick, where he has always lived, having come to Boston only a few days since for the express purpose of undergoing the above operation. He was admitted to the hospital September 17th, and was placed in the large tent ward.

Four years ago, as he was stooping with his hands thrust backwards between his legs, a boy caught hold of his hands and pulled him so that he fell forwards, striking his head on a projecting knot in the wooden floor, and losing consciousness. Shortly after he began to have epileptic fits, which continued for a year, occurring sometimes as often as three times a week, but from which he has been free for the past three years.

Two months ago, without any fresh cause, he began to have a sense of oppression and tenderness in a circumscribed spot on the top of his head, with a growing inability to sleep. His mental condition has undergone a marked change, so much so that at times he appears quite insane. During the few nights he was in the hospital before being operated upon, he was extremely delirious, sitting up in bed, raving and crying till after midnight, when he would become quieted under the effects of chloral and bromide of potash. Complained of severe headache. He and his friends anticipated a return of the convulsions. His memory and temper were much impaired.

September 23d he was etherized, and a careful examination of the skull was made. It appeared somewhat flattened on the vertex, but no depression could be discovered. The place in which he localized his disagreeable sensations and tenderness was exactly in the middle of the vertex, and accordingly Dr. Gay trephined at this point, removing a piece of bone one inch in diameter. The operation was done with full Lister precautions, a powerful carbolic spray being used, and the head being subsequently almost entirely enveloped in carbolic gauze. So far as could be determined, there were no abnormal changes in either the bone or the dura mater. Although the operation was performed directly over the longitudinal sinus, the membranes of the brain were uninjured. The flaps were merely allowed to fall together, no sutures being inserted.

The next day the head was redressed under the spray, and was in a good condition. He says he feels much better than before the operation.

Ice cap ordered to head. The wound was dressed

daily for a week, and then every two days. October 3d, wound was healed, and head was dressed merely with cotton batting.

October 8th, sat up and went out-doors. Since the operation he has had no pain, has slept well, and seems bright and intelligent. Temperature never higher than 98.3° F. Two days after operation, was sitting up in bed reading.

Discharged October 10th, free from his old symptoms.

This boy continues perfectly well up to the present date, April 6, 1882, according to a letter this day received from the family.

## III. TREPHINING FOR EPILEPSY; NO IMPROVEMENT.

William J. McG., twenty-three years old, single, was admitted for an operation on a phimosis which he claimed to be of traumatic origin. He gave no history of venereal disease, or of any important sickness. His speech was noticed to be slow and slightly hesitating, but no importance was attached to it.

A week after the operation of circumcision he experienced a severe convulsion of marked epileptic character, which was followed by a considerable period of unconsciousness. During the remainder of the day he complained of headache and of "feeling nervous." Occasional trembling and twitching of the limbs was remarked. On being questioned he admitted having had similar attacks previously, during which he had fallen to the ground, and after which he had found his tongue wounded. He recalled an injury received two or three years ago from a stone which struck him on the head and produced a large wound. According to his story there was a fracture of the skull at the same point, and on examining the head an apparent depression was felt under the cicatrix. It was located near the junction of the sagittal and lambdoidal sutures. About six hours after the first fit he had another one. Urine normal, except faint trace of albumen. His face assumed a flushed and somewhat livid appearance, and the mouth was drawn slightly to the right side.

Two weeks later the same condition of things persisted, though no more fits had occurred. The mind was sluggish and the memory poor. At that time the patient desired, and the friends consented to, trephining as offering a possible means of relief, medical treatment having hitherto been unavailing. Accordingly Dr. Gay performed the operation November 18th, in the same manner as upon the last patient, the wound being similarly dressed. The next day the patient said he felt better, having lost to a large degree his "nervous feelings" and headache. The wound progressed nicely, healing almost entirely by first intention.

November 27th, wound nearly healed and in good condition, there being no collection of fluid to produce any pressure upon the brain. In the afternoon patient had a slight fit, in which the tongue was bitten, and after which he was somewhat stupid.

December 2d, had another fit. Wound closed.

He was discharged, December 12th, in much the same condition as before the operation.

## IV. POPLITEAL ANEURISM; LIGATURE OF FEMORAL ARTERY; GANGRENE OF FOOT; AMPUTATION OF LEG; RECOVERY.

Frank H., thirty-six years old, colored, was admitted September 6th. Patient had been well up to three months ago when he began to notice pain in the left



knee and a swelling in the popliteal space. He continued to work as a porter in a family hotel until one week ago, when the pain had become so severe as to keep him awake at night and disable him from fulfilling his duties.

Examination showed a large swelling behind the knee, quite firm, yet slightly fluctuating, slight degree of pulsation with heart beat, painful, very sensitive on pressure. The tibial pulse was somewhat weakened and delayed. A bruit was heard over the tumor and for about two inches up the popliteal artery. Knee somewhat flexed, and only slight degree of motion. September 12th, patient went home to arrange some matters of business, and returned September 15th, for operation.

The following day he was etherized, and the femoral artery was tied at the apex of Scarpa's triangle with a double catgut ligature. Pulsation and bruit in the aneurism were entirely controlled. The edges of the wound were united with silk sutures, and a dressing of tr. benzoïn. co. was applied, after which the whole leg was thickly enveloped in cotton wadding, the cotton in its turn being covered with oiled paper. Patient was put immediately to bed, and the leg was surrounded by heaters and well covered in by the bedclothes.

Four days after operation the aneurism was notably smaller and softer, and gave rise to no pain. Sensation in the toes was somewhat lessened at first, but had then become nearly normal. The pad of compress cloth over the wound was wet with compound tincture of benzoïn three times a day.

September 23d the wound was found to have healed by first intention throughout a greater part of its extent, there being a little suppurative in the more superficial parts of the incision. Patient complains that the leg feels cold, though it is warm to the touch. Poultice applied to the wound.

October 6th there is some tenderness on dorsum of left foot, but no swelling of foot or leg. Two days later patient was allowed to sit up and to move about a little on crutches.

October 10th he insisted on going home to attend to important matters, and was discharged against advice, going out with crutches.

October 20th he was readmitted, on account of commencing gangrene of the left foot. A line of demarcation was beginning to appear just below the ankle, and the foot already exhaled an offensive odor. Dressed with charcoal poultice.

October 28th, the line of demarcation having formed below the ankle, the leg was amputated near the middle. The tissues seemed in good condition and well supplied with blood, though there was little hemorrhage from large vessels. After the operation the wound was doused with carbolic solution, and dressed with Lister gauze, to be changed daily.

For a week there was scarcely any discharge from the wound, the temperature remained at about 103° F., and the patient was slightly delirious. November 6th the discharge had increased and the flaps were beginning to slough, so that a few days later the dressing was changed to a charcoal poultice.

November 20th the slough entirely separated, leaving the end of the tibia exposed. Patient has become extremely emaciated, and has a large bed sore, though his general condition seems to be rather better than for some days past.

From this time he steadily improved till December

10th, when his temperature ran up to 103° F., and he began to complain of pain in the posterior part of the stump. On examination, a sensitive swelling was found which involved nearly the whole of the posterior aspect of the leg and extended a short distance above the popliteal space. A few days later, fluctuation having been distinctly felt, an incision was made by Dr. Cheever, who was then on duty, and this was followed by the discharge of a large amount of sanious pus, together with fragments of old blood clots. The flow was increased by pressure over the old aneurismal sac.

Convalescence from this date went on uninterruptedly, the bone being all covered in, the abscess contracting down to a small sinus, and the bed sore healing readily. He was discharged February 1st, with the stump healed, the knee flexed at a right angle, and a small sinus communicating with the old sac.

## Reports of Societies.

### QUARTERLY MEETING OF THE RHODE ISLAND MEDICAL SOCIETY.

A QUARTERLY meeting of the Rhode Island Medical Society was held in Providence, March 16th, the President, Dr. O'Leary, in the chair.

The following gentlemen were elected delegates to the St. Paul meeting of the American Medical Association: Drs. W. E. Anthony, G. P. Baker, Ariel Ballou, Otis Bullock, F. B. Carpenter, E. T. Caswell, J. H. Eldridge, G. W. Jenckes, Job Kenyon, Eugene Kingman, A. A. Mann, J. H. Morgan, G. A. Pike, and H. E. Turner. The President was authorized to complete the list and fill vacancies.

### EXPERT TESTIMONY.

DR. JOB KENYON, Chairman of the Committee on Expert Testimony, referred to the lack of interest among members of the Society as a contributing cause of the indifference of the General Assembly to the matter of expert testimony, and suggested that the Fellows sign a petition asking for such legislation as will mitigate the annoyances which medical witnesses now suffer. Later in the day such a petition was prepared and numerously signed by the Fellows.

DR. S. S. KEENE read the report of the Board of Censors and gave notice that he intended at the next meeting to move an amendment of the by-laws regulating admission to the Society, so that an examination before the Board will be necessary.

Drs. Gardner T. Swarts and Joseph N. Baratta, of Providence, were elected Fellows.

### CANCER OF OS UTERI WITH HYDRONEPHROSIS.

DR. LLOYD MORTON, of Pawtucket, reported a case of cancer of the os uteri with hydronephrosis. The patient was a stout American woman, aged sixty-two. During the past seventeen years she had frequently called on Dr. Morton to prescribe for what he termed the passage of biliary calculi. Twelve years ago she had an obscure steady dull pain in the right side extending to the groin.

In September, 1881, she complained of menorrhagia, and said it had existed at intervals since the previous March. The diagnosis of uterine cancer was not established until February, 1882. March 1st, she was seized with inflammation of the left kidney followed

by suppression of urine for forty-eight hours. There was then a slight secretion of urine for a few days and she died comatose March 9th. At the autopsy the gall-bladder was found filled with calculi. Two were quite large, an inch in diameter, but most of them were small. The left kidney was intensely inflamed.

Hydronephrosis of the right kidney; the sac containing eight ounces of serum, which had no urinous odor. A urinary calculus eight lines in length and three in width was impacted midway of the right ureter. This calculus probably passed from the kidney twelve years ago when she suffered pain in the right inguinal region.

An epithelioma of the cervix uteri involved the adjacent vaginal walls for about one inch.

#### SUCCESSFUL LITHOLAPAXY.

Dr. E. T. CASWELL reported a successful case of litholapaxy. The patient, who was sixty years of age, had suffered for six years from an enlarged prostate. The first operation was done in January last. Considerable time was spent in dislodging the stone, which was pocketed, and in an hour, sixty-two grains of phosphatic detritus were evacuated. Some tenesmus, but no chill followed this operation. The remainder of the stone, one hundred and seventy-four grains, was removed by a second operation a month later. No unfavorable symptom followed.

#### FIBROID TUMOR OF UTERUS.

Dr. Caswell also presented a fibroid tumor of the uterus weighing one and one half pounds, and measuring five and one half by three and one half inches, which he had lately removed with Thomas's spoon-saw. Hemorrhage was controlled by the prolonged hot douche. The patient, who was thirty-five years of age, did very well after the operation, and in seventeen days was ready to sit up, when chills developed and she died of septicæmia in three weeks after the operation. In a case like this, the tumor should be well drawn down before attempting enucleation.

Dr. WILLIAM H. PALMER, of Providence, next read a paper on

#### CRIMINAL RESPONSIBILITY,

of which the following is a synopsis:—

To define a standard of criminal responsibility has become an urgent need. The welfare of society being grounded upon the accountability of the individual, the importance of fixing the limits of that accountability is apparent.

In theory, every individual is assumed to be amenable to the laws under which he lives; lunatics and idiots alone being exempt as incapable of understanding their obligations. Practically, a large class of criminals is taking advantage of the unsettled opinions of scientific men concerning the distinction between depravity and disease to claim irresponsibility for their crimes. It is true that the prevalent pseudo-philanthropy concerning criminals, and the unscrupulous ingenuity of the lawyer who knows no person but his client, are alike influential in shielding the guilty from punishment, but the medical profession is responsible, to a still larger extent, for the numerous acquittals procured upon the ground of moral alienation.

Certain mental manifestations having been seen to be connected with certain organic conditions, it is advanced, on the part of the profession, that any pervers-

sion of conduct may be due to mental impairment, with an inevitable tendency to the conclusion that the patient, although perhaps a fit subject for sequestration, is not a subject for punishment.

The argument, however, that because certain diseases of the brain, nervous system, or body, produce mental states and actions similar to those of the insane suffering from general paralysis, mania, dementia, or any form of isolated mania, therefore all mania is the result of disease of the brain or body, cannot be sustained by demonstration, for there are many types of insanity which evince neither disease direct nor functional of the brain, nervous system, or body in life, nor does the post-mortem examination reveal any structural change, neurosis, inflammation, congestion, in a word, nothing abnormal.

The assumed mental impairment of criminals is by no means universally supported by facts; neither is an atypical brain construction always manifested by either abnormal conduct or perverted ideas. To predicate irresponsibility for crime upon a brain disease, which is not evinced by physical symptoms or pathological results, is to go faster than the facts of the case seem to warrant; to predicate irresponsibility upon an hereditary disposition to crime is to deny the obligation of the individual to self-control; and lastly, to predicate irresponsibility for crime upon a defective moral nature is to undermine the principles of human accountability, and to render the equity of penalty an open question.

Crime is not an evidence of insanity; neither does insanity imply irresponsibility. The knowledge of right and wrong is the sole admissible test of responsibility, and for this knowledge only a limited capacity is required. Every intelligence has a free agency and thereby capacity to do right. Inheritance and environment may stunt and impinge upon this freedom, but never absolutely destroy it. Selection and volition may, under the tyranny of organization, be difficult, but never quite impossible. In fact, so low a degree of mental development is required for comprehending one's obligation to the law, that it would be not only safe but scientific, to declare responsibility for all conscious acts of crime. In emphasizing the immunity from responsibility of the insane temperament, there is inculcated a sort of fatalism whose tendency, through example and the processes of heredity, is to lower the average will-power of the generation.

Guiteau, the miserable assassin of Garfield, is undoubtedly insane in the opinion of most alienists. It is indisputable that his mind and moral nature are disordered as evidenced by his supreme vanity and egotism, yet the forethought and deliberation with which he assured the success of his crime prove him capable of sound reasoning. Having willfully debased and enfeebled his own nature by indulging its worst and weakest propensities, he is none the less responsible for the crime which was the logical outcome of its debasement.

Punishment, as a deterrent to crime, is a therapeutic agent, the wisdom of whose employment cannot be disputed. The treatment of offenders which looks, first of all, toward controlling the spread of degeneracy, constitutes true philanthropy and correct pathology.

The President, in commenting on Dr. Palmer's paper, remarked that physicians are well adapted to refute the sympathetic and sentimental views that excuse crime under plea of insanity.

DR. F. B. FULLER, of Pawtucket, read a paper on  
MANUAL DILATATION OF THE OS UTERI AS A PART  
OF ARTIFICIAL DELIVERY.

Starting with the fact that in certain cases the immediate emptying of the uterus is desirable, the paper explained and defended manual dilatation as a new and comparatively untried method of accomplishing the most difficult part of the work.

The various operative procedures and mechanical dilators used to relax the os and induce labor require considerable time for their action, which renders them useless in many emergencies; when haste is not so necessary the inconvenience to both physician and patient of waiting is a serious defect.

Manual dilatation will be found efficient, comparatively easy of application, and quite safe for the patient.

DR. G. W. STANLEY, of Slatersville, tried this method successfully twenty years ago in a case of placenta previa. He approved of doing the operation early; never saw a serious result follow the practice.

#### TREATMENT OF PUERPERAL CONVULSIONS.

DR. GARVIN, of Lonsdale, reported a case of puerperal convulsions in a primiparous woman at the eighth month. The liquor amnii had escaped, but the os was undilated and there was no pain. Three quarters of a grain of morphia was given hypodermically, and an hour later half a grain more. Manual dilatation was begun at 5.30 p. m., and delivery accomplished in two hours. She had several slight convulsions during the night, but made a good recovery.

DR. GEORGE CAPRON read a brief paper on the Value of Venesection in the Treatment of Puerperal Convulsions. He thought it better to use small and repeated doses of morphia in these cases rather than the heroic doses recently recommended.

DR. ARIEL BALLOU reported five cases of puerperal convulsions occurring about the fifth month of pregnancy which were successfully treated by venesection and an opiate in medium dose.

DR. CASWELL called the attention of those who hesitate to use morphia boldly in treating puerperal eclampsia to the increasing number of these cases now reported in the medical journals, in which large doses of morphia have been used with brilliant results.

#### DEATH OF DR. DAVID KING.

The President announced the death of DR. DAVID KING, of Newport, and appointed Drs. C. W. Parsons, E. T. Caswell, and C. H. Fisher a committee to prepare resolutions attesting the esteem in which he was held by the profession.

The committee reported as follows:—

"Whereas, It has come to the knowledge of this Society that DAVID KING, M. D., long an eminent member of this Association, and an ex-President thereof, died at Newport, R. I., on March 7, 1882; therefore,

"Resolved, That in the decease of DR. KING the Rhode Island Medical Society has lost one of its most respected and honored associates, a physician of large culture and rare judgment, and a gentleman of the utmost urbanity and courtesy of manner.

"Resolved, That his connection with various literary, historical, and scientific organizations has reflected credit on the Society and the profession of medicine.

"Resolved, That the above resolutions be communicated to the family of the deceased, with the expression of our sympathy."

#### PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

T. M. ROTCH, M. D., SECRETARY.

APRIL 10, 1882. DR. J. C. WARREN presided.

#### POPLITEAL ANEURISM.

DR. C. B. PORTER reported some cases of Popliteal Aneurism.<sup>1</sup>

In answer to a question by Dr. Gay, DR. PORTER said that he preferred the treatment by compression to tying the vessels, because in this way a surgical operation, which is always a dangerous procedure, is avoided.

DR. GAY said that one case had been cured at the City Hospital by flexion, but that it was impossible to give in this method of treatment sufficient opium to control the pain. He had himself treated two cases by the catgut ligature. The first case recovered with a tumor in the popliteal space, but no pulsation there nor in the tibial artery; this patient was afterwards admitted to the hospital for rheumatism, and the popliteal spaces were then found alike, though there was still no pulsation in the tibial artery.

In the second case, where there was a large tumor in the left popliteal space but no pulsation, and at first no bruit, he operated on it in the same way; the case did well, but contrary to advice left the hospital at the end of six weeks, and returned ten days later with great pain and two thirds of the foot gangrenous, so that the foot had to be amputated, and the patient was afterwards discharged with a slight fistula in the calf.

In answer to a question by Dr. Homans, DR. PORTER said that there was less danger from gangrene of the parts below where compression was used, as the process was slow, and collateral circulation could thus be established more easily.

DR. WARREN said that the old operation of laying open the vessel and tying both ends was usually advised for false or traumatic aneurism, and not for true aneurism. He had treated two of these cases of traumatic aneurism, one in the popliteal and one in the femoral space; they were both of long standing.

The popliteal aneurism, which more than filled the whole space, had been caused by a bullet in 1865; he operated on it in 1875, after several twelve-hour attempts at compression under ether had failed, the pulsation ceasing for a time but then returning. Phlegmonous erysipelas set in, and sudden death occurred from hæmorrhage from the femoral artery.

In the second case the aneurism was as large as a child's head, and was varicose; the same operation was performed, and the case has done well.

DR. C. J. BLAKE showed a tubular share for the removal of polypi, a description of which will appear in the next number of the *American Journal of Otolaryngology*.

#### DIAGNOSIS OF FRACTURE.

DR. FIFEELD spoke of the difficulty of diagnosing those cases of fracture where there was neither shortening, deformity by measure, or anything notice-

<sup>1</sup> See page 361 of this number of the JOURNAL.

able. In these cases an ecchymosis which amounts to a large effusion is of great value as pointing towards a fracture and not merely a sprain. He cited a case in support of this view, where at the time of the injury nothing could be found, on account of the great swelling and effusion, until three weeks later, when a marked fracture was discovered.

#### LACERATION OF CERVIX UTERI IN ABORTION.

DR. C. M. GREEN reported a case which was of interest in its bearing on the aetiology of laceration of the cervix uteri. The patient was about three and a half months advanced in her first pregnancy, and when first seen had been suffering with severe uterine pains for an hour. Examination revealed the os to be dilated to half an inch in diameter and the membranes to be protruding. Morphine was given to the extent of preventing sensibility of the pains, but the uterine contractions continued, and the fœtus was expelled one hour later. Examination of the cervix disclosed a bilateral laceration; it was found, too, that the pericævium had been torn from the occiput of the fœtal head, showing that it must have encountered much resistance in its passage through the cervix.

The case, therefore, afforded a fresh illustration of the now well-recognized fact that abortion is very often attended with laceration of the cervix, especially when the labor is rapid; the liability to rupture being greatly enhanced by the fact that the cervix in the early months has not undergone sufficient softening for rapid dilatation.

### Recent Literature.

*A Treatise on Human Physiology, designed for the Use of Students and Practitioners of Medicine.* By JOHN C. DALTON, M. D. Seventh Edition. Philadelphia: Henry C. Lea's Sons & Co. 1882.

The handsomely printed and luxuriously bound new edition of this well-known book presents ample evidence of the author's wish to keep abreast of the times. The six years that have intervened since the previous edition have been fruitful in research and have brought most important additions to the stock of physiological text books. The book before us unfortunately fails to hold its own in the struggle for existence, and demonstrates again the difficulty of putting new wine into old bottles. The text and illustrations have undergone much modification and curtailment, without exception, we believe, to the benefit of the reader.

The old charm of style is retained and will doubtless continue to prove attractive to many who would shrink from a better book. This is to our mind a great objection, for it involves an immense amount of diffuse writing to arrive after all at incomplete conclusions which might have been stated in one fourth the space to the great advantage of the student. When we consider the importance that practical experimental physiology has attained, the complexity of its methods, the bearing that its researches have upon all other fields of medical work, we must recognize the necessity of conveying some knowledge of all this in each and every text book for medical "students and practitioners." We believe that we are justified in saying that a knowledge of experimental physiology must be the very cornerstone of modern medical training, if good practitioners are to be formed, — men who shall have a just apprecia-

tion of the work of their fellows, who shall have a scientific interest in medicine (the only thing that can save us from the degradation of being mere *routiniers*) and be capable of resisting the dangers of specialization. *Post hoc ergo propter hoc* is the fundamental error of nine medical men in ten, and it is the peculiar province of physiology to convey that appreciation of methods and their limitations — training in practical logic, that is — whose lack no clinical instruction can possibly remedy, or the courses of the various "ists" supply. We cannot but feel that the effort to write books down to the level of students who are, we hope, below the average, must always be harmful; a good text book ought to be above the heads of the many, and to suggest and encourage the desire to know more. It is the work of the teacher and the lecturer to dilute and explain; books meant to be popular (in no obnoxious sense) ought to be small. We should suggest then that a judicious use of foot-notes and varieties of type would render it easy to separate the indispensable and well established from that which is less necessary or theoretical, but it is a misfortune for any medical student to be encouraged to underrate the value of theoretical conclusions.

We have said that the author shows an earnest desire to keep abreast of the times. His account of the visual purple, of the vasomotor nerves, of localization in the brain, gives ample evidence of his intentions, not to mention marked traces of the same effort in other departments.

But we miss everywhere satisfactory evidence that the author has a true modern point of view. Physiologists are no longer content to be merely descriptive, they are striving at every point to generalize, and rightly too. For example, the study of secretion has thrown much light upon the action of the glands, upon the influence of the nerves, and the functional changes of the cells themselves. Of these results, which are assuming a very general character, the student gets a very insufficient knowledge — or rather he gets complete ignorance — and has to be satisfied with the bald statement that the gland A furnishes a certain secretion B, whose general properties are C and D.

Modern physiology recognizes more and more the function of the cell as the element of life, but the reader of Dalton will almost look in vain for the word, except in purely anatomical relations. The absence of this general standpoint is sadly felt in that section of the book devoted to physiological chemistry, which includes a very incomplete enumeration of some of the substances found in the human body and of some of their properties. Fortunately the author has succeeded in reducing his use of "proximate principles" to a minimum, and we hope another edition will witness the disappearance of that and "matters" too.

As to details of criticism we will try to be brief, although many points have suggested themselves during an examination of the book.

The classification of the chemical ingredients of the body (page 33) is unsatisfactory; that the "crystallizable nitrogenous matters" should constitute one class and the "coloring matters" (all of which, by the way, are nitrogenous and crystallizable) another, has no chemical justification. In the list of inorganic substances (page 35) we miss (besides such trifles as oxygen, nitrogen, and carbonic acid) sulphuretted hydrogen and ammonia, whose presence is certainly less accidental than that of lead.

The transformation of starch into sugar no longer permits of such simplicity of statement as on page 53, for chemists distinguish at least two dextrines besides declaring the sugar to be maltose and not dextrose. The good tests for sugar deserve fuller enumeration; the account of Trommer's test is unsatisfactory and partially false. The description of alcoholic fermentation is incomplete, and we miss any account of beverages as a part of food; indeed, we may remark in passing, that the worship of Bacchus, as well as that of Venus, hardly has justice done it — we mean physiological justice, of course.

Glycogen is a more important ingredient of the muscles than the student would infer from page 60; indeed, if we may venture to draw conclusions from Boelhm's determinations for the cat, at least one half of the glycogen of the body is to be found in the muscles! The account of albuminoid bodies does not compare favorably with that to which other writers have accustomed us. Coagulation is only partially explained, and it is not true that this change is not produced by organic acids, for the proper amount of acetic acid added to alkaline albuminous urine, for example, causes a beautiful coagulation. The connection of albuminoid substances with "catalyses" (page 76) is no more peculiar to them than to alcohol, which, under the influence of sulphuric acid and heat, undergoes a "catalytic transformation" into ether.

The description of ferments (page 85) is generally good, but we miss a sufficiently full explanation of the best methods of obtaining them by extraction of the various organs for digestive purposes, a topic of growing importance, and particularly valuable to the numerous pepsinophiles.

The allusion to the importance of iron for the plant, on page 97, should be compared with the superfluous account of chlorophyll on page 103, where almost the opposite is stated, and correctly too. On page 110 we should have liked to see mention of Strassburger's convenient modification of Pettenkofer's test for the biliary salts. The relations of urea (page 116 and again on page 328) and the general question of the excretion of nitrogen are not adequately discussed, and it should not be forgotten that the hypobromite method determines the nitrogen and not the urea. Very many most important chemical substances are not mentioned at all, and we miss particularly our old friend sarcolactic acid, to which, perhaps, more virtues and vices have been attributed than to any one substance of the animal body.

Foods are discussed in Chapter VII, in a fairly lucid manner, but the explanation of the action of cooking is inadequate. The absence of the sulphydryl in saliva is more frequent than Dalton admits. It should be remembered that acetic acid also gives a red color with ferric salts. The influence of the nerves on salivary secretion is barely touched upon on page 476. The account of the bile is good. The researches of Eichhorst on the work of the intestines seem to have been overlooked, and the absorptive capabilities of the large intestine deserved attention, in view of the recognized importance of rectal alimentation.

The chapter on respiration, otherwise good, would be excellent did the author but realize it is in the cell, physiologically speaking, that we live, move, and have our being. It ought not to be overlooked, too (page 257), that the blood is as much a tissue as the muscles are. There is no mention of Garland's

recent interesting researches on pharyngeal respiration.

The description of perspiration is not up to the times. The past few years have given this process a dignity barely suspected before, and it is now to be ranked among the true secretions, attributable to cell activity, amenable to nervous influences, and independent of the blood, as the curious experiments of Luchsinger and Miss Kendall have shown. In another organ — the kidney — the phenomena of secretion have of late been made much clearer, at least topographically, but there is no mention of these interesting researches in the book before us. It is, by the way, by no means certain that the albuminous urine of pregnancy is occasioned by pressure on the renal veins (page 335).

In the chapter on the circulation we miss mention of the negative pressure in the veins, and the account of the rate of the blood-flow is perhaps too dogmatic. There is good reason to believe the time required for the complete circuit of the vascular system to be nearer twenty-five than twenty seconds.

Not to be too prolix or too captious, we will only say, in reference to the chapters on the nervous system, that the evidence for a difference in the rate of transmission in sensory and motor nerves is not satisfactory; that a fuller account of what is known as the reaction time (and particularly of the influence of practice), and of what we may perhaps designate as the inherent laziness of our nervous terminal apparatus (page 513), is desirable.

We have failed to find any account of a phenomenon which occupies about one third of our extra-uterine existence, — sleep, — and if his twin brother, — death, — is alluded to it has escaped us. As in the former edition, the spleen is neglected. We know, to be sure, but little about this organ, but the student ought to be told that little in order to be protected against false theorizing, whose occurrence is usually inversely proportional to knowledge. There is, too, no mention of tendon reflexes nor of vomiting, and the thoughtful student, if he have read so far, will wonder why a child needs to be born at all.

The index is very full, and, like the entire book, wonderfully free from typographical errors. We miss, however, Chyme (a word, by the way, we should like to see retained), Birth, Fœtus.

*Analytisches Hilfsbuch für die physiologisch-chemischen Übungen.* By DR. TH. WEYL. Berlin: Springer. 1882. Pages 32.

In a convenient little series of tables Dr. Weyl, of the University of Erlangen, has presented a concise view of the steps to be taken in those analyses which concern the medical student and some practitioners. All interested in such work will find this book useful in learning, and to refresh the memory or for practical instruction in the laboratory, but it is, of course, only a helpmeet, and does not profess to take the place of the larger text books.

— Professor Klebs has accepted the appointment to a professorship at Zurich, and will lecture there during the coming summer. A new pathological institute has lately been built there.

# Medical and Surgical Journal.

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## THE ANTHROPOMETRIC LABORATORY.

FRANCIS GALTON, F. R. S., writes an article in the *Fortnightly Review* for March, suggesting that persons should be encouraged by their physicians, if need be, to have themselves and their children accurately appraised, that a few scientific men who have the special knowledge required for the purpose should endeavor to systematize the methods by which this could best be done, and that thus anthropometric and medical facts might be recorded by the side of photographic chronicles maintained from childhood to age, and that access to such records would be of the utmost value to families and physicians in guarding against evil or profiting by favorable tendencies, an easy recognition or anticipation of both being thus readily secured.

Mr. Galton holds a belief, based upon some observations upon children of the same parents, and especially upon twins, that the possibilities of a child's future career are more narrowly limited than, as he says, our forefathers were fondly disposed to believe. Such a belief we should call old-fashioned, for certainly in the United States the great majority of moderately educated young people flatter themselves that there is almost nothing which a *smart* American cannot accomplish, if he only wants to badly enough, and few stations which he may not fit himself to fill, at least with considerable personal satisfaction, and in this generous estimate of the scope of free-will there are some women, certainly at the moment, who outdo the most sanguine men.

However, be this as it may, we ourselves are inclined to agree upon this point with Mr. Galton, and accepting such a belief we readily agree with him also that "it is highly desirable to give more attention than has been customary hitherto to investigate and define the capacities of each individual. They form his stock-in-trade, the amount of which admits of definition, whereby he has to gain his livelihood, and to fulfill the claims upon him as head of a family and as a citizen. So far as we succeed in measuring them so far almost in an equal degree should we be able to forecast what the man is really fit for, and what he may undertake with the least risk of disappointment. They would encourage him if unduly timid, or they would warn him from efforts doomed to be wasted."

Among the details of bodily form and faculties which can, or apparently could be, measured with some precision are instanced, besides the common ones of height, weight, chest-girth, capacity of lungs, color of

hair and eyes, — energy, strength, agility, the coördination of muscles and eye, sense, discrimination, persistence of impressions, memory, time lost in forming a simple judgment.

Personal data in respect to intellectual and emotional capacities and to special aptitudes and tastes would be more difficult to acquire and are not touched upon. Then the data for the medical history of a man's life from the observations made by his physician in his successive illnesses would form still another department — a medico-metric. To such a laboratory it is suggested that physicians might send patients to be tested in any way they wished, as physicians send their delicate instruments to Kew Observatory to have their errors ascertained.

The motives which might induce a person to take the trouble of getting himself accurately measured and appraised from time to time and of having the results recorded are thought by the writer to be: (1) their biographical interest to the person himself, to his family, and descendants; (2) their utility, especially in a medical point of view, to himself in after life; (3) the information they might give of hereditary dangers and vital probabilities to his descendants; (4) their value as future materials for much-needed investigations into the statistics of life-histories.

Some of Mr. Galton's suggestions are certainly of value, but we fear men and women must show less desire for embellished portraits and become either much more altruistic or more scientifically selfish before these gain practical and successful realization.

## PAROXYSMAL HÆMOGLOBINURIA (*A Frigore*).

UNDER the title of *A New Form of Hæmoglobinuria* in *Man*, Dr. R. Fleischer<sup>1</sup> gives curious and instructive details of a case occurring in a German soldier who was under careful and prolonged observation at the hospital at Erlangen. The case differs in many particulars from any we have seen reported. The appearance in the urine of the coloring matter of the blood either persistently or at intervals has hitherto been referred to the action of poisonous substances (hæmoglobinuria toxica), to exposure to cold (hæmoglobinuria a frigore), or from coincidence, and, in absence of a better explanation, to the influence of the malarial and syphilitic poisons. The action of certain chemical substances in disorganizing the blood and setting free the coloring matter is well known, and need not be more than referred to in this connection. Nor need we concern ourselves with similar results occurring occasionally in the course of acute affections, nor with the secondary or false hæmoglobinurias, which are, more properly speaking, hæmaturias, resulting from chronic renal disease, or from an abundance of oxalates in the bladder.

The true *paroxysmal* hæmoglobinuria, as originally described by Drs. Harley and Dickinson,<sup>2</sup> under the name of intermittent hæmaturia, is characterized by a bloody-colored, albuminous urine, entirely free from

<sup>1</sup> Berlin. Klin. Wochenschr., No. 47, 1881.

<sup>2</sup> Med.-Chirurg. Soc. Trans., lxxviii., 1864.

blood globules the periodic liberation of the red coloring matter taking place most probably within the blood course, and not being dependent upon the introduction of any specific poison. Ætiologically the attacks have so frequently been observed as a sequence to exposure to cold that the terms *hibernal* or *a frigore* have been proposed as more appropriate than the prefix paroxysmal. Mesnet, who lately reported a case under his care in the Hôpital Sainte-Antoine in which the attacks could be produced at will by exposure to cold for even so short a time as fifteen minutes,<sup>1</sup> goes so far as to state, in a memoir presented to the French Academy of Medicine,<sup>2</sup> that the essential characteristic of paroxysmal hæmoglobinuria is that it recurs in attacks at longer or shorter intervals under the influence of a constant cause, cold. He further considers the cause and effect as parallel, the rapidity and intensity of an attack being almost always proportioned to the more or less energetic action of the cold. Dreyfus-Brisac,<sup>3</sup> reviewing the subject, follows the same general opinion.

Fleischer's case, referred to above, while answering all the requirements of a strict diagnosis, and being under careful supervision, differs from Mesnet's and others previously reported in that the attacks, though equally with those in Mesnet's patient producible at will, were shown to be in no way dependent upon or brought on by exposure to cold. The attacks were always preceded by and always followed one immediate cause, walking exercise. Other forms of exercise, though more active and laborious, did not produce the attacks. The patient's general condition and appearance were but little affected, nor was the passage of bloody urine accompanied by any elevation of pulse or temperature or any derangement of any internal organs. The serum of a blister formed during an attack presented under the microscope the hæmoglobin as found in the urine. From the absence of morphological elements from the urine, as shown by microscopical examination, the absence of pain in the region of the kidneys, the simultaneous appearance and disappearance of albumen and hæmoglobin, the presence of hæmoglobin both in the urine and the serum, Dr. Fleischer is led to predicate that hæmoglobinuria is a pure, primary affection of the blood.

#### BOSTON SEA-SHORE HOME.

THE directors and officers of the Boston Sea-Shore Home are already preparing for their good work for the approaching summer. Last summer the house at Winthrop was opened July 7th and closed September 13th. There were 149 patients, of whom 44 were adults and 105 children. Some enlargement and changes in the building are contemplated, but the directors do not wish to enlarge the institution so far as to change the home character which it has had from the beginning. They urge again upon the city government, upon the Board of Health, and all who are interested in preserving the lives of our people, that another home, if

not larger, would probably be fully occupied every summer. At a very small charge to the city it would preserve the life of one or two hundred children of the very poor, who in the close streets and oppressive heat of summer will certainly die without such relief. On several islands, and on the mainland at Winthrop, the city owns land which could be used for such a purpose. A proper building, fitted for use in summer, and not to be occupied in winter, could be built for twenty-five hundred dollars. Their experience shows that two hundred or more patients can be maintained, each for an average of about a week, at the charge of sixteen hundred dollars a year.

"We can conceive," they say, "of no expenditure so small which would do so much to improve the bad death-rate of the city. The average mortality of children under five years old, in the three summer months for the last six years in the city of Boston, has been 1176. The present population is estimated at 397,628. These are the years of the work of the Society. The average mortality of the preceding five years was 1202, with an average population of 290,216. The mortality in 1881 was 1132; this is even below the average of the six favorable years. The annual number of deaths of children is less in the latter period than it was in the former, though the population has increased twenty per cent.; this is a gratifying result. The directors believe that any system which will enable physicians among the poor more frequently to give to sick children the tonic of a sudden change of air will diminish still further the mortality of the summer months, which is still largely in excess of what could be desired. It will be observed that the terrible mortality which such figures indicate belongs only to the honest classes of our people."

#### THE BACILLUS OF TUBERCULOSIS.

THE *Allgemeine Medicinische Central Zeitung* and the *Berliner Klinische Wochenschrift* for April 1st contain a brief reference to the discovery by Dr. Robert Koch of the bacillus of tuberculosis. This he has succeeded in cultivating through six or eight generations without diminishing its power. The bacillus, as far as has yet been proved, is identical both in men and animals. By inoculation, as well as by injection into the vessels, Koch has succeeded in producing acute miliary tuberculosis as well as cheesy processes in animals otherwise free from tuberculosis. This small bacillus grows very slowly, and is essentially different from all the other pathogenic bacteria and micrococci. The full text of the paper is promised for an early date.

Koch does not usually herald his discoveries until they are pretty well proved. Moreover, his late onslaught upon Gravitv for rushing in unseemly haste to unwarranted conclusions in regard to the inoculation of fungi furnishes an additional guaranty, if such be needed, that he is not likely to choose the present moment himself for abandoning those habits of exact method and care which have, as a rule, characterized his work hitherto. Our readers are likely to hear of this discovery again.

<sup>1</sup> Archiv. Générales de Médecine, page 515, 1881.

<sup>2</sup> Bulletin de l'Académie de Médecine, No. 11, page 372, 1881.

<sup>3</sup> Gazette des Hôpitaux, No. 16, page 247, 1881.

## MEDICAL NOTES.

— Mr. Barrand, of Gloucester Place, has just completed his great portrait picture commemorative of the International Congress of 1881. This remarkable effort of photographic portraiture includes in one picture six hundred and eighty-four portraits of members of the Congress. The portraits are all taken from life, and were taken specially for this purpose. The popular size of the picture is twenty-nine by twenty inches, and an extra size forty-seven by thirty inches; thus some idea may be formed of the importance and interest; and this is the most remarkable collection of portraits which has, we believe, ever been brought together in one plate. The work has been executed with very great skill and success. There is not one portrait among the many hundreds of persons whom we can recognize that may not be pronounced a good likeness, and some of the portraits are certainly strikingly good; especially may be noticed for their life-like character the portraits of Owen, Spence, Struthers, Charcot, Savory, Bucknill, Lister, Donders, Hebra, Andrew Clark, Billings, Virchow, Sir W. MacCormac, Bigelow, Esmarch, Langenbeck, Sir James Paget, Sir George Burrows, Sayre, Spencer Wells, Grainger Stewart, Sir William Muir, John Simon, Sir Henry Thompson, and Austin Flint. We have no doubt that a very large proportion of the members of the profession will be tempted to possess themselves of this interesting commemorative picture. — *British Medical Journal*.

— The Secretary of the Connecticut Board of Health reports for February that malarial fevers begin to show renewed activity, and also their allied disorders. Dumb ague is stated as very common in Plainville, and malarial neuralgia. No pronounced chills. A fatal case of congestive chill in an old man is reported from Oxford, and with one death from pneumonia constituted the mortality of the place. Several cases and one death from typho-malarial fever are reported from South Manchester. Bloomfield, New Canaan, North Manchester, Watertown, Simsbury and several other towns report cases as already appearing.

In the registrar's report from Groton several deaths were attributed to typho-malarial fever, and if originating there, this town must be included also in the malarial zone, which is extending towards Rhode Island.

The unusual fatality from typhoid fever is a noticeable feature in the table, especially since the disease has been so infrequent in this State of late years, although 1881 was not such a year, however. Cases are reported from Avon, New Canaan, one fatal case from Williamantic, and quite frequently from different parts of the State, usually where malarial diseases are decreasing in frequency.

— Mr. E. Ray Laneaster, M. A., F. R. S., has been appointed to the chair of Natural History in the University of Edinburgh, as successor to Sir Wyville Thompson, LL.D., whose death was lately announced. Sir Wyville Thompson will be remembered in connection with the expedition of the Challenger.

## NEW YORK.

— At the last meeting of the Academy of Medicine the paper of the evening was by Dr. Fessenden N. Otis, who presented in detail with pathological specimens a case of persistently recurring spasm of the bladder resulting in thickening of its walls, dilatation of the ureters and hydronephrosis, and followed by death from uræmia.

— Dr. George M. Beard recently read before the New York Academy of Sciences a paper entitled, *Psychological Explanation of the Salem Witchcraft Excitement*, and the Practical Lessons derived Therefrom.

— The Medico-Legal Society has lately given attention to the consideration of needed changes in the statutes of New York State relating to the office and functions of coroner. The subject was referred to a committee of Messrs. Orlando C. Calvin and Austin Abbott, and Drs. Alexander B. Mott, Charles A. Doremus, George M. Beard, and Webster Beach, and this committee has submitted a unanimous report, which has been ordered to be printed. The report says that the committee are substantially agreed in the opinion that the principal changes needed are the abolition of the coroner's jury, and the substitution therefor of an intelligent and thorough medical examination.

— Six cases of probable trichinosis in one family are reported from Brooklyn, trichinae having been found in the remaining portions of a ham of which they had all partaken.

— During the past week, Richard C. Flower, a quack physician of Fifth Avenue, was indicted on complaint of Dr. Frederick R. Sturgis, president of the County Medical Society, for practicing medicine without proper qualifications, and pleaded guilty when arraigned in court. He was fined two hundred dollars.

— Of \$141,000 excise funds just appropriated by the Board of Apportionment, \$44,969 is to be distributed among the various medical charities of the city. Of these institutions St. Francis Hospital gets the largest amount, \$6300, and the Yorkville Homœopathic Dispensary the smallest, \$177.

— On the same day on which Jumbo arrived, there came to this port from Europe a Chinese giant, who seems to hold the same relative position among other giants that Jumbo does among elephants. His name is Chong Chi Lang, and he was born in Pekin thirty-five years ago, but of late years has been on exhibition in the various cities of Europe. He is nearly eight feet and a half high, and weighs more than five hundred pounds. He is accompanied by his wife who is five feet in height, and has feet measuring only three inches in length.

## CHICAGO.

*College Changes.* — There has been of late an extensive upturning in the faculties of the colleges. The Faculty of the Chicago Medical College has lost by resignation Dr. Roswell Park, Demonstrator of Anatomy; Dr. R. L. Rea, Professor of Anatomy. The



former becomes Lecturer on Surgery in Rush College; the latter Professor of Surgery in the new College of Physicians and Surgeons. Dr. John E. Owens leaves a professorship of Orthopedic Surgery in Rush to assume the Chair of Operations of Surgery and Surgical Anatomy in Chicago College. Dr. F. L. Wadsworth has resigned the position of Adjunct Professor of Physiology in Rush, and Dr. W. T. Bel-field has been appointed Lecturer on Physiology in the same institution. Dr. J. H. Long becomes the Professor of General Chemistry in Chicago College; Dr. A. G. Pain becomes Lecturer on Dermatology; and Dr. O. C. DeWolfe, the Commissioner of Health of Chicago, becomes Professor of State Medicine and Public Hygiene, in this College, — the last two are new positions in this school.

On the 28th ultimo, the Chicago Medical College, medical department of the Northwestern University, held its commencement and graduated a class of thirty-seven.

#### MORTUARY.

Within a few weeks the profession has lost by death four most excellent practitioners and much respected men.

*Dr. Alexander Fisher* had attained an advanced age. He had practiced in Chicago for more than a quarter of a century; he was one of the founders of the Woman's Hospital Medical College, and for several years was one of the professors of surgery. He was fortunate in enjoying the respect and esteem of the whole profession, and he was esteemed both for his sterling qualities as a citizen and for his high character as a practitioner. He had not been in active practice for the last few years.

*Dr. Daniel S. Root* was at the time of his death little over forty years of age. Graduating in Rush College in 1867, he served as an interne in Cook County Hospital a year and a half, when he settled in practice in this city. He acquired a large practice and was very successful. One of the quietest of men, he was known thoroughly by but few of our city physicians, but those who knew him prized his acquaintance and friendship deeply. Few but his intimate friends knew it, but he was one of the best students of general science in the local profession. Botany was a favorite study, and he left a large and valuable herbarium.

*Dr. Cass Mason Dodge* was a comparatively young man, and in his death another victim is added to the list of physicians who have died of diphtheria contracted from patients. The evidence of this origin of his disease is said to be indubitable. He had practiced less than ten years, but had established a good reputation as a practitioner and was respected as a man.

*Dr. James Allen Mead* had been a druggist for many years when he studied medicine and graduated in Rush College in 1876. He opened an office over his former store, and such was the grace of his nature and his professional industry that he soon became a busy practitioner indeed. His was a nature men found it impossible to dislike, — his acquaintances were his friends.

#### Miscellany.

##### THE SANITARY STATE OF PANAMA AND THE INTEROCEANIC CANAL MEDICAL SERVICE.

MR. EDITOR, — In view of the present delicate diplomatic relations of our country in regard to the control of all interoceanic communication across the Isthmus of Darien, and the possible complications in the future, as well as in the interests of public health and commerce, a few remarks upon things isthmian may prove acceptable to the readers of the JOURNAL.

Approaching Panama by steamer from the south, on a bright day, one is struck with the old-world beauty, picturesqueness, and even grandeur which the city presents, as it sits upon rising ground, inclosed by old bastions nearly hidden by luxuriant, bright-flowering creepers, over which are seen moss-covered towers and red-tiled roofs, the whole being softly outlined against the hazy blue and green of Mount Ancon, a lovely tropical hill, rising five hundred and forty feet, a mile to the westward. But the glamour, which at a distance has awakened one's poetical fancies, is rudely dispelled as, nearing the city, the boat passes under its bastion walls, and the old, tumble-down, disintegrating buildings, reeking with stench in the merciless torrid sun, present themselves in all their squalid badness.

Panama is built upon a peninsula sufficiently elevated to insure perfect drainage, assisted as it is by a rise and fall of the tide of from eighteen to twenty-two feet; but the city is built in the true Spanish style, narrow streets with no sewers, so that the only drainage is surface, and all refuse is thrown into the streets, to lie there and putrefy till washed into the bay by heavy rains. The general unhealthfulness of the city is due chiefly, I think, to defective drainage, overcrowding, and household and personal uncleanness. The squalid portion of the place, which is practically two thirds of it, is miserably constructed; the houses are one and two-story tenements, with the first floor invariably of mother earth, and each room generally sheltering in vice and filth an entire family. As one walks through the narrow alleys it is necessary to pick each step to avoid stagnant pools of water, kitchen slops, and household refuse of every character, the air being disgustingly, if not dangerously, odorous at each turn. Had Coleridge known Panama, Cologne would have been robbed of one of its chiefest claims to immortalization.

Of course, the climate of the isthmus is bad, and thoroughly so in the line between Panama and Aspinwall; but the high, solid foundation of the former city, and its proximity to the bland Pacific, makes it naturally more salubrious than the low-lying, swampy locality of the latter. The rainy season sets in about the middle of May, and continues till November, during which time the country is literally drenched, and a healthier state obtains, owing to the vigorous surface drainage. The dry season is only comparative, for it is rare that a day passes at any period without some rainfall. The geographical position of the isthmus, the break here in the Cordilleras, the vast, impenetrable forests, and the almost total absence of cultivated land, naturally produce a hot, humid, devitalizing climate, altogether at variance with the health of man. From such a pregnant nidus one is not surprised that malarial manifestations are abundant, or that the most general types, intermittent and remittent fevers, attack

every one almost without exception. These fevers are much more virulent at the change of the seasons, when the mortality is indeed alarming.

All desperate fevers are here called *fiebra perniciosa*, and under this head the Panaminians, one and all, professional and non-professional, endeavor to conceal the terrible *fiebra anarilla*, which has now taken a permanent residence in the germinating squalor of the city slums. The first appearance of yellow fever in Panama is said to have been in 1859, and was confined to the Morro of Taboga in the bay. In 1868 it again visited the port, decimating the crew of the United States Steamship Jamestown, since which time it may truly be said to have never left the isthmus.

I visited the harbor two years ago in the United States Steamship Lackawanna, and it being known that yellow fever prevailed on shore, the United States consul was asked to give definite information in regard to it, which he did by denying its presence *in toto*. Feeling certain, however, of the falsity of the assurances given, Surgeon C. H. White, United States Navy, called on the native profession, and from Dr. Amador, the ablest man in the place, ascertained that yellow fever existed in epidemic form, and, moreover, that the large moneyed corporations suppressed information concerning it through every possible channel. Again visiting this place two months ago, I was fortunate enough to get reliable information from a practicing physician, Dr. Nelson, to the effect that yellow fever was now recognized as endemic in Panama and Aspinwall, and also in that part of the isthmus immediately connecting them. Two deaths occurred from it during our stay of twelve days, one happening to be aboard of a ship anchored near us.

Until December last a regular board of health had never been organized on the isthmus, owing to the strong opposition of corporations and commercial men in general; but finally, the president of the state of Panama, recognizing an urgent necessity, has constituted a board of health and quarantine, with Dr. Hurtado, a graduate of Cartagena, president; Dr. Nouel, a graduate of Bellevue Hospital Medical College, vice-president; Dr. Miranda, a graduate of Cartagena, secretary; and Dr. Nelson, a graduate of Bishop's College, Montreal, health and quarantine officer *pro tem*. These gentlemen have a stupendous task before them, and brilliant results are not to be expected in a hurry; but they seem in earnest, and it is to be hoped that whatever they do will be put upon record for the benefit of future seekers after information, as well as for their own glorification.

One who has not traveled through Spanish America can form no idea of the happy-go-lucky, indifferent, and general slipshod state of government. Records are seldom kept, and when they are, cannot be relied upon. After vainly seeking mortality statistics from physicians and public officials, I paid a visit to the various cemeteries, and by overhauling burial books and questioning the keepers, ascertained that the Catholic (native) interments amount to one hundred monthly, and the foreign to ten, giving an annual death-rate of eighty-eight per one thousand. Of these deaths at least one half are due to malarial (yellow?) fevers, one fourth to small-pox, and the remainder to pulmonary and intestinal diseases, syphilis, accidents, etc., etc. I carefully inspected the cemeteries, and cannot pass on without remarking upon the largest one, the immediate property of the bishop. It was built by the

Spanish government nearly two hundred years ago upon a boggy piece of land, a mile to the westward of the city. It consists of three hundred and sixty-five niches arranged in three tiers, forming a hollow square. Only the wealthy can indulge in this ultimate luxury, and upon the demise of one of these favored sons of fortune the body is deposited in one of the niches, sealed up by a suitably engraved tablet, to remain so long as cadaveric rent is paid to the church; but let the defunct's relatives fail to satisfy its rapacious demands, and soon the remains in its coffin is tossed into the swamp, just to the rear of the cemetery, where at all times may be seen the unsightly remnant of ancient and recent dead, old Spanish bidaños, proud doñas, fair señoritas, and new-born babes lying in a promiscuous heap of putrescence ten feet high, their white, staring, tongueless skulls mutely protesting against such barbaric desecration of the dead. My nerves are well tempered, but I confess this sight filled me with uncontrollable disgust and repugnance. Such a constant source of disease germination and dissemination within a mile of the city, of course, must contribute greatly to its unhealthfulness. Will the new health authorities dare interfere with this right of the church? I think not.

The city affords two small, poorly constructed hospitals, so thoroughly had in every way as to merit only a sweeping condemnation.

Upon the incorporation of the Panama Canal Company by M. de Lesseps, his particular friend, Dr. Louis Campayo, was called upon to draft a plan for the organization of a general sanitary service in connection with it, to which he responded by a most elaborate projection. Dr. Campayo is a man of undoubted ability and learning, who is at the same time gifted with a happy fluency in the expression of his knowledge; the cosmical advantages he has enjoyed for so many years, especially his former relations with the Suez Canal, peculiarly capacitate him for such an undertaking, but few men are endowed with universal capacity, and the weak point of this chief of the medical service would appear to be a want of executive ability. After having so admirably drafted his sanitary project he seems quite unable to execute it. A year has already passed since work was first begun upon the canal, and yet scarcely a trace of all the magnificent sanitary provision is to be seen. A small provisional hospital of from eighty to a hundred beds is the nucleus around which, presumably, the beautiful system is to be developed. This temporary hospital has a medical staff of seven; and, taking it all in all, cannot be commended for either appointments or service.

Of the inspection divisions and medical districts proposed along the line of the canal, the only visible evidence is a single medical officer, whose duty it is to wander through the unbroken swamps from one excavation to another, gathering the disabled and sending them to the provisional hospital.

Several miles from Panama, on the southeastern side of Mount Ancon, near its base, the permanent hospital of the Canal Company is under construction. *On dit* that Dr. Campayo insisted upon having the building four stories, notwithstanding the latitude and climate, but finally compromised upon three. Little more than the foundation of this hospital has been completed, and no movement has been made toward laying out the grounds, but if the general plan is carried out, the place will certainly be very beautiful and

attractive. One would think that if the pavilion ward is adaptable anywhere, it surely is in the tropics; the director, however, appears to have given it no consideration, and no one on the staff had the temerity to suggest its trial.

This *chef* is a very opinionated and dogmatic man, who thinks that his doxy is orthodox and every one's else doxy heterodox. These personalities are well illustrated by his utter condemnation of quinine as an antiperiodic, and declaration that the clinical thermometer is not only useless, but perniciously misleading in disease.

It was quite impossible to gain access to the records of this service, and truly can I say that never before have I seen a closer corporation. One thing seems pretty evident, however, and that is, that the reports as published so far are garbled and incorrect. It will be remembered that in the report of the president of the American branch of the Canal Company, made several months since, it was announced that a most satisfactory state of health existed among the employees, only twenty-seven deaths having taken place up to that time. I called the attention of the leading physician in Panama to this statement, and he most confidently assured me that it was entirely false, and furthermore, he was in possession of evidence showing clearly that during the eleven months the canal had been under construction, sixty-five officers and eight hundred men had died. I should be loath to reflect in the least upon the verity of this gentleman's assertion, but feel in justice bound to say that it cannot be accepted as conclusive till the statistics are produced. While visiting the foreign cemetery I saw the graves of many of the company's officials, and noticed at the end of a long row an open one covered with canvas. This, the keeper informed me with a grim smile, was for the next dead official, as the company had ordered a grave to be ever in readiness.

From the most authentic sources it is estimated that 10,000 lives were sacrificed in the construction of the Suez Canal, and, *ceteris paribus*, the Panama undertaking should necessitate the expenditure of double that number. So far, foreign and native laborers seem to have suffered alike, though there can be no doubt that the native can stand work in his own swamps better than unacclimated strangers. Next to the Isthmians the Jamaica negroes wear best, and large numbers are being brought over under contract. These two races will build the canal, if M. de Lesseps can raise the money to pay them.

Very truly yours,

ARTHUR C. HEFFENGER.

*Passed Assistant Surgeon U. S. Navy.*

March, 1882.

#### "LOBULAR PLEURO-PNEUMONIA."

MR. EDITOR, — Not having had the pleasure of listening to Dr. Garland's report of his cases of lobular pleuro-pneumonia, and the subsequent discussion, given in the JOURNAL of April 6th, page 319, I should like to call attention to what Trousseau says of what he very justly calls "the crepitant r le of pleurisy," which may be often detected both at the beginning and termination of this disease. He compares an inflammation of the pleura to an erysipelas of the skin, and explains the occurrence of the crepitant r le by the existence of a superficial pulmonary oedema, just as a subcutaneous

oedema accompanies an erysipelas of the surface of the body. The location of the physical signs as described in Dr. Garland's cases is by no means a rare one in cases of pleurisy, and if Trousseau's explanation be correct, an expert in percussion might easily demonstrate the existence of dullness, which would then be due to a superficial pulmonary oedema. I have seen a considerable number of cases both among out-patients at the Massachusetts General Hospital and in private practice, in which a crepitant r le has been present in the location referred to, sometimes on the right side and sometimes on the left. I confess that I have not been able to detect dullness in these cases where the signs have been confined to the region described by Dr. Garland. Perhaps if my tactus were a more erudite one, I might have been able to do so. Later on, however, there has been no difficulty about demonstrating dullness and even flatness both front and back in a certain number of them. In others the crepitant r les (sometimes accompanied by the classical friction sounds) have been present for days or weeks, and have finally disappeared, leaving the patient apparently none the worse. The fact that the r les in some cases extend round to the back need not imply that an effusion will take place. In some of Dr. Garland's cases an effusion occurred, others speedily cleared up, and in still another a bad cough and grave symptoms followed, as is sometimes the case after pleurisy, whether from injury to the lung by pressure, or from an exudation of lymph being followed by an inflammation creeping inwards to the pulmonary tissue — a thing which may occur in adults as well (if not as frequently) as in children.

Yours truly,

F. GORDON MORRILL.

Boston, April 10, 1882.

#### CHIN ON PUBES AFTER VERSION; DECAPITATION; FORCEPS.

MR. EDITOR, — In the Proceedings of the Obstetrical Society of Boston, reported in the JOURNAL, March 2, 1882, Dr. Forster narrates a case of retained head after version, where the chin was resting on the pubes, and where craniotomy was performed to effect delivery.

In a labor case I attended ten years ago, many miles from my home, in Minnesota, a midwife had failed to deliver. I found a woman in her eighth labor at term, with the largest vagina I have ever seen, — abnormally large — possibly already much distended by the midwife's hand; a dead child lying in a heap in the uterus, approximating a vertex presentation; the placenta blanched and loose in the womb; and no hemorrhage. Having anesthetized the woman I attempted in vain to deliver by forceps, though probably, in spite of all difficulties, my inexperience or unskillfulness was chiefly to blame. I cannot remember at this remote date the dimensions of the superior strait (and my notes of the case are stored in a distant State), though it was certainly not greatly contracted, nor yet roomy in keeping with the vagina. A house full of children vouched fairly for successful deliveries in the past.

I then turned the child by the regular rules, and nothing was easier with such a voluminous passage, but the occiput and chin rode on the pelvic margin. I again tried forceps without success, for now the head could not be flexed. Instruments for craniotomy were not

available. The shoulders were outside, and the base of the neck just accessible at the vulva.

With a bistoury I cut through the soft tissues of the neck, carefully guarding the vulva, and with a stout pocket-knife severed the spinal column. Then it was easy to push up and tilt the head until the occiput presented, when I applied the forceps, and placing one finger on the ragged vertebra to protect the vaginal wall, I readily withdrew the child. At the midwife's request I stitched the head to the trunk before leaving.

The woman made a good recovery. During the operation my only assistant, besides the midwife, was an amiable railroad contractor whose grading passed through this patient's farm.

FRANCIS H. ATKINS, S. B., M. D.

A. A. Surgeon, U. S. Army.

FORT STANTON, NEW MEXICO.

### THE McLEAN ASYLUM.

We are glad to quote from the last report of Dr. Cowles the following account of the improvements going on at the McLean Asylum for the Insane at Somerville:—

The work of renovation and repairs, for the purpose of putting all parts of the Asylum in a thoroughly comfortable condition, has been diligently carried on during the past year, notwithstanding the purpose of building a new asylum elsewhere in the near future. Not only this, but, as the work proceeds, all practicable alterations of construction, with the introduction of modern improvements for increasing the comfort and attractiveness of the wards, are being made. For example, one of the oldest of the women's wards in the Asylum, being a long and rather dark hall, with a window at one end and rooms on either side, has been changed in its whole aspect, and made cheerful and pleasant by the use of bright colors in its decoration, by plants and birds, and by an alcove in place of one of the rooms on the sunny side of the house. A window as wide as the alcove, and extending from floor to ceiling, has panes of ordinary glass 17x29 inches in dimensions, and is so arranged as to be opened both at top and bottom twenty-nine inches. These open spaces are covered by outside screens of fine wire gauze, such as is customarily used in the windows of private houses in the summer season. Some windows in other wards and rooms have, during the past two years, been protected in the same way, in place of the iron guards, which have been removed. The objection to the common plan in foreign asylums, of limiting the opening of windows to five or six inches, which is inadmissible during the hot summer months in this climate, is thus overcome.

The dining-room of the reconstructed ward above described has been decorated in bright colors, and the iron guards removed from the windows, which have been fitted with large panes of glass, together with some small colored ones, giving a pleasing effect. A similar change is being made in the chambers of the ward as to the removal of guards and use of large glass in the windows, which are here provided with concealed shutters, for use in cases requiring them, but so constructed that the windows may be left fully open, and the fresh air may freely enter the rooms during the night in hot weather.

Similar alterations, introducing alcoves, changing

windows, etc., are in progress in other wards, to the effect of letting in more sunlight and fresh air, and greatly increasing the cheerfulness and comfort of the house.

Some progress has been made in the direction of enlarging the freedom of patients. A door leading from the five principal wards for men has been fitted with an ordinary handle, and remains unlocked nearly all day, permitting free egress of the occupants of those wards to the large garden, which is not a secure inclosure. Two persons only have taken advantage of this opportunity to escape, and one of these returned voluntarily in a few days.

Since early in the year, the door of the Appleton ward for gentlemen has been left unlocked during the day. This building stands upon the open grounds of the Asylum; and, though its door is unlocked and some of its windows are without guards, no trouble has arisen in consequence.

Wardmaids are now employed, after the manner of the training schools for nurses in general hospitals, in all the female wards of the house. As a consequence, the attendants, being relieved of a good deal of their former work, have more time to devote to the patients, and are made more strictly nurses and companions of the sick.

In the male wards also, some important results have been gained. On a few occasions heretofore, the wife of a supervisor has been allowed to reside here, and has had some special duty given her. A few years ago a nurse was placed in one of the wards, where she had the care of the dining-room and some association with the patients, and the results gave some favorable indications. During the past year, the plan of employing female nurses in the men's wards has been successfully developed and its possibilities established. There are now four women employed in the male wards whose duties require their presence there at all times of the day and evening. From the experience gained here in associating nurses with insane men, I am able to say that there is no reason why this cannot be done with great benefit in all our wards, excepting one for some special cases.

The introduction of medical internes, a year and a half ago, has proved a very satisfactory and valuable addition to the medical staff. Two such officers act as clinical clerks, make daily visits to the wards, and do other clinical work, such as is required in general hospitals.

### TRAINING VERSUS "EDUCATION."

It is hopeless to expect, remarks the *Lancet*, February 25th, that the mental and physical disadvantages accruing to our modern system of "education" will be sensibly reduced until it begins to be recognized that education should consist in the development of the faculties rather than the mere acquisition of knowledge. It may appear a paradox, but it is a simple and plain statement of fact, that a man may be well educated, and yet know little or nothing. The best intellectual organism is not that which has been most heavily charged with information, but that which possesses in the highest degree the faculty or power of finding facts at pleasure, and using them logically and with prompt ability. A ready wit, in the true sense of the term, is incomparably better than a loaded brain. Attention is frequently drawn to this matter in our columns, and

the lay press does us the honor to quote and amplify our remarks on the subject, but little, if anything, is gained by the ventilation of the idea, because it is opposed to the spirit and feeling of the day. So much the worse for the prevailing sentiment on the subject. Our appeal must now lie to parents and teachers. Miserable cases of mental collapse are constantly falling under notice in which the process of cramming has produced a blighting effect on the brains of the young.

Their physical health has been sacrificed in the attempt to make them prodigies of learning. It would be more reasonable to remember that the brain is not only as much part of the body as is the muscular system, but the organ of the mind is so intimately connected with the centres of vitality, that unless the whole body be fully nourished the brain must quickly lose its strength, and the mind power itself be exhausted in the loss of general health.

## REPORTED MORTALITY FOR THE WEEK ENDING APRIL 8, 1882.

| Cities.                          | Population by Census of 1880. | Reported Deaths in each. | Deaths under Five Years. | Percentage of Deaths from         |                |                       |                |            |
|----------------------------------|-------------------------------|--------------------------|--------------------------|-----------------------------------|----------------|-----------------------|----------------|------------|
|                                  |                               |                          |                          | The Principal "Zymotic" Diseases. | Lung Diseases. | Diphtheria and Croup. | Scarlet Fever. | Small-Pox. |
| New York.....                    | 1,206,590                     | 762                      | 323                      | 28.87                             | 15.88          | 8.39                  | 8.52           | 1.05       |
| Philadelphia.....                | 846,984                       | 426                      | 142                      | 15.94                             | 12.66          | 5.06                  | 1.17           | 2.58       |
| Brooklyn.....                    | 566,689                       | 277                      | 119                      | 23.10                             | 12.27          | 6.14                  | 11.19          | —          |
| Chicago.....                     | 503,304                       | 233                      | 109                      | 28.75                             | 18.87          | 7.72                  | 2.14           | 5.57       |
| Boston.....                      | 362,535                       | 186                      | 62                       | 13.44                             | 16.66          | 6.45                  | 1.07           | .53        |
| St. Louis.....                   | 350,522                       | 142                      | 59                       | 31.69                             | 10.57          | 6.34                  | 9.15           | —          |
| Baltimore.....                   | 332,190                       | 150                      | 50                       | 19.99                             | 7.99           | 8.66                  | 3.99           | .66        |
| Cincinnati.....                  | 255,708                       | 170                      | 58                       | 39.41                             | 12.94          | 1.76                  | 1.18           | 29.41      |
| New Orleans.....                 | 216,140                       | —                        | —                        | —                                 | —              | —                     | —              | —          |
| District of Columbia.....        | 177,638                       | 70                       | 23                       | 4.29                              | 18.57          | 4.29                  | —              | —          |
| Cleveland.....                   | 160,140                       | —                        | —                        | —                                 | —              | —                     | —              | —          |
| Pittsburgh.....                  | 156,381                       | 78                       | 34                       | 27.10                             | 15.38          | 1.28                  | 1.28           | 14.10      |
| Buffalo.....                     | 155,137                       | 70                       | 30                       | 40.00                             | 18.57          | 5.71                  | 11.42          | —          |
| Milwaukee.....                   | 115,578                       | 50                       | 33                       | 16.00                             | 8.00           | 6.00                  | 6.00           | —          |
| Providence.....                  | 104,857                       | 21                       | —                        | 28.57                             | 42.85          | 4.76                  | —              | —          |
| New Haven.....                   | 62,882                        | 36                       | 7                        | 5.55                              | 16.66          | —                     | —              | —          |
| Charleston.....                  | 49,999                        | 32                       | 14                       | 12.50                             | 6.25           | 3.12                  | —              | —          |
| Nashville.....                   | 43,461                        | 21                       | 7                        | 9.52                              | 9.52           | —                     | —              | —          |
| Lowell.....                      | 59,485                        | 30                       | 4                        | 16.66                             | 16.66          | 6.66                  | 3.33           | —          |
| Worcester.....                   | 58,295                        | 21                       | 4                        | 4.76                              | 23.81          | —                     | —              | —          |
| Cambridge.....                   | 52,740                        | 22                       | 8                        | 9.09                              | 22.72          | —                     | —              | —          |
| Fall River.....                  | 49,006                        | 15                       | 5                        | 13.33                             | 26.66          | 6.66                  | —              | —          |
| Lawrence.....                    | 39,178                        | 8                        | 3                        | 50.00                             | —              | 25.00                 | —              | —          |
| Lynn.....                        | 38,284                        | 20                       | 4                        | 5.00                              | 15.00          | —                     | 5.00           | —          |
| Springfield.....                 | 35,540                        | 13                       | 4                        | 7.69                              | 23.08          | —                     | 7.69           | —          |
| Salem.....                       | 27,598                        | 7                        | 3                        | 14.28                             | —              | —                     | —              | —          |
| New Bedford.....                 | 26,875                        | 13                       | 5                        | 7.69                              | —              | —                     | —              | —          |
| Somerville.....                  | 24,985                        | 15                       | 4                        | 46.66                             | 13.33          | 39.99                 | —              | —          |
| Holyoke.....                     | 21,851                        | 13                       | 7                        | 23.08                             | 15.38          | 7.69                  | —              | —          |
| Chelsea.....                     | 21,785                        | 10                       | 3                        | 10.00                             | 10.10          | 10.00                 | —              | —          |
| Taunton.....                     | 21,213                        | 10                       | 4                        | —                                 | —              | —                     | —              | —          |
| Gloucester.....                  | 19,329                        | 5                        | 1                        | 20.00                             | —              | —                     | —              | —          |
| Haverhill.....                   | 18,475                        | 5                        | 3                        | 40.00                             | 40.00          | —                     | —              | —          |
| Newton.....                      | 16,995                        | 4                        | 1                        | 25.00                             | 75.00          | —                     | —              | —          |
| Brocton.....                     | 13,608                        | 10                       | 2                        | —                                 | 30.00          | —                     | —              | —          |
| Newburyport.....                 | 13,537                        | 5                        | 2                        | —                                 | —              | —                     | —              | —          |
| Fitchburg.....                   | 12,405                        | 8                        | 2                        | —                                 | —              | —                     | —              | —          |
| Malden.....                      | 12,017                        | —                        | —                        | —                                 | —              | —                     | —              | —          |
| Fifteen Massachusetts towns..... | 119,329                       | 37                       | 6                        | 8.11                              | 8.11           | 2.70                  | —              | —          |

Deaths reported 2995 (no report from New Orleans): 1145 under five years of age; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and fevers) 707, consumption 417, lung diseases 436, diphtheria and croup 185, scarlet fever 147, small-pox 95, measles 62, typhoid fever 55, diarrheal diseases 38, whooping-cough 35, cerebro-spinal meningitis 27, malarial fevers 27, puerperal fever 15, erysipelas 14, typhus fever seven. From *measles*, New York 29, Chicago 11, Philadelphia eight, Brooklyn seven, Cincinnati and Pittsburgh two each, St. Louis, Baltimore, and Milwaukee one each. From *typhoid fever*, Philadelphia 16, Cincinnati six, Chicago and St. Louis five each, Baltimore, Pittsburgh, and Buffalo three each, New York, Brooklyn, Boston, Milwaukee, Providence, New Haven, Charleston, Nashville, Lowell, Worcester, Lawrence, Springfield, Somerville, and Milford one each. From *diarrheal diseases*, New York 10, St. Louis nine, Chicago five, Baltimore four, Brooklyn, Boston, Cincinnati, and Holyoke two each, Buffalo, and Charleston one each. From *whooping-cough*, New York 13, Brooklyn four, Chicago three, Philadelphia, Boston, St. Louis, Pittsburgh, and Haverhill two each, Buffalo, Providence, Lowell, Cambridge, and

Lawrence one each. From *cerebro-spinal meningitis*, Buffalo eight, New York five, Chicago three, Philadelphia, Boston, Cincinnati, Pittsburgh, Providence, New Haven, Nashville, Fall River, Salem, Gloucester, and Waltham one each. From *malarial fevers*, New York 12, Brooklyn eight, St. Louis four, Chicago two, and Buffalo one. From *puerperal fever*, Brooklyn three, New York, Boston, St. Louis, and Buffalo two each, Chicago, Baltimore, Milwaukee, and Newton one each. From *erysipelas*, New York five, Philadelphia three, Boston two, Brooklyn, Chicago, Cincinnati, and Providence one each. From *typhus fever*, New York six, Baltimore one.

One hundred and thirty-five cases of small-pox were reported in Cincinnati, Pittsburgh 17, Baltimore 14, St. Louis 13, Brooklyn, Boston, and Buffalo each two, Milwaukee one; diphtheria 32 cases, typhoid fever seven, scarlet fever six, in Boston; scarlet fever 12, and diphtheria four, in Milwaukee.

In 35 cities and towns of Massachusetts, with a population of 1,040,848 (population of the State 1,783,086), the total death-rate for the week was 22.83 against 21.80 and 21.50 for the previous two weeks.

For the week ending March 18th, in 173 German cities and

towns, with an estimated population of 8,344,329, the death-rate was 27.4. Deaths reported 4393: under five 2146; pulmonary consumption 656, acute diseases of the respiratory organs 511, diphtheria and croup 241, scarlet fever 101, whooping-cough 61, typhoid fever 49, measles and r  theln 38, puerperal fever 23, small-pox (Dortmund, Essen eight) nine, typhus fever (Danzig, Posen) two. The death-rates ranged from 14.6 in Stettin to 42.9 in Angsburg; K  nigsberg 29.1; Breslau 37.8; Munich 41.9; Dresden 25.9; Berlin 26.2; Leipzig 27.3; Hamburg 27.2; Hanover 20; Bremen 19; Cologne 26.2; Frankfurt 28.5; Strasburg 30.7.

In the 28 English towns, with an estimated population of 8,457,514, for the week ending March 25th, the death-rate was 23.7. Deaths reported 3842: acute diseases of the respiratory

organs (London) 427, whooping-cough 251, measles 162, fever 65, scarlet fever 64, diarrh  a 52, diphtheria, 24, small-pox (London 13) 14. The death-rates ranged from 16.2 in Cardiff to 30.2 in Manchester; Leeds 19.3; Bristol 19.6; Liverpool 22.4; London 24.5; Sheffield 25.3.

For the week ending March 25th in the Swiss towns, population 479,934, there were 49 deaths from acute diseases of the respiratory organs, pulmonary consumption 47, diarrh  al diseases 18, diphtheria and croup 15, scarlet fever six, whooping-cough five, typhoid fever three, puerperal fever two. The death-rates were, Geneva 29.3; Zurich 34.3; Basle 27.7; Berne 32.2.

The meteorological record for the week ending April 8th, in Boston, was as follows, according to observations furnished by Sergt. O. B. Cole, of the U. S. Signal Corps:—

| Date.            | Barom-eter. | Thermom-eter. |       |          |          | Relative Humidity. |            |             |       | Direction of Wind. |            |             | Velocity of Wind. |            |             | State of Weather. <sup>1</sup> |            |             | Rainfall.             |                   |
|------------------|-------------|---------------|-------|----------|----------|--------------------|------------|-------------|-------|--------------------|------------|-------------|-------------------|------------|-------------|--------------------------------|------------|-------------|-----------------------|-------------------|
|                  |             | Mean.         | Mean. | Maximum. | Minimum. | 7.23 A. M.         | 3.23 P. M. | 11.23 P. M. | Mean. | 7.23 A. M.         | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.        | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.                     | 3.23 P. M. | 11.23 P. M. | Duration, Hrs. & Min. | Amount in inches. |
| April, 1882.     |             |               |       |          |          |                    |            |             |       |                    |            |             |                   |            |             |                                |            |             |                       |                   |
| Sun., 2          | 29.931      | 49            | 68    | 37       | 93       | 44                 | 66         | 68          | SW    | W                  | NW         | 9           | 25                | 11         | O           | F                              | C          | —           | —                     |                   |
| Mon., 3          | 30.519      | 33            | 39    | 30       | 68       | 48                 | 73         | 63          | NE    | SE                 | S          | 4           | 11                | 6          | O           | C                              | C          | —           | —                     |                   |
| Tues., 4         | 30.118      | 49            | 61    | 28       | 61       | 49                 | 90         | 67          | SW    | SW                 | SW         | 13          | 20                | 8          | F           | O                              | R          | —           | —                     |                   |
| Wed., 5          | 30.394      | 37            | 53    | 33       | 54       | 51                 | 60         | 55          | NE    | E                  | SE         | 16          | 12                | 3          | O           | F                              | C          | —           | —                     |                   |
| Thurs., 6        | 30.518      | 35            | 41    | 29       | 61       | 60                 | 71         | 64          | NE    | E                  | SE         | 9           | 19                | 9          | C           | O                              | O          | —           | —                     |                   |
| Fri., 7          | 30.045      | 38            | 49    | 32       | 82       | 83                 | 100        | 90          | SE    | W                  | W          | 8           | 5                 | 8          | O           | O                              | G          | —           | —                     |                   |
| Sat., 8          | 30.104      | 43            | 59    | 37       | 68       | 60                 | 82         | 70          | NW    | E                  | SW         | 10          | 11                | 3          | C           | C                              | C          | —           | —                     |                   |
| Means, the week. | 30.233      | 41            | 68    | 28       |          |                    |            | 68          |       |                    |            |             |                   |            |             |                                |            | 11.35       | .11                   |                   |

<sup>1</sup> O, cloudy; C, clear; F, fair; G, fog; H, hazy; S, snow; R, rain; T, threatening; X, clearing.

## UNUSUAL RESULTS OF VACCINATION.

PH  NIX, MICH., April 5, 1882.

MR. EDITOR.—In your issue of March 23, 1882, there are detailed several cases of unusual results of vaccination. I here-with give you a much larger number of similar cases. Since January 1st I have performed over 800 successful cases of primary vaccination, using nothing but bovine virus; among that number there have been 68 cases with an eruption of dusky red color, covering nearly the whole surface of the body. The eruption was slightly raised, somewhat resembling measles; in fact, my attention was called to it by the parents thinking that the children had the measles. A few small vesicles scattered among the patches of eruption only could be seen. The patients all complained of an intense itching. I also performed 13 successful primary vaccinations with humanized virus one remove from the heifer, and among that number three had the above eruption. Among over 200 successful revaccinations I have not seen any eruption.

The eruption in the above cases passed away in a few days, leaving a brownish tinge of the skin where it had been, which also disappeared in a few days more. My brother practitioners in this neighborhood have had similar experiences this winter.

Yours truly, A. I. LAWRENCE, M. D.

## OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM APRIL 8, 1882, TO APRIL 14, 1882.

GREENLEAF, CHARLES R., major and surgeon. Relieved from duty in Department of Dakota, to proceed to New York city, and on arrival report by letter to the Surgeon-General. S. O. 78, A. G. O., April 5, 1882.

WOODHULL, A. A., major and surgeon. Now awaiting orders; to report in person to the commanding officer of the recruiting depot, David's Island, N. Y. H., for duty at that post. S. O. 78, C. S., A. G. O.

WILLIAMS, JOHN W., major and surgeon. Relieved from duty in Department of the Missouri, to proceed to Washington, D. C., and report to the Surgeon-General. S. O. 78, C. S., A. G. O.

WATLES, W. E., major and surgeon. Relieved from duty in Department of Texas, to proceed to Washington, D. C., and report to the Surgeon-General. S. O. 78, C. S., A. G. O.

JAQUETT, G. P., major and surgeon. Relieved from duty at David's Island, N. Y. H., to proceed to his home and report by letter to the Surgeon-General. S. O. 78, C. S., A. G. O.

BROWN, J. M., major and surgeon. Relieved from duty in Department of the Missouri, to proceed to Cincinnati, Ohio, and on arrival report by letter to the Surgeon-General. S. O. 78, C. S., A. G. O.

CLEARY, P. J. A., captain and assistant surgeon. Relieved from duty in Department of the East, and, on expiration of his present sick leave of absence, to report by letter to the Surgeon-General. S. O. 78, C. S., A. G. O.

CROSKILITE, H. M., captain and assistant surgeon. Granted leave of absence for four months from June 1, 1882. S. O. 80, C. S., A. G. O.

CARVALLO, CARLOS, captain and assistant surgeon. The extension of his leave of absence on surgeon's certificate of disability granted him in S. O. 256, November 12, 1881, from A. G. O., is still further extended six months on account of sickness. S. O. 80, A. G. O., April 7, 1882.

BYRNE, CHARLES B., captain and assistant surgeon (Fort Barrancas, Fla.). Assigned to temporary duty at Mt. Vernon Barracks, Ala., during absence of Assistant Surgeon Cunningham. S. O. 41, Department of the South, April 12, 1882.

FINLEY, captain and assistant surgeon. Having reported at these headquarters, is assigned to duty at Fort Concho, Texas. S. O. 35, Department of Texas, April 8, 1882.

MOSLEY, E. B., captain and assistant surgeon. Relieved from duty in Department of the Platte, to proceed to New York city, and, on arrival, report by letter to the Surgeon-General. S. O. 78, C. S., A. G. O.

MAUS, L. M., captain and assistant surgeon. Relieved from duty at David's Island, N. Y. H., and to report in person to the commanding general, Department of the Missouri, for assignment to duty. S. O. 78, C. S., A. G. O.

KILBOURNE, H. S., captain and assistant surgeon. Relieved from duty in Department of the East, and to report in person to the commanding general, Department of Dakota, for assignment to duty. S. O. 78, C. S., A. G. O.

TAYLOR, M. E., captain and assistant surgeon. Relieved from duty in Department of the Missouri, to proceed to St. Louis, Mo., and, on arrival, report by letter to the Surgeon-General. S. O. 78, C. S., A. G. O.

SPENCER, WM. G., captain and assistant surgeon. Granted leave of absence for four months, with permission to apply for an extension of two months. S. O. 80, C. S., A. G. O.

## Original Articles.

## A CLINICAL CONTRIBUTION TO THE DIAGNOSIS OF POTTS' DISEASE OF THE SPINE BEFORE THE STAGE OF DEFORMITY.

BY V. P. GIBNEY, M. D.,

*Of the Hospital for the Ruptured and Crippled, New York.*

THIS paper is a supplement to one published in the *JOURNAL* March 9, 1882, and is intended to illustrate many of the points upon which I dwell in that communication. The illustrations will of course be clinical, and I have had considerable difficulty in selecting from the rich storehouse of recorded material our hospital affords such cases as will meet the requirements of a practical article.

In recording errors of my own making, as well as those my confrères have made, I but emphasize the value of diagnosis much more forcibly than if I recorded case after case wherein our skill had enabled us in every instance to arrive at a correct diagnosis. In medicine, as in the sporting field, there are very few men who can hit the mark every time. Long and constant practice does not make perfect, in the true sense of the term, but simply approximates perfection. I do not believe that there is any man, be his speciality what it may, who does not meet with cases and examine them over and over again, only to confess his ignorance as to the lesion. Such cases make the science of medicine attractive. They stimulate study. The two following have been to me extremely interesting, and because a solution has not been reached in my own mind I hesitated to publish them, yet they so well illustrate the remarks I have just made, that I decide to submit them as "a study."

CASE I. FIRST DIAGNOSIS, A STRAIN; FIVE MONTHS LATER, A SUBACUTE DORSO-LUMBAR MENINGITIS, OR NEUROSIS OF THE HIP; TWO YEARS LATER, IDIOPATHIC ILIAC ABSCESS; A MONTH LATER, LUMBAR CARIES WITH PSOAS ABSCESS; AT PRESENT WRITING "(?)"

Grace H., aged eight, came under observation in the out-door department of the hospital October 7, 1879. She was disinclined to bend the dorso-lumbar spine either in stooping or walking, and referred what pain she had to this region. There was no angular deformity of the spinal column, and, indeed, no exaggeration in any of the normal curves. She had no abdominal pain, and none in the distribution of the lumbosacral nerves. Her rest at night was broken by the pains above mentioned. Three weeks ago, while sound in health and limb, she fell backward from a chair, and the mother could not find any bruise. Pain was felt in the spine, yet she continued at school for a week. It was considered a mere spinal strain, but as a precaution we applied a brace.

October 27th. Is doing well; there is no deformity; she walks naturally, yet does not want to leave off the apparatus.

January 10, 1880. No sign or symptom of disease, and the brace is removed tentatively for two weeks.

January 24th. Since last visit the pain and stiffness have returned, and yesterday she lay down all day. There is no kyphosis and no tenderness, but the brace is reapplied.

February 2d. Comes this morning with slight limp, left side, and refers pain to her hip while she has no

pain at the knee. Blister ordered to dorso-lumbar spine.

February 21st. Entirely relieved; no pain, no lameness, no spinal stiffness.

May 2d. Nothing whatever save an occasional lumbar pain and a scalding sensation on micturition. An alkaline diuretic ordered.

February 4, 1882. First visit since April 11, 1881, at which time she was considered cured. Comes now because she favors the left thigh in walking, and on examination there is found marked tumefaction in left iliac fossa, but no other evidence of spinal caries. A liniment and roller ordered.

February 25th. Walks with heel squarely on the floor and she is relieved.

March 18th. There seems to be an unmistakable caries of last dorsal and first lumbar vertebrae, as concussion gives pain, and the tumor in iliac fossa is increasing. Yet there is no deformity of spine; a brace is ordered, and on the 25th is applied. Within a few days the signs have disappeared—all save the tumor—and this is smaller. What is the lesion?

CASE II. DIAGNOSIS FIRST VISIT, HIP-DISEASE (?); AT FIFTH VISIT, A MONTH AFTERWARDS, CARIES OF THE LUMBAR WITH PSOAS ABSCESS; NO SIGNS OF ANY DISEASE AT THE END OF A YEAR.

Cornelius K., aged three, was examined rather hastily in the out-door department, February 11, 1881. The hour was late, and all we learned was that the boy had been walking lame for three weeks, and had complained during that time of pain in his limb. The movements at the left hip could not be made with ease, and the diagnosis was recorded "left hip-disease (?)," and the mother was instructed to bring him again on the 14th, which she did, and it was further learned that he was stiff in the morning, but had had no pain night or day since her visit on the 11th. The hip movements were limited only in extension, and there seemed to be a little atrophy of the limb. A spica bandage was applied, and the patient was ordered to be brought on the 17th. Nothing further was elicited on that date, although he was submitted to a very careful examination. On the 23d nothing conclusive could be found, and on the 28th I felt pretty sure that I found a little deep-seated induration in the iliac fossa, but its existence could not be demonstrated, so exceedingly cross was the child. March 12th he walked like one with spinal disease, favoring too the left side; he stooped, however, quite naturally, and sitting, standing, or lying, no prominence or other deformity of the spine could be detected, except an almost inappreciable lordosis. There was no tenderness on concussion, and the lateral movements were good. The iliac tumor was now easily mapped out and was the size of a hen's egg. On the 26th there was no change, and the diagnosis was given as vertebral disease with psoas abscess, a spinal brace being applied. The patient was examined a week or two later with but confirmatory results, and then we lost sight of him until April 1, 1882, when the mother brought him to the office by request. The spinal brace had been removed six months ago, as she saw no further necessity for its use. There is now no sign of spinal caries, and no tumefaction of any kind can be found in the iliac fossa. He walks without any lameness, and the functions of the joint seem perfect. He is fat and hearty. The only thing which suggests itself now as the lesion from which he

suffered a year ago is idiopathic psoriasis terminating in resolution.

That one may see how insidiously a spinal caries may go through all its stages even, and be recognized only after a spontaneous cure has taken place, the following is presented.

CASE III. OLD DORSO-LUMBAR CARIES WITH PROJECTION OF ONE AND A QUARTER INCHES FROM THE VERTICAL AXIS; CICATRIX OF ABSCESS; COMES ON ACCOUNT OF A LATERAL CURVATURE WHICH IS COMPENSATORY; NEVER ANY TREATMENT, AND NEVER ANY DIAGNOSIS (?).

Katie O'C., aged seventeen, applied at the hospital August 23, 1879, for the relief of a lateral curvature of the spine which was most marked in the dorso-lumbar region and to the left, there being very little rotation of the bodies present. There is found an angular deformity in this region, the projection backwards being one and a quarter inches, and ankylosis seems to be well established. The remaining portion of the column is normal in function, she can stoop with ease, is in excellent health, and never has any pain. There is the cicatrix of an abscess in right loin. No one looking at her as she is dressed would ever suspect that there was any deformity. The history as given by the mother is, that two years ago or more there was observed a certain degree of stiffness as the girl would attempt to stoop, in fact she stooped without bending the back at all. There was very little pain, and the parents, regarding this as a "foolish habit" into which the daughter was falling, made her "bend the spine like anybody else." After a while an abscess appeared under the floating ribs on the right side, pursued the usual course, and finally healed. It is reported that the discharge of matter was very profuse, and that the patient had a little fever. The disease went as it came. We kept her under observation for awhile to satisfy ourselves that a cure had really taken place, and she then ceased reporting.

#### I. THE CERVICAL AND CERVICO-DORSAL VERTEBRÆ.

CASE IV. DIAGNOSIS OF CERVICAL POTTS' WITH AN "(?)" ; CURE IN SIXTEEN DAYS; DEVELOPMENT OF FURUNCULI AND CASE BECOMES CLEAR.

On the 4th of August, 1881, my friend, Dr. Holt, referred to me Martin F., aged four, from the children's department of the Bellevue Dispensary. The doctor, like myself, thought the boy should have the benefit of any doubts that might exist concerning vertebral disease, because he had had scarlatina about two months previously, and during convalescence began to complain of pain in the neck, and to carry the head in torticollis, which deformity had been increasing; because, furthermore, he had not rested well nights, and had complained of cervical and post-occipital pain if the head were moved. On my day record I noted, caries of the cervical vertebrae (?), although I could not detect any deformity in spinous processes or lateral masses unless I flexed the head forward toward sternum. I was further induced to believe in a probable caries because I knew that the exanthemata very often induce a cachexia which is peculiarly fertile for the development of bone diseases. A spinal brace with head-spring was ordered for the 16th, on which date the apparatus was applied, the boy having been kept at rest in the mean while. By the 20th his deformity had

disappeared, the functions of the head were normal, and there was a crop of furunculi in the post-cervical region. Fears were abandoned, the brace was removed, and the syrup of the iodide of iron, in ten-drop doses three times a day, ordered. The patient was seen on the 27th and on September 5th, the notes on which dates are unnecessary as the boy was doing well.

October 5th. Since the date of last note a large furuncle has formed and opened over the spinous processes, and the cicatrix remains. Discharged cured.

CASE V. CERVICAL CARIES NOT DISCOVERED UNTIL A POST-PHARYNGEAL ABSCESS GAVE ALARMING SYMPTOMS; DIPHTHERIA SUSPECTED AND TRACHEOTOMY SUGGESTED.

Joseph O'C., aged four years, was brought to the hospital March 30, 1878, by the mother, in great alarm. She brought also a letter from a medical friend of mine asking an opinion. When he had been first called to the child the distress was so great that he fancied he had a case of diphtheritic croup, and began to prepare for tracheotomy, but on closer examination the case appeared more like one of post-pharyngeal abscess, and he sent it forthwith to me for consultation. The little patient was breathing stertorously, had a high temperature, and had been in much distress for twenty-four hours. The head was held in slight rotary torticollis, and the mother told me that this deformity had existed for "some time." I had great difficulty in getting an examination of the pharynx. The left tonsil was much enlarged, and was covered with a whitish, glairy mucus, not unlike a diphtheritic membrane, but back of the tonsil I could see the outlines of a tumor. The spine was held stiffly, and there was a shade of fullness in the spinous processes. I sent the patient direct to the doctor's office with advice to incise the abscess, which he did that very morning, getting a large quantity of pus. The relief, he wrote me, was immediate, and on the 10th of April I applied a head-spring. The vertebral caries was soon fully established, and on October 19th I detected an abscess in the right cervical triangle, and opened it on December 30th. The further history is interesting but not pertinent. March 7, 1881, the case was discharged cured.

CASE VI. A CERVICAL NEUROSIS, PROBABLY MENINGEAL, FIRST DIAGNOSTICATED AS VERTEBRAL CARIES; PROMPT RELIEF, AND RETURN OF SYMPTOMS FIVE YEARS LATER; RELIEF AGAIN.

Joseph C., aged twelve, was brought to the out-door department August 21, 1881, and the following notes were made in the daily record: Torticollis quite marked; rotation of head to the left, the mental process of the inferior maxilla being three inches from the acromion process of the scapula. Passive movements are resisted, and are very painful; there is decided tenderness on pressure over the spinous processes of the cervical vertebra, but there is no deformity in this region. The family history is reported as good on both sides; there are eight children living, and all are in good health; two died in early infancy. The mother reports that he was under treatment at this institution four years ago, and on referring to the records we find that he was examined for the identical set of symptoms on the 25th of August, 1876, that a diagnosis of



cervical caries was made, that a brace and head-spring were applied on the 29th, that he reported on September 12th and October 3d of same year, and was not seen again. She states now that the apparatus was removed on the last date, and that the case was discharged cured. He continued without an untoward symptom until four days ago, August 20th, when he became drowsy, and next day came in with his head distorted, and complaining of pains in his neck and back. He also had headache and cramps in hands and legs, attended with marked numbness. He has been gradually growing worse. Caries is excluded on the present occasion, and the lesion is thought to be a meningeal hyperæmia. A fly-blister is ordered, and on the 31st it is recorded that he has obtained very little relief. The blister, however, was not applied where ordered, and another is to be applied. Admission to the hospital is also advised. September 10th is admitted, but an examination is not made until the evening of the 12th, when we have difficulty in recognizing any deformity. He executes all the movements of the head easily, and there is no spinal tenderness or deformity. In fact the patient is cured! He was retained in hospital until the 23d, during which interval not a sign of relapse could be seen. The diagnosis recorded on the 12th was: torticollis due to perispondylitis cervicalis rheumatica.

On reflection it seems now that his symptoms may be explained in one of two ways. There may have been a meningeal hyperæmia due to rheumatic influences or to malarial poisoning (the boy has always lived on Staten Island, where malaria is said to prevail in protean types); again, it may have been a lesion affecting the ligamentous structures about the foramina of exit for the cervical nerves, and the nature of the lesion may have been either rheumatic or malarial.

## II. THE DORSAL VERTEBRE.

### CASE VII. A NEUROSIS DIAGNOSTICATED AT FIRST; PROVED TO BE DORSAL CARIES A MONTH LATER; SPINAL TENDERNESS AND MALARIAL HISTORY.

Flora D., aged six, an anæmic child, came under observation in the out-door department February 14, 1881. She complained much of pain in the back, was at times stiff in her gait, and there was on this date very marked spinal tenderness in dorso-lumbar region and over sacrum. The joint movements were all free and painless, and there was no tenderness on concussion. A full history was not obtained, as the patient came in late. A diagnosis of spinal neurosis was made, and a blister ordered.

February 23d. No tenderness now on direct pressure, but if pressure be made on the head in the long axis of the body the girl complains of pain in the lumbar region. A tonic ordered, and patient to report in a week for further observation.

March 14th. Dr. Knight sees the case to-day, and diagnosticates incipient caries of the spine; a brace is accordingly ordered, and applied a few days later.

September 27th. There is an angular deformity at junction of mid and lower dorsal region, the height of which is three eighths of an inch. She complains of pain in the back, and the brace is out of repair, so a new one is ordered.

December 29th. There is a clear history of malarial poisoning; periodical headaches; chilly sensations,

etc., etc. (Patient lives in Greenpoint, Long Island.) Quinine, gr. vi. *per diem*, and to be increased.

February 23, 1882. The mother reports that the child was promptly relieved, and the medicine was shortly afterward discontinued.

March 13th. Periodic headaches again; quinine ordered, and relief soon afforded. The spinal deformity has not increased at present writing, and the disease seems arrested.

### CASE VIII. INTERCOSTAL NEURALGIA (?) WHICH PROVED TO BE SYMPTOMATIC OF AN UNRECOGNIZED VERTEBRAL CARIES.

Fred. C., aged thirty-two, applied June 22, 1881, near the end of the morning clinic, for relief of distressing pains, which he referred to the thoracic walls and hypogastrium. I made a hurried examination, finding a very tender dorsal spine, and tenderness over intercostal nerves. Fowler's solution and counter-irritation were ordered, and he was given explicit instructions to call in a few days for a more thorough examination. His first visit after the above date was on December 24, 1881, when he came walking into the office stooped over like an old man, and bearing the following note from my friend, Dr. Ripley: "Dear Doctor, You saw this man four months ago, *he says*. I should like your more mature opinion. Truly yours, J. H. R." It didn't require any mature opinion now for a diagnosis; the kyphosis spoke for itself. I learned from the man, though, that when he went home on the morning of June 24th his wife took charge of the case, and said he shouldn't take any "poison," and shouldn't have his back blistered, so he never came back for the examination I had requested; but when he began to suffer more, and to grow stooped, he went to his family physician, who sent him back to the hospital. His spinal tenderness on the first visit misled me, and this fact, taken in connection with the lack of time, prevented me from making an examination which would, without doubt, have led to a correct diagnosis. It is a noteworthy fact, however, that his pains have been in exacerbations, and that they usually follow exposure to wet and cold. He works in an engine room-house, and is much exposed to great changes of heat and cold, frequently getting his feet wet. I do not mean to intimate that the pains in joint disease do not, as a rule, come in exacerbations, but the above facts may help to account for tender points not only over the spine but along the dorsal nerves.

### CASE IX. SIMPLE ANTERO-POSTERIOR CURVATURE OF RACHITIC ORIGIN.

Jane H., aged twenty-two months, is but one of a large number of children brought to the hospital for spinal caries. This child is presented February 12, 1879. There is a marked exaggeration of the dorsal curve, and the child is unable, by reason of this malposition, to stand alone. The epiphyses of the long bones are enlarged, and the history is so clearly rachitic that we have no difficulty in making a diagnosis of rachitic kyphosis; besides, the curvature can be overcome by traction. A light steel brace is applied to overcome the deformity, and further treatment is constitutional. The progress was comparatively slow, and it was not until January 29, 1880, that all deformity had disappeared, and the child was walking freely. The apparatus was removed, and a careful examination failed to discover any signs of bone disease.

**CASE X. FIRST DIAGNOSIS, LATERAL CURVATURE FROM RACHITIS; ELEVEN MONTHS LATER SPINAL CARIES DETECTED.**

Jas. C., aged four, was admitted to hospital July 24, 1874. He had a bad family history, and his personal history was wretched. The child had a chronic blepharo-adenitis with pannus, and it was not long since he had had the measles, with slow convalescence. During this convalescence he began to walk unsteadily. He stands with body shifted, as it were, over to the side of the pelvis, his abdomen is tympanitic, and there is no angular prominence or exaggeration of normal curves. An apparatus was applied, and constitutional treatment was faithfully carried out. The blepharo-adenitis gave much annoyance, and his improvement was often interrupted, so that by June 27, 1875, we had nothing specially encouraging to report. His lateral curvature had been overcome, but now he was observed to stoop very stiffly and with great effort; there was marked lordosis and slight tenderness on concussion, the pain being referred to the dorso-lumbar region.

A diagnosis of vertebral caries was readily made, and a better-fitting brace applied. A mere "knuckle" finally appeared, and the correctness of the diagnosis was established beyond doubt.

### III. LUMBAR VERTEBRÆ.

**CASE XI. LUMBAR CARIES DIAGNOSTICATED AS HIP DISEASE.**

William W., aged five, seen in out-door department January 24, 1881, and examined by Dr. Geo. W. Ryan, of the house-staff. The doctor found a pre-natural immobility of the spinal column, and a slight fullness rather than lordosis in lumbar region. He did not find any tenderness on pressure or concussion, but made a diagnosis of lumbar caries, and ordered a brace.

February 18th. Within a few days the little patient has walked lame, favoring the right limb. An elastic tumor, nearly as large as a hen's egg, is discovered deep in the right iliac fossa, and the lameness easily explained.

March 4th. Was taken to Bellevue Hospital about ten days ago, and one of the senior members of the house-staff examined him with much care. The father reports that the doctor said the boy had no spinal disease, but had hip disease, and advised admission to hospital. Another member of the staff, who was present on that occasion, gave me the same report. On examination to-day we find the hip movements smooth, and resistance only in extension. The father will not keep the apparatus applied as directed.

The spinal prominence on January 5, 1882, was one-half inch, and the psoas abscess was quite conspicuous.

CASE XII. is very like the one just reported. I had made a diagnosis of caries and had applied a brace, — had also recognized a deep induration in iliac fossa. The boy walked lame, and the family physician, a man of much local prominence in a neighboring town, wrote me requesting that I examine closely for hip disease.

I did so at the doctor's request. The further development of the case abundantly sustained me in the diagnosis I had made.

**CASE XIII. THE EFFECTS OF TRAUMATISM; SYMPTOMS RELIEVED BY COUNTER-IRRITATION; EXAMINED THREE YEARS AFTER CURE AND NO RELAPSE HAD OCCURRED.**

Warren B., aged seven, came under observation January 4, 1877. He had fallen in September, 1876, striking his back against the edge of a stone and complained immediately of severe pain. After a few days the pain passed off, and he had no further trouble of any kind until the 9th ult., when, after a long walk, he experienced a marked weariness in his back, and this was followed by pain. On examination we found decided tenderness on pressure over the spinous processes, but none on concussion of the spine or on passive motion. His mother reports that when he was two years of age he had hip disease, and was cured by the weight and pulley in three months. No evidence about the hip can be discovered now of any such disease ever having existed. The diagnosis of the spinal lesion is caries of spine (?) incipient, and "probably not" was added. A fly blister was ordered, and at next visit a brace was applied by way of precaution. — March 14th. Not an untoward symptom since the first visit. — April 8th. Discharged cured.

April 24, 1880. Examined and found sound in body and limb. Has never had any signs of relapse.

### CASE XIV. PERINEPHRITIS.

Jno. Jos. C., aged four and a half, was admitted to hospital July 15, 1880. The maternal family history was phthisical. Five weeks ago the boy began to complain of his back, and to manifest a little stiffness on stooping. Two weeks ago he began to walk lame, and for the past five or six days the parents have observed a slight swelling in the right loin. He has been losing flesh. The spine is held rigidly as he walks, and he leans over toward the right side. There is no mobility in the spine as he attempts to stoop. Filling the right ilio-costal space and extending over the brim of the pelvis is an irregularly circumscribed swelling which gives deep fluctuation at one point, and is very tender to pressure. The thigh can be extended to nearly 180° without pain or resistance. It can be completely flexed, ab- and adducted, and rotated with very little effort. There is no induration in the iliac fossa, and the thighs are equal in size. A diagnosis of perinephritis is made, and August 5th the abscess is opened by incision. A tent was then inserted, and the boy was up next day. — August 16th. Sac pretty well collapsed, and the opening of the sinus has a pointing appearance so characteristic of bone disease. There was scarcely a trace of constitutional disturbance at any time, and on November 9th it is recorded that the sinus has closed. — November 19th. Functions of hip and spine normal, and the case is discharged cured.

In the former paper I had occasion to speak of an osteitis affecting the epiphyses of the long bones which often obscured Pott's disease in its incipency. In looking over our records for the past ten years, I find Pott's disease of the spine associated with disease of the joints more frequently than one would suppose; in fact, there are thirty-five cases distributed as follows: —

|   |    |
|---|----|
| Vertebral caries associated with hip disease            | 11 |
| Vertebral caries associated with knee disease           | 10 |
| Vertebral caries associated with ankle disease          | 10 |
| Vertebral caries associated with ankle and hip disease  | 1  |
| Vertebral caries associated with shoulder disease       | 1  |
| Vertebral caries associated with knee and ankle disease | 2  |

A single case of multiple arthritis will serve to illustrate the obstacles in the way of making a diagnosis.

CASE XV. CARIES OF THE ANKLE; SYMPTOMS OF SPINAL CARIES TWELVE MONTHS AFTER INVASION OF ANKLE DISEASE; MALARIAL COMPLICATIONS MASKING THE SYMPTOMS OF BONE DISEASE; SYNOVITIS OF BOTH KNEES NINE MONTHS LATER.

Harold S., aged three, came under treatment as an out-patient, December 3, 1879, with a history of lameness dating from the preceding April. The only one of the exanthemata he had had was pertussis, and this was in June, 1878. He is the third of five children, the eldest being a mute, and all are delicate. The father is reported to be rheumatic, and the grand-mother to have died of apoplexy. The maternal grand-mother and an aunt died of consumption. The mother herself is aught but healthy. The patient lives in Jersey City. The infiltration about the ankle was well marked, and the joint movements were limited to very small arcs. He was put on the iodine treatment internally and externally, and a moderate amount of rest was enjoined. February 18, 1880, for symptoms of malarial poisoning, quinine was ordered, and he was soon relieved. He attended very irregularly during the next six months, in fact he was examined April 6th, and not again until August 10th, when there were some signs of spinal caries; that is, he had pain at the epigastrium and a stiffness of the spinal column, but there was marked spinal tenderness. He had also a ravenous appetite. A blister was ordered to the spine, and on the 17th the only symptom that had disappeared was the spinal tenderness. His mother brought a specimen of his urine on the 30th. It was dark colored, alkaline in reaction, non-albuminous, but contained about twenty per cent. of blood. The microscopic field was full of blood corpuscles. He suffers now from a tertian type of fever, and was treated last spring for malarial fever. Next day we found on examination a moderate amount of splenic enlargement. The urine was examined two or three times, and the blood diminished in quantity as the febrile symptoms subsided. — September 8th. No pain, no stiffness, contour of spine normal.

We submitted him to a very thorough examination on the 19th of October with negative results.

December 28th. Epigastric pain has returned recently, and the boy is walking with spine stiff again. Four days ago the mother observed a little fullness of the spine between the scapulae, and now there is a distinct angular prominence measuring one quarter of an inch in height. A brace is applied forthwith.

January 19th. Acute synovitis of left knee with considerable fluid in the joint and the leg is held in semi-flexion. The circumference is only three quarters of an inch greater than that of its fellow. There is no extra heat, and very little tenderness; motion is easily made, and the distention of the synovial sac is demonstrated when the leg is acutely flexed. He complains a little of pain in the right knee. The left is enveloped in cotton wool, and the joint is put at rest in an apparatus. 25th. Marked distention of synovial sac of right knee. 27th. Admitted to the hospital, placed in a rolling chair, knees put up in straight splints, and the effusion disappeared within a month. The functions of the joints were unimpaired, and the synovitis has not recurred. He is still under observation for the spinal caries, recovery from the knee and ankle diseases having long since been well established.

## THE STUDY OF ANATOMY IN THE LEIPZIG UNIVERSITY.

BY GEORGE L. WALTON, M. D.

One of the advantages of German medical education is the thoroughness of the preliminary training. Two years at least are spent in the study of anatomy, human and comparative, physiology, physics, and botany, at the end of which period the student comes up for his *Tentamen Physicum*, familiarly called "Physicum," which is an examination in these branches. Before passing this examination his title is *Studiosus Medicinæ*; after passing it he is commonly addressed as "Herr Candidat," though the title *Candidatus Medicinæ* is not officially conferred until he has enrolled himself as a candidate for the *Staats Examen*, which he does two years later. The final examinations include, again, physiology and anatomy, so that these studies are not allowed to slip from the mind, as they are apt to do to a certain extent when the student feels that they are already credited to his account.

On the admirable opportunity for the study of physiology here I need not dwell. That the laboratory of Professor Ludwig offers the best possible chance for original investigation is well known, and I count the hours spent under this great master as among the most valuable as well as pleasant of my life. My present intention is, however, to detail the course of instruction in anatomy, through which the regular student must pass, as typical of the thoroughness with which the groundwork is laid in Germany in the purely scientific part of medical study.

A knowledge of anatomy is required for the final examination such as no amount of book cramming will give, as may be seen from the fact that one of the tests at the last "Staats Examen" was to dissect the sphenopalatine ganglion and its branches. To this Staats Examen, which must be passed before a license is granted to practice in Germany, no one is admitted who has not previously passed his Physicum; it is also expected that he has spent at least two terms in continuous dissection; that is, every day a half day, presenting his work for inspection. It is expected that twelve parts will be dissected by each man: a head, upper and lower extremity for muscles, the same for blood-vessels, and the same for nerves. Besides this, each is expected to have dissected at least once a brain and the thoracic and abdominal viscera. Not all of the students come up to this expectation, especially in nerves, but if not it is at their own risk, as they are liable to be called on to dissect any portion of the body as a part of the final examination.

The Anatomical Institute is under the direction of Professor His, his duties being shared by Professor Braune. Both of these are names familiar to the medical world, the former in America principally through embryological and histological investigations, the latter more recently through his anatomical plates. The building, which is of brick, the main division two stories high, is approximately in the form of a hollow square, two hundred and fifty feet long by two hundred deep. Its form enables the greatest possible amount of light to be secured. A broad passage way runs around three sides of the building, along the walls of which are arranged closets for the clothes of the two hundred men generally working at once in the dissecting rooms.

On the first floor of the front of the building are

the work rooms of Professor Braune, the working and living rooms of the prosector, Dr. Altmann, and the rooms of the assistants who prepare dissections for the lectures and assist in directing the students. In this part is also a portion of the museum, and a room for histological work. On one corner, and occupying the whole height of the building, is the large auditorium, which is furnished with two powerful electric lamps. Adjoining the auditorium is a room into which the preparations are brought before the lectures, dissections being wheeled in from the various preparing rooms on tables constructed for the purpose.

Nearly the whole rear lower floor is taken up by the dissecting rooms, one capable of accommodating one hundred and fifty men, two fifty each, and three smaller ones. They are excellently lighted by large windows, and contain boxes for the use of the students; also instruments, bones, and plaster casts. The instruments include vises, saws, mallets, and chisels in forms to meet all possible requirements.

In the upper floor is the laboratory of Professor His, the photographing rooms formerly presided over by Hönigkel, whose work has a wide reputation, and the work room of the mechanic of the Institute. The larger museum is also in this part of the building.

The basement is occupied by the families of the mechanic, junior, and other employees, which include a fireman, two men servants, and one who ranks higher, and whose anatomical knowledge and mechanical skill make him indispensable to the professors, for instance, in the way of making fine preparations for the class. In the basement are also the rooms in which the subjects are injected and kept. In the other parts of the building are rooms for various purposes, of which a detailed description is unnecessary.

The anatomical lectures occupy about three hours a day in winter and two in summer, the different branches being divided between the two professors. In a general way the winter term is spent more on macroscopical anatomy, and the summer term on embryology and histology. It is superfluous to mention that the lectures are amply illustrated with preparations, fresh and preserved, models, etc. Professor His is a wonderful draughtsman, and his pictures on the blackboard, in colored chalks, if accurately copied, would furnish an elegant set of plates for an anatomical work.

Another means of illustration used in the lectures is the new projecting apparatus from Basel, by which photographs of microscopical sections are thrown on a large screen.

There is also abundant opportunity for the study of normal histology, both on preparations previously made, and by the making of new ones, there being not only courses in this branch in the Anatomical Institute, but in the histological department of the Physiological Institute under Dr. Gangle. In these courses every possible facility is furnished for the student to attain proficiency in histological technique in all its branches.

Embryology is not neglected, and opportunity is offered by lecture and demonstration to become thoroughly familiar with this subject, which is the special province of Professor His.

The feature of the Institute which is the most striking to an American is the amount of time spent in dissecting, and the facilities for the work. Material is abundant, the principal source of supply being the criminals and suicides. The subjects for muscle prepa-

ration are injected with a mixture of carbolic acid, alcohol, glycerine, and water. Those for the dissection of blood-vessels are first injected with a weaker solution of the same, after which the arteries are filled with a mixture of wax and sulphate of mercury. The subjects for nerve preparation are laid at once in a forty-five per cent. solution of alcohol. During the process of dissection it is the duty of the attendants to place the parts for the night in tanks where they are soaked in alcohol and covered with cloths.

The larger dissecting room is used exclusively for the preparation of muscles and articulations, and is under the charge of Professor Braune, who, with two assistants, spends the morning examining the dissections and giving aid. The students work almost exclusively in the morning, but the rooms are open from early morning till six at night. The subjects having been prepared as described, and being kept well covered and moistened by the servants while on the tables, last indefinitely, and the time spent on a part ranges from six weeks to two months.

No one is allowed to begin on blood-vessels or nerves who has not completed the muscles. With regard to the technique of muscle dissection here, one notices that the skin is first separated from the panniculus adiposus instead of the muscle being at once dissected down upon. This is, of course, advantageous when time does not come into consideration. The other dissecting rooms, that is, the three generally in use, are devoted to the blood-vessels and nerves, and are under the special charge of Professor His, who, with the prosector, spends the morning in this department, the nerves coming almost exclusively under the direction of the former. That this part of the work is thoroughly done I can testify, having dissected the whole nervous system under his direction, which occupied several hours every day for five months. The most accurate work is exacted, and no advance is allowed till all preceding work approaches in every respect his ideal of what a dissection should be, and any deviation from instructions is discouraged. In this way every nerve and every anastomosis, if practicable, is reached according to a definite plan, and the nicety with which it is prepared is only limited by the skill of the student. While working in this department each man is given a hardened brain, which the professor goes over with him privately, demonstrating every part and showing the best way of exposing it.

A minor convenience worthy of note is the opportunity for the daily sharpening of instruments on the payment of about fifty cents a term, the work being done by a man employed for the express purpose.

## RECENT PROGRESS IN DERMATOLOGY.

BY GEORGE H. TILDEN, M. D.

### PITYRIASIS ROSEA (GIBERT); PITYRIASIS MACULATA ET CIRCINATA (BAZIN).

FIVE cases of this disease, for which he proposes the name of "*rosola furfuracea herpeticiformis*," are reported and commented upon by Dr. Ichendorf.<sup>1</sup> As a rule, first, upon the neck, appear round or oval spots, the size of a pin's head, of a pea, or of a bean, of a rose-red color, raised slightly above the level of the

<sup>1</sup> Berliner klinische Wochenschrift, 1881, Nos. 33, 39, pages 552, 569.

surrounding skin, and covered with adherent, fine, dust-like scales of epidermis. The eruption at the outset is accompanied by intense itching. The favorite location of these spots is upon the neck and shoulders, and in the infra- and supra-clavicular regions. Less numerous upon other parts of the body and upon the extremities, they do not appear upon the scalp, face, hands, or feet. In a short time, usually two to three days, these spots undergo characteristic changes. They either become pale in their whole extent, subside to the level of the skin, and disappear, leaving behind a faintly marked pigmentation, or else they spread peripherically, at the same time undergoing retrograde metamorphosis in the centre. In this way ensue rings and curves which surround slightly pigmented, but otherwise normal, portions of skin. By reason of the meeting of several such rings and curves may be formed serpentine and map-like figures such as are seen in some cases of psoriasis and syphilis. The duration of a simultaneous group of these spots is about eight to ten days, but the successive appearances of new lesions extends the course of the disease as a whole to from four to eight weeks. The course of the disease is strongly suggestive of a parasitic origin. The author does not either deny or affirm this possibility, but is decidedly of opinion that the disease is not caused by *tinea trichophytans* for the reasons that it does not attack the scalp, face, or hands, regions particularly obnoxious to the invasion of *tinea trichophytans*, that it is not contagious, and that on microscopical examination no parasite could be detected.

Since writing the above Dr. Behrend has learned from Besnier, of Paris, that he (Besnier) has discovered a fungus in this disease, situated in the deeper epidermal layers, and difficult of demonstration. The spores resemble in size those of *microsporon furfur*, are scattered about, and not gathered into groups like the spores of the latter, while mycelia are few in number, and, as a rule, of large diameter.

#### PITYRIASIS CIRCINÉ ET MARGINÉ.

Under this name Vidal<sup>1</sup> describes a disease remarkably like the above. It is characterized by the appearance, first, as a rule, upon the body, but sometimes first upon the arms and thighs, of small, round, or oval, rose-colored spots, slightly elevated above the level of the skin. Their surface is dry, and by friction is caused a furfuraceous desquamation. They are of slow growth, reaching in a month the size of a franc piece. They undergo retrograde metamorphosis in the centre, and extend peripherically, forming rose-colored or yellowish-red rings in a state of desquamation. In the axillæ and inguinal regions they may become confluent, thus presenting plaques with a sharply defined border. Further development of this condition of things leads to a form of *eczema marginatum* of Hebra. They are easily cured by almost any antiparasitic treatment, but without treatment last for three or four months. On microscopical examination of epithelial scrapings from such spots is found a fungus with the following characteristics:—

(1.) Small spores of an average diameter of .001 millimetre. Many spores are smaller than this and some larger, .002 to .003 millimetre, this variation in size suggesting the name given to them by Vidal of *microsporon anomæon* or *dispar*.

(2.) Their arrangement in the form of a circle around the individual epithelial cells.

(3.) The rarity of their disposition in chains.

(4.) The absence of mycelium.

They occupy the upper layers of the epidermis, and are to be found also in the hair follicles of the face, beard, and neck. The hairs are not altered, nor is there any follicular inflammation set up by their presence. All attempts at inoculation of the disease failed, and it does not appear to be contagious.

#### VACCINAL SKIN ERUPTIONS.

Dr. Behrend<sup>2</sup> divides these into two classes. The local, which starts from the point of vaccinal inoculation and remains confined to the immediate neighborhood of the same, or else spreads from this point over a greater or less extent of skin. In this class are included erythema, erysipelas, and eczema, the last of which is especially apt to become chronic and difficult of management. The second or general class comprises various forms of skin eruption which, with or without febrile symptoms, appear at regions of the body distant from the point of inoculation and run an acute course. The second class is rare, Dr. Behrend having met with but six examples among three hundred consecutive cases of vaccination. The most common variety of the second class, and the only one hitherto described, is the so-called roseola vaccinia, mentioned by Hebra, as appearing from the third to the eighteenth day after vaccination, starting from the point of inoculation, from there spreading over the body, and regarded by him as a lymphangitis of the skin. In the two cases seen by the author, the eruption consisted in an exanthem resembling that of measles, appearing over the whole body, but less marked upon the extremities and sparing entirely the face. It appeared upon the eighth day after vaccination, and lasted two days. Besides the above variety, four others were observed by the author.

(1.) Urticarial eruption coming on the day after vaccination, and lasting a few days. This upon the mother's statement; when the case was seen the eruption had entirely disappeared.

(2.) An erythematous process resembling exactly in appearance and course the lesions of erythema exudativum multiforme. This appeared the second day after vaccination, first upon the dorsal surfaces of the hands and feet, and from there extended over the body.

(3.) Vesicular eruption of a mixed character, resembling at one spot herpes, at another vesicular eczema. This appeared first upon the arm the day after vaccination, and spread over the body in successive crops.

(4.) Bullous form, appearing first upon the face the evening of the day of vaccination, afterward upon the body and lasting some days.

For the reasons, first, the varied forms of these eruptions, second, the fact that two distinct periods of appearance are obvious, namely, one within three days after, and the other upon the eighth day after, vaccination, and third, the resemblance in character of these eruptions, to those sometimes caused by the ingestion of various drugs; the author is of opinion that the second or general class of vaccinal eruption is due, not to any specific action of vaccine virus, but rather to the introduction of foreign material into the blood. In the case of those eruptions which appear during the

<sup>1</sup> Annales de Dermatologie et de Syph., 2me série, 1882, No. 1, page 22.

<sup>2</sup> Berliner klinische Wochenschrift, 1881, No. 46, page 679.

first period, this foreign material is the vaccine matter itself. In those eruptions which appear during the second period, and which correspond in point of time with the beginning of suppuration at the point of inoculation, the aetiological factor is the absorption of the products of such suppuration. The existence of the "vaccine généralisée" of the French authors is denied, the inoculability of such eruptions not having been demonstrated.

#### BACILLE LEPROÛ.

Cornil and Suchard<sup>1</sup> having made microscopical examination of several specimens taken from cases of tuberculous leprosy, report as follows. The tubercles in the skin consist of an infiltration into the papillary and dermal layers of the same, of large globular cells, spheroidal or slightly flattened in shape, very numerous and situated between the fibres of the connective tissue. The papillae of the skin are not clearly marked at the level of the centre of the tubercle, and both glands and hair follicles are atrophied and destroyed. The epidermal layers are thinned to such a degree, that the surface of tubercles not yet in a state of ulceration is devoid of hair. Specimens taken in the fresh state, from the living patient and teased in water, showed in the fluid separating the elements of tissue spherical grains and rods possessed of spontaneous movements. These rods bend and turn themselves. In order to obtain sections small bits of skin, excised from the living patient, were placed first in alcohol of 40°, and then in absolute alcohol. The sections made from these were colored in a solution of methylaniline 5 B, one part to five of water, then washed successively in a solution of carbonate of soda, one part to four of water, and in absolute alcohol. Finally, they were treated with oil of cloves and put up in Canada balsam. By washing in alcohol some of the coloring matter is removed from the protoplasm of the cells, and it is necessary to discontinue its action before the bacterial rods themselves are discolored. In successful preparations all the cells composing the special infiltration of leprosy are to be seen filled with numerous rods, which are colored of an intense blue. The cell protoplasm is of a blue tint merely, while the fibres of the connective tissue are uncolored. These rods are rigid, immovable, an effect probably due to the action of alcohol. Some are separate, isolated; others gathered into bundles. There are but few rods to be seen outside of the cells. No bacteria are to be found in the various layers of the epidermis, the inference being that the epidermis is impenetrable to these bacteria. Bacteria were also found in various internal organs, notably in the liver of one case, which liver also presented the appearances of hypertrophic cirrhosis.

#### LEPROSY.

The following conclusions with regard to the bacterial nature of this disease are given by Dr. Albert Neisser:<sup>2</sup>—

(1.) Leprosy is a true bacterial disease caused by a special variety of bacteria.

(2.) These bacteria enter the organism as such, or, more likely, as spores, and remain in a state of incubation in certain depots, the lymphatic glands, perhaps, for a longer or shorter period of time. The term of incubation of these bacteria varies greatly, not only as

compared with the incubation stages of other infectious diseases, but also in different cases of leprosy.

(3.) From the above-mentioned depots the disease spreads in the body, principally in the skin (lepra tuberosa), and notably in those regions exposed to insult, the face, hands, elbows, and knees, and also in the peripheral nerves (lepra anæsthetica). Other parts of the body, testicles, spleen, cornea, cartilages, and liver are less subject to invasion.

(4.) The bacteria or spores give rise to inflammatory processes in organs or parts of the body which are supplied with blood-vessels, but in those parts where there are no blood-vessels to immigrations (Eiuwanderungen) of cells from the periphery inwards. The lymphatic cells containing spores or bacteria constitute the material of which the special neoplasms of leprosy are made up. The specific action of these bacteria transform the ordinary wandering cell into the specific cell of leprosy, the shape, course, and disappearance of which are characteristic.

(5.) Leprosy is probably an infectious disease, and its specific products are contagious. The disease is not only directly contagious, but also indirectly so, its specific bacteria or germs being transferred by various objects.

(6.) Leprosy is not hereditary.

(To be concluded.)

### Hospital Practice and Clinical Memoranda.

#### TWO SUCCESSFUL CASES OF OVARICTOMY; MARKED DISCREPANCY IN AGES; REMARKABLE SIMILARITY IN HISTORY AND FORM OF DISEASE.

BY GEO. H. BIXBY, M. D.

*Surgeon to St. Elizabeth Hospital for Women; Gynecologist to the Carney Hospital.*

CASE 1. December 5, 1881, I was requested by Dr. Henry I. Bowditch to see a patient with him in his office who was suffering from great distention of the abdomen. In order to insure a thorough examination, she was advised to enter the Carney Hospital. Two days later, at the hospital, the following history was elicited. Miss D., aged fifty-seven, native of Maine, is of long-lived parentage. The father, whom she resembles, lived to the age of ninety. The mother died of phthisis.

*History of Menstruation.*—First appearance at sixteen in normal type; at seventeen she suddenly became stout but very anæmic, and the menses failed to appear for three successive months. A vigorous tonic treatment in the course of time was followed by a dissipation of the unnatural flesh, the return of the menses, and a complete restoration of the general health. Menstruated like ever after and the climacteric at forty-nine were free from complication. Since her thirtieth year she has lived in the extreme West. There she had typhoid and later intermittent fever. For some years past she has resided in the territory of Montana.

At the age of forty-two, on one occasion while bathing, her attention was suddenly directed to a firm smooth growth in the left ovarian region, the size of the palm of the hand. She paid no attention to it, and a few weeks later was unable to find it. In her fifty-fifth year the abdomen commenced gradually to enlarge, and eight months later, materially interfered with respiration and locomotion.

<sup>1</sup> Annales de Dermat. et de Syph., 2me série, Tome II, No. 4, page 654.

<sup>2</sup> Virchow's Archiv, Band 88, 4, No. 3.

The case was correctly diagnosed by her family physician, Dr. Chalmers, of Ogden, who advised her to return home and seek relief.

November 15th she left Montana for Boston, arriving on the 28th, having traveled thirteen days in coaches and steam cars without reclining. During this extraordinary journey she partook of only three full meals. This abstinence was necessary in order to control the constant tendency to emesis, caused by the upward pressure of the enormously distended abdomen. Her diet consisted of tea, milk, and fruit. Notwithstanding this remarkable experience, she arrived in Boston a little fatigued, but without injury. At present, a week after her arrival, having fully recuperated, she seems to be in the enjoyment of excellent general health.

*Inspection.*—The patient is a brunette, above the average stature, with prominent features, a countenance suggestive of firmness, endurance, and a wiry temperament. There is general emaciation, especially of the chest and superior extremities. Abdomen largely distended.

*Palpation.*—Girth of abdomen at umbilicus, forty-one inches.

Percussion elicits universal dullness anteriorly, of which the wave is unbroken. Clearness in both flanks, and a solid mass in left ovarian region, size of a fetal head.

*Diagnosis:* Cystic degeneration of the left ovary.

Dr. Gilman Kimball, of Lowell, kindly examined the case, and confirmed my views. An operation was advised, and at once accepted. From the foregoing history I felt justified in predicting a favorable prognosis.

January 16th. Four weeks and two days since her departure from Montana, eighteen days after her arrival, one week in hospital, without any special preparation except an enema the night before, and also half an hour previous to the operation, in the presence of Dr. G. Kimball, of Lowell, Drs. Henry I. Bowditch, Lyman, Weston, Bundy, Woodworth, of Boston, with the assistance of Dr. Bundy, Messrs. Boutwell and C. W. Sparhawk, internes of the hospital, and members of the Harvard Medical School, the operation was undertaken under strict antiseptic precautions. Strength of spray one to sixty. The latest modification of Crosby bed, furnished me by Messrs. Codman and Shurtleff, was employed as an operating table. Length of incision six inches. There were slight adhesions anteriorly, apparently recent. The tumor consisted of a large central monocyst, inclosing a solid multilocular mass in left ovarian region.

The pedicle of medium length, was transfixed with a needle armed with ligature of stout English braided silk, each part tied separately, the ligatures passed around the whole, and with much force tied a second time. The wound closed with seven silver sutures, was antiseptically dressed, and the patient left indefinitely, as is my custom, on the operating bed. Weight of cyst and contents seventy pounds.

*Subsequent History.*—Briefly: from first to sixth day average pulse 100; temperature 99° F. From sixth to tenth day, pulse 100, temperature 98°. From tenth, and after, normal pulse and temperature.

The following points are worthy of separate mention:

(1.) Urine voided voluntarily from choice from the first day.

(2.) Fourth day, natural and painless dejections, and ever after with occasional aid of enema.

(3.) Seventh day, removal of stitches; wound healed by first intention.

(4.) Fourteenth day, removed from operating bed and room. The change might have been made as early as the eighth day.

(5.) Sat up two hours without discomfort on the nineteenth, walked about her apartment on the twenty-first, discharged on the twenty-fourth day.

**CASE II.** Miss F., aged twenty-eight, native of New Bedford, consulted me December 28, 1881, for an enlargement of the abdomen. Her father and sister died of phthisis. Her mother, whom she resembles, still lives in the enjoyment of good health. Since her fifteenth year she has worked more or less in a cotton factory, a form of labor requiring more or less lifting. The catamenia first appeared at sixteen in normal type, three to four days' duration. The function continued normal, and her health was excellent until the twenty-second year, when, no doubt from overwork and confinement in the vitiated atmosphere of the mill, she became debilitated, anæmic, and generally bloated. The menses failed to appear for eight weeks. After a few weeks of tonic treatment her health commenced to improve, and in due time the catamenia returned, and she was fully restored to health. This favorable condition of affairs continued three years and a half. In her twenty-sixth year the menstrual interval was reduced to two weeks. In the autumn of 1880 the abdomen commenced to enlarge gradually until June, 1881, when the distention was so great as to interfere with both respiration and locomotion. About this time her family physician, Dr. Geo. D. Hough, of New Bedford, pronounced the case ovarian, tapped, and entirely emptied the cyst.

The beneficial result was soon manifest by improved appetite and digestion, a return of the interval of menstruation to normal, and a corresponding effect upon the general health.

The tumor gradually refilled. At present the abdomen is distended to its utmost capacity.

*Inspection.*—The patient is a blonde, below the average stature, with unusually bright and cheerful countenance. There is general emaciation; palpation; girth of abdomen at umbilicus thirty-six inches; percussion elicited dullness anteriorly, with signs of fluctuation with an unbroken wave. In the left ovarian region a smooth, solid mass, the size of a fist, is easily felt. *Diagnosis.* cystic degeneration of the left ovary. Operation advised.

The operation was appointed for the 3d, but had to be postponed one week. If the calculation were accurate, this would bring the next menstruation to within less than a week of the operation. As her condition would admit of no further delay, this fact was not considered a bar to immediate operative procedure. Accordingly, January 10th, without any special preparation, save a laxative the night before, and an enema the morning of the operation, in the presence of Drs. Kimball, of Lowell, S. G. Dearborn, of Nashua, N. H., Bundy, Weston, Woodworth, and Doble, of Boston, and Mr. H. W. Boutwell, interne at the hospital, of the Harvard Medical School, the operation was undertaken under strict antiseptic precautions. Strength of spray, one to sixty. Length of incision five inches. There were no adhesions. The tumor consisted of a central monocyst, with semi-solid mass inclosed, the latter situated in the left ovarian region. Weight of tumor fifty pounds. The pedicle, of medium

length, was unusually broad, and with the subjacent tissue, uterus, etc., presented unusual vascularity. An attempt was made to enucleate a portion or all of it, but was abandoned on account of the hemorrhage which followed before proceeding very far, but enough had been done to convert the original pedicle into two distinct portions, each of which was transfixed, separately ligated, seared with black, hot canterbury iron, and dropped. The wound was closed with seven silver sutures, and dressed antiseptically, and the patient, like the last, left indefinitely on the operating bed.

*Subsequent History.*—January 10th. Operation ended at one p. m. Shortly after recovery from effects of ether a decided tendency to nausea was controlled by vigorous fanning. Six p. m. Pulse 120; temperature 101° F.; return of nausea; partially controlled by fanning, hypodermic injection, and mustard to the epigastrium.

January 11th, nine a. m. Nausea continued, and occasional vomiting during the night; pulse 110; temperature 100° F. Six p. m. Nausea; vomiting entirely controlled by hypodermic injection and a suppository of opium and belladonna, and absolute rest given to stomach. Thus far no nourishment by mouth. Injections of beef tea and brandy every four hours. Restless, but stomach at rest.

January 12th, nine a. m. Pulse 110; temperature 100° F. Twelve m. Pulse 120; temperature 100½° F.

January 13th, nine a. m. Pulse 128; temperature 102½° F. Twelve m. Pulse 110; temperature 101° F.; peritonitis suspected; wound and abdomen examined; no signs discovered; menses appeared; cause of rise of temperature accounted for; the catamenia continued four days, during which pulse averaged 104; temperature 99½° F.; after their cessation the pulse came down to 100, temperature 98° F.

From this time the case proceeded without complication.

*Points of Special Interest.*—(1.) Cause of vascular condition of the viscera and the sudden and extraordinary rise of temperature were no doubt owing to approach of menstruation.

(2.) An unusually abundant flow of apparently healthy urine from the first.

(3.) Natural dejections daily after sixth day.

(4.) Stitches removed on seventh day; wound found to have entirely closed by first intention.

(5.) Removed from operating bed and room on the eighth day.

(6.) Sat up on fourteenth, walked about on the sixteenth day.

(7.) Twenty-fifth day, discharged, rode fifty miles to her home.



# “UNUSUAL OR ACCIDENTAL RESULTS OF VACCINATION.”

BY MORTON PRINCE, M. D.

ATTENTION has been called in late numbers of the JOURNAL by Dr. Holt and Dr. Vincent Y. Bowditch to a form of skin eruption sometimes accompanying vaccination. Dr. Holt says: “I am well aware that no definite conclusion can be drawn from so small a number of cases, but from the facts presented I think it a reasonable presumption that this eruption was in some way brought about by vaccination. If such is the case, and this result is going to occasionally follow

vaccination with animal virus, it is highly important that the fact be known.” Having had considerable experience in this matter during the late extensive vaccinations performed under the auspices of the city, I have thought a few words detailing briefly the results of my observations would not be out of place.

Skin eruptions accompanying successful vaccinations were so frequently observed that I ceased to regard them either as “unusual” or “accidental.” In what proportion of cases they occur I have been unable to ascertain, as only a certain percentage of those vaccinated return for inspection. Though the number of such cases observed was quite numerous, I have no doubt they are relatively infrequent considering the total number vaccinated at the City Physician’s office since January 1st was more than seven thousand.

These skin eruptions derive a certain practical importance from the fact that they almost always cause alarm in the family by the suspicion that the individual has contracted small-pox from the inoculation, or that “bad matter” has been used.

The most common forms of eruption noticed were the papular or lichenoid and erythematous. I have seen several cases similar to those described by Dr. Holt.

One of the most interesting cases was that of a young girl about eighteen years of age, vaccinated for the first time, who returned for inspection on the eighth day with two typical compound vesicles. An eruption began to appear two days previously. When seen nearly the whole back, chest, and neck were of a uniform dark-red color, looking as if she had been painted. In the neighboring healthy skin were blotches of the same nature, varying in size from that of a ten cent piece to a silver dollar. There was no swelling. On the legs, where there was very little erythema, and scattered over the chest, but particularly at the circumference of the reddened skin on the neck, were numerous papules, many of them having fine vesicles, others pustules, on their summits, plainly evident to the naked eye. The constitutional disturbances were moderately severe. When seen some days later the whole eruption had disappeared.

Another case of interest was one reported to the Board of Health, and which I saw through the kindness of Dr. McCollom. It turned out to be one of urticaria, the most severe case I have ever seen.

The patient was a girl about sixteen years of age. The inoculation had resulted on the arm in typical vaccine vesicles. Nearly the whole back, nates, and thighs were covered with large wheals, which in some places were confluent, forming large, elevated patches. The intervening skin was reddened and much swollen. The constitutional symptoms were very severe.

Another similar though less severe case was also reported.

Papular eruptions were very common, and ceased to attract notice.

One moderately common phenomenon was an eruption of small pustules in the areola around the vaccine vesicle. These sometimes resembled the pustules of true small-pox, and in one case, where they were beautifully developed, were used clinically to illustrate the appearance of the small-pox eruption.

I am inclined to look upon these skin eruptions as due to nervous disturbances simply. One case was strikingly suggestive of this explanation. A young adult returned on the eighth (?) day after secondary



vaccination. The matter was introduced into the left arm in the usual place with a successful result. The skin on the back of the left fore-arm was reddened and swollen. The skin in an identical region on the right arm was in a similar condition. There was nothing to indicate in other respects erysipelas. This case reminds one of the physiological experiment of placing one hand in cold water, whereby the temperature of the other hand is also reduced. Possibly a similar sympathetic influence was at work here.

One case, I think, should be recorded as showing one of the accidents liable to occur, and against which patients should be warned.

A young girl, about six or seven years old, was successfully vaccinated. When seen at the end of a week, besides the vesicles on the arm there was another of typical appearance situated at the inner canthus of the left eye, just external to the caruncle. The conjunctiva of the lid and of the globe became later injected and swollen, as well as the neighboring parts of the cheek. The whole had an alarming appearance, but the vesicle ran through its course without doing further damage than will result from the probable distortion of the tear passage from contraction of the cicatrix. In this case the patient had without doubt accidentally inoculated herself from the virus rubbed on the arm. The date of appearance of the vesicles was about the same in the two places.

Accidental auto-inoculation is moderately common, though it is not usually in a place to do mischief. I have seen one doubtful vesicle thus produced on the inside of the nose, and another on the forehead, where it was only of consequence so far as the future scar was concerned.

Seaton<sup>1</sup> remarks that "in young children of full habit, especially in hot weather, about the ninth or tenth day, when the areola is at its height, an eruption of roseola will sometimes take place, chiefly on the extremities; sometimes the eruption has a papular form (vaccine lichen), and sometimes it is vesicular. These eruptions are generally very transitory; their ordinary duration does not extend beyond a week, and they very seldom indeed last beyond the falling of the scab."

Judging from the number of times I have been questioned by anxious parents on the meaning of these eruptions, I believe with Dr. Holt that the fact of their liability to follow vaccination should be widely known.

## MASSACHUSETTS GENERAL HOSPITAL.

SERVICE OF DR. SAMUEL CABOT.

REPORTED BY MR. F. H. LOMBARD, HOUSE OFFICER.

### COMPOUND FRACTURE OF JAW.

CASE I. November 16, 1881. C. E. T., aged thirty-eight, was kicked by a horse, the blow cutting the upper lip and left ala of nose through to the subjacent bone, separating the two superior maxillæ at the intermaxillary line and driving the alveolar process of each back upon the antrum, leaving no possible holding ground in the jaw itself for wiring the two halves together. Under ether the two middle incisors were wired. A second wire passed around the lateral

incisors was carried upwards and backwards through the alveolar process, and the two ends, brought out through the nostrils, were twisted together beneath the septum of the nose upon a bridge of gutta percha. Several stitches were taken in the nose and lip, and by means of a four-tailed bandage passed under the chin, the teeth of the lower jaw were kept in apposition with those of the upper. All swelling had subsided on the fifth day when the stitches and the wire that passed through the nose were removed.

Except for a slight, facial erysipelas lasting five days the patient did uninterruptedly well, and left the hospital on the twentieth day with firm union and showing no trace of his injury except the loss of a right upper incisor and a canine tooth which, being loose, were removed with a bit of carious jaw the day he left the hospital.

February 16, 1882. Reported to-day, three months after accident. Features natural, jaw firm, no sign of the injury except that on closing the jaw the two rows of teeth approximate perfectly, instead of the upper overlapping.

### GUNSHOT WOUND OF THIGH.

CASE II. November 29, 1881. J. M., aged 21. A minie ball from a rifle passed through the middle of the left thigh badly comminuting the femur in its passage. The patient was brought to the hospital an hour and a half after the accident. The foot was strongly everted, the leg visibly shortened. There had been considerable hæmorrhage from the wound where the ball entered the inner aspect of the thigh, but when seen by the surgeon all bleeding had stopped and both openings made by the ball were smoothly and evenly closed.

Comminution of the femur was established beyond a doubt by the presence of detached spicule of bone, one of which, somewhat larger than a cherry stone, could be felt immediately beneath the skin.

Buck's extension apparatus was applied to the leg and the wounds dressed with cloths wrung out in hot carbolic acid and water, one to forty, that were changed every three hours.

December 26th. Both wounds have closed. Dressing omitted. There has not been as much as three ounces of discharge from the wounds since the dressings were first applied. Leg in good position.

January 27, 1882. Eight weeks after injury. Apparatus removed. Firm union, — excellent position, one and a quarter inches shortening.

The patient kept up passive motion of the knee for several days, was then allowed to be about the ward on crutches, and February 8th was discharged.

The ease was remarkable from the entire absence of constitutional symptoms, there being no pain after extension was applied and the temperature never passing 99.6° F. [except for a single day after imprudent eating when it reached 104° F.].

### POPLITEAL ANEURISM.

CASE III. December 3, 1881. C. C., age forty, hostler. First noticed a small, pulsating tumor the size of a walnut in right popliteal space last April. No history of strain or injury. Tumor has doubled in size within two months; now fills the whole popliteal space, is rather larger than a goose's egg, is firm and tense; no discoloration. Pulsations are visible in the tumor

<sup>1</sup> Reynolds's System of Medicine.

itself in the course of the femoral as high as Hunter's canal, and in the integument covering the upper third of calf of leg. General health good, heart normal, pulse can be felt in both tibials. Worked regularly up to time of entering hospital. Seeks advice because of recent increase in amount of pain and throbbing.

December 5th. Was etherized at three P. M. When fairly anesthetized the tourniquet was applied over the femoral one and a half inches below Poupert's ligament until pulsation in the aneurism had ceased and a second tourniquet was placed in readiness for application in the course of the vessel about three inches lower down.

Pressure was thus made alternately at these spots for ten hours, the tourniquet being changed every hour. At the end of ten hours all compression was removed and the patient allowed to recover from his ether sufficiently to answer questions. Absolutely no pulsation could be felt in the tumor. After an interval of an hour, upon deep pressure, pulsation was felt at the point where the current entered the sac. Ether was again given, the tourniquets reapplied and continuous pressure again maintained for five hours. The tourniquets were then removed and the patient allowed to come out from his ether. The tumor had ceased to pulsate and was reduced more than one third in size.

During etherization the temperature, pulse, and respiration were recorded every hour, and averaged respectively, temperature 99.2° F.; pulse 86; respiration 28. The patient received during the time he was under ether enemata containing beef tea three and a half ounces, brandy four and a half ounces, milk two ounces.

With the exception of slight headache and a sensation of numbness in the calf and foot there were no discomforting after effects from the prolonged etherization and pressure.

The patient was kept in bed for eight days, at the end of which time he was removed in the ambulance to his home, the tumor being reduced to the size of an English walnut and no return of pulsation.

February 29, 1882. Eleven weeks after the operation. There is no return of pulsation in the tumor which has not shrunk perceptibly since last report. Patient has resumed work.

#### SPASMS OF MUSCLES OF NECK.

CASE IV. October 6, 1881. F. E. M., age twenty-nine, type-setter. Family and personal history exceptionally good. Physique better than the average. April 28, 1878, after six months of uninterrupted work at setting type in an over-heated, low-studded room, by an open window, averaging ten and frequently passing fourteen hours at his post, the patient was seized with muscular twitchings of the head and neck, the chin being jerked violently toward the *right* shoulder and oscillating between that point and the median line, where it was impossible to keep it.

Kept at his work for several days, but at the end of a week the twitchings had become so violent that he was scarcely able to stand. Sought medical assistance, tried countless local and internal remedies, but with no relief until the middle of June (six weeks) when morphia was administered subcutaneously with immediate relief. Continued to take large doses daily for a month, and on the 1st of August resumed work, being able, with the assistance of a strap passed under left axilla and around the forehead, to set type nearly as well as ever.

Improving gradually he was able to abandon the strap the 1st of January.

Duration of this first attack nine months. Then followed an interval of twelve months (January, 1879, to January, 1880), during which the patient was as well as ever except for a slight difficulty in turning the head to the left.

In January, 1880, was seized again, the head this time "veering gently but firmly to the *left* and remaining there persistently." Worked for eight weeks wearing a strap, the symptoms increasing in severity until, at their maximum, the head twitched violently from side to side at the rate of forty oscillations a minute for sixteen hours. Had recourse again to subcutaneous injections of morphia, began to improve about the 1st of May, and the 10th of June resumed work, feeling freer from all symptoms than at any time since the first attack. This immunity, however, was of short duration. In three weeks he was seized suddenly again, and from that time (July 4, 1880) until now he has never been entirely free.

Entered hospital October 6, 1881. Three months previous there was a sudden increase in the severity of the spasms, the chin being drawn violently toward the *right* shoulder. A few weeks later it was drawn with equal force to the *left* side, and the tendency has been in this direction ever since. There is marked rigidity of the right sterno-mastoid. Any effort to bring the chin into the median line causes painful muscular twitchings confined to the head and neck. At intervals lasting from a few minutes to several hours the head jerks violently from side to side, these movements being entirely beyond the control of the patient.

The galvanic current was applied daily to the right sterno-mastoid with slight relief in severity of spasms at the end of six weeks.

Intra-muscular injection of the sulphate of atropia in doses of one sixtieth of a grain, and of curare one third of a grain, the application of cantharidal collodion and of the tincture of calabar bean to the affected muscles, and ice to the spine, were all tried in turn without effect, except in the case of calabar bean which produced temporary relief for an hour or two after application.

The question of cutting down upon and stretching the spinal accessory nerve at its point of distribution to the affected muscles was entertained but deemed inadvisable till milder measures should have failed.

At the suggestion of Dr. A. T. Cabot it was resolved to try the effect of fixation in a plaster bandage in the manner described by Delore in the *Gazette Hebdomadaire* for March 22, 1878. The good effect of this apparatus in tonic spasm of the muscles of the neck encouraged the hope that it would be equally efficacious in controlling the clonic spasms of our patient.

The head was accordingly held with the chin pointed somewhat away from the side towards which it tended to be drawn, and the head and shoulders were then enveloped in a plaster bandage.

No inconvenience was experienced from wearing the casque after the first few days. On the contrary the patient expressed intense relief from the total cessation of the muscular twitchings which were now rendered impossible. This apparatus was worn for eight weeks, the patient resuming his work at long hours without experiencing any return of his trouble.

On removing the casque at the end of eight weeks the muscles were found to have lost their rigidity and to have regained their normal softness. For seven

days there was no return of the spasms, and the patient was able to maintain the chin in the median line or turn it to either side without any effort or pain. At the end of a week there appeared slight symptoms of returning trouble, and at his request a second casque of plaster-of-Paris was applied.

In the mean time a plaster cast of the head and neck was taken, upon which an apparatus of thick leather has been moulded that hinges at the back of the neck and laces over the forehead and chin, is light and readily applied. Wearing this while at work so long as there is any tendency to spasmodic action, it is fair to presume that the patient can be in time permanently cured.

## Reports of Societies.

### PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

#### SECTION OF MATERIA MEDICA AND CHEMISTRY.

FRANCIS H. WILLIAMS, M. D., SECRETARY.

MARCH 1, 1882. DR. ROBERT AMORY presiding. DR. E. G. CUTLER read a paper on

#### OXALURIA AND THE MICROSCOPIC EXAMINATION OF URINARY SEDIMENTS.

After citing cases illustrative of the various conditions under which the crystals of oxalate of lime appear in the urine and indicating their proper treatment, he said that the glasses ordinarily employed for the collection of sediments were of faulty shape in being conical and not having parallel sides. The specific gravity of the constituents of the sediment did not usually vary much from that of the urine, and they very nearly floated in it, so that unless the conical glass were occasionally agitated to shake down the matters to be examined they might well remain, touching the sides of the glass at any point. With a large amount of urine he used a glass with parallel sides, holding half a litre, advised by Professor Wood, of the Harvard Medical School. With small amounts he made use of an old burette of one hundred cubic centimetres' capacity, held upright in a clamp; and with very small amounts a large pipette with a bit of wax on the end. He laid out thirty or more slides, and filled a pipette from all the layers of the sediment, beginning at the top. This was then emptied on the slides, guttatum, in regular order, and a second pipette was filled by sinking it from the surface of the urine to the top of the sediment, thus getting a portion from each layer of the specimen. These slides were then arranged in regular order, and examined from the bottom of the series upward. On a paper was recorded everything found, which, if the above method were strictly adhered to, would at the same time represent the relative quantity of the constituents of the sediment.

The urine should be allowed to stand not less than six nor more than twelve hours before the examination. A magnifying power of not more than three hundred and fifty diameters was to be used, and the light should be daylight. Where an abundant deposit of urates obscured the field a pipette of sediment was added to a test tube filled with warm water, when, after standing a few hours, was subsequently examined.

To bring out casts for demonstration or in artificial light he used a one per cent. solution of methyl-green

or a two per cent. solution of methyl-aniline, or Beale's iodine solution, a drop of which was either added to the urine on the slide, or a small quantity mixed with it before settling.

In an attack of bronchitis, typhoid fever, erysipelas, or in fact in any disease where the temperature reached 102° F., or after a debauch, he had hardly ever failed to find hyaline casts of narrow diameter in the urine on careful search.

DR. B. F. DAVENPORT offered a communication upon the

#### OLD AND NEW PHARMACOPEIAS.

The earliest known American work upon pharmacy is a tract written by the Rev. Thomas Harward in 1732.

Previous to the Revolution, and for over twenty years afterwards, the evils of irregularity and uncertainty in the preparations of medicines was felt with a peculiar weight from the absence of any recognized national standard, there being a number of pharmacopœias, and of dispensaries founded thereon, which were in common use in different parts of the country. These were, however, commonly some one of the three British, that is, the London, Edinburgh, or Dublin Pharmacopœia. On October 3, 1805, the Massachusetts Medical Society voted to prepare a Pharmacopœia better adapted to the needs of the American physician and apothecary. So they published theirs, the first American Pharmacopœia, in 1808. It says: "As there frequently arise errors of no small importance from the promiscuous use of weights and measures, it is proper that the quantities of substances, whether fluid or solid, be determined by weight." Some of the formulæ are expressed in terms of parts by weight instead of in specified weights, thus in these two particulars anticipating by as many years the new edition of the United States Pharmacopœia soon to be published. The general plan followed in this first American Pharmacopœia was that of the then recent edition of the Edinburgh Pharmacopœia. The Massachusetts Medical Society sent copies of its Pharmacopœia to all the different State medical societies, with a circular letter requesting criticism of their work, and expressing a desire that some means might be devised to establish a standard Pharmacopœia for the United States.<sup>1</sup> In 1810 Dr. James Thacher published his commentary thereon under the title of *The American Medical Dispensatory*. The next American Pharmacopœia published was that of the New York Hospital in 1816. These two earliest of American Pharmacopœias exerted a limited influence within their several sections; but throughout the United States generally the practice of pharmacy was exceedingly unsettled, varying not only in the different sections of the country but even in the same neighborhood, and guided by no other common principle than a vague dependence upon the frequently conflicting authority of the British colleges. The disadvantages of such a condition of things at length became so obvious, and were so generally felt, that in January, 1817, Dr. Spalding submitted to the New York County Medical Society a project for the formation of a National Pharmacopœia under the authority of all of the medical societies and medical colleges in the United States. This plan met with almost universal approbation, and the general convention, held

<sup>1</sup> Medical Communications of the Massachusetts Medical Society, vol. ii., page 266.

on January 1, 1820, at Washington, D. C., published through their committee, in December of that same year, theirs, the first Pharmacopœia of the United States. This plan provided for the regular revision of the Pharmacopœia each ten years by a convention to be held at Washington, by delegates elected by the Northern, Middle, Southern, and Western sections of the country. This Pharmacopœia of 1820 was supplemented by the commentary of Dr. Jacob Bigelow, of Boston, in 1822, called Bigelow's Sequel. In 1830 those delegates who held formal writs of their election from the president of the former convention, by general concurrence decided to hold their meeting in New York city instead of at Washington, as provided for by the previous convention, while other delegates for societies and colleges in the Middle and Southern States met in convention at Washington, the regularly appointed place. These two conventions resulted in the publication of the two rival editions of the United States Pharmacopœia of 1830, the one published at New York and the other at Philadelphia, while the Pharmacopœia of 1820 had been published at Boston. In the contest for authority the Pharmacopœia published at Philadelphia gained the ascendancy, having been supplemented by the commentary published by Drs. Wood and Baché in 1833 under the title of the United States Dispensary. All the subsequent revisions have thus far been published at Philadelphia, and have been supplemented by editions of the United States Dispensary. All conventions have since been held at Washington. In the revision of the edition of 1880 the assistance of the Colleges of Pharmacy was first invited, and tests for identification and for purity were first introduced. Unlike the preceding, it was in English text alone. The revisions of 1850, 1860, and 1870 have kept the United States Pharmacopœia up with the great advancements made in the pharmaceutical sciences in a quite satisfactory manner, yet the revision proposed by the convention of 1880 is to make very many more changes than ever before in the work. It is to be so much enlarged in the fullness of its details that a commentary, as heretofore, will not be absolutely necessary, although doubtless it may be very useful. The interest and participation in the work of this revision is more widely spread through the several States of our Union than ever before. The principal changes to be made are as follows: All measures of capacity to be abandoned, and quantities to be expressed in parts by weight, except that in the fluid extracts the amount of the finished product may be expressed in volume. The former division into *materia medica* and preparations is to be abolished, and all articles are to be arranged in a continuous alphabetical order. Concise description of crude drugs to be given sufficient for identification, either by external physical properties or else by their chemical. Tests for identity and purity of chemicals to be given, and also methods for quantitative determination, which will be as far as practicable by volumetric analysis. Methods of assay of opium and cinchona to be given, with the minimum percentage of total alkaloids in the latter and the minimum and maximum percentage of morphia in the former. The parts by weight of the ingredients entering into the formulae to be expressed in the simplest possible terms, and, whenever possible, in a centesimal ratio. Definite expression of weight, wherever necessary, being expressed both in metrical and apothecaries' weight. Weight of finished product to be specified, and where practical brought up to one hundred

parts. Several very important tables to be appended. This revision will involve a much greater amount of labor than ever before, yet it is now expected to publish the body of the work by the coming summer, and to follow it by a supplement of tables, etc., shortly afterwards, and thus before the expected supplement provided for on or before five years, resolved upon by the general convention at Washington in 1880.

Dr. Amory said that the new Pharmacopœia would have an important commercial influence, as by law of certain States and by act of Congress its standard will be used in assaying certain imported drugs; for example, under the old law the inspector could not admit opium containing less than nine per cent. of morphia, while the Pharmacopœia of 1860 prescribed as a standard only seven per cent.

According to recent legislation the United States Pharmacopœia standard of the strength of opium assay will be the future guide to the custom house inspector for the admission of foreign opium. According to the therapeutical standard of opium used by physicians, the morphia strength is supposed to be about sixteen per cent.; consequently, the standard of opium assay should be somewhere between fourteen per cent. and seventeen per cent. This strength is not agreed upon by the Committee of Revision, but whatever is agreed upon by it will probably be the law. As the methods of assay are somewhat faulty, the forthcoming revision will also endeavor to recommend a more accurate process, which will be the legalized method.

The Pharmacopœia will also give tests for various alkaloids, as quinia, and from this, as well as for other tests of purity of drugs, it will be indispensable to every medical man. The new Pharmacopœia is not a compilation, but represents a good deal of original work; much care and experiment has been given to the syrups and fluid extracts which have been carefully studied up, so that the medicinal strength shall be reliable. Hitherto many fluid extracts have been valueless, because they contained little if any therapeutical effects of the drug from which they were prepared.

Professor Diehl, of St. Louis, has prepared a large number of experiments calculated to prove that the fluid extracts properly represent the drug, and his work is incorporated in the new edition.

So, too, in regard to syrups, many of which on practical experience have hitherto seemed to be easily spoiled by rapid fermentation.

Professor Wall has carefully experimented with this subject, and his syrups, prepared nearly eighteen months ago, have been preserved by the committee to test their present value. The results of his work are also incorporated in the new edition.

Finally, the whole subject of chemistry of the *materia medica* has been thoroughly worked up by Professor Prescott, of Ann Arbor.

A posological table is purposely omitted, the ground being taken that it is not within the province of the apothecary to prescribe.

Many other points of importance have been considered, and as a result the forthcoming edition represents a work which is hardly a revised edition of previous editions, but proposes a new work, the text being entirely rewritten and the subjects divided by an entirely new method.

Dr. Amory hopes, upon a future meeting of the Section, to give further information upon the subject of the Pharmacopœia.

## AN INSTRUMENT FOR DETERMINING THE STRENGTH OF ALCOHOLIC SOLUTIONS.

The secretary showed a small and simple instrument, of French manufacture, for determining the strength of alcoholic solutions. It consists of a small strip of wood which is laid across the top of a tumbler or wine glass containing the solution to be tested; this acts merely as a holder for a piece of capillary tube, such as thermometers are made of, which is slid vertically through an opening in the wood until the lower end of the tube just touches the surface of the liquid. As soon as the tube touches the liquid, the latter is drawn up by capillary attraction, and the point to which it rises is read off on the scale on the tube which is graduated from 0 to 20; these numbers indicate the per cent. of alcohol. Or better, the liquid is sucked up a little way, by applying the mouth to the upper end, and allowed to run down to a point where it remains fixed.

The basis of the method is that in the same tube water is drawn up by capillary attraction very much higher than alcohol, so that when alcohol is present in the water it lessens the height to which the mixture will rise in a capillary tube.

The scale goes only as high as twenty per cent. of alcohol, but with stronger solutions a small quantity may be taken and diluted with once or twice its volume of water before testing.

By this instrument one may readily determine the per cent. of alcohol in dry wines, but not in those containing much sugar, as this acts in a way similar to alcohol.

## Recent Literature.

*The Human Ear and its Diseases; a Practical Treatise upon the Examination, Recognition, and Treatment of Affections of the Ear and Associate Parts. Prepared for the Instruction of Students and the Guidance of Physicians.* By W. H. WINSLOW, M. D., Ph. D., Oculist and Aurist to the Pittsburgh Homoeopathic Hospital, etc., etc. 8vo. Pp. 526.

A treatise well arranged, systematic, and generally well written; not at all original, but an excellent compilation of the best works of some of the best authors, characterized, however, by some peculiar pathology, and by the profound faith in the value of internal medication, and in the treatment of symptoms which seems to be the fundamental creed of the school to which the author belongs.

The author is evidently familiar with the literature of his subject, upon which he has drawn largely, but with discretion. The treatment he advises is, as a rule, judicious, and but little, if any, exception can be taken to the local and surgical treatment recommended for different diseases. We were almost tempted to say the same of his medical treatment, which is the only point in which his practice differs materially from that in general use, but fear we should be accused of actually favoring what we only regard as indifferent. If a patient with acute purulent inflammation of the tympanum is treated by moist heat to the inflamed drum membrane, by inflation of the drum cavity, and later by paracentesis when rupture does not occur, there can be no serious objection to adding hopes to the moist heat, or even a minute quantity of aconite, and if Hepar internally amuses him while the disease is running its course, well and good. Infinitely better this than poult-

icing the ear to destruction, or contenting ourselves with a little sweet oil in the meatus, which cannot do any good and may do harm.

The expression "general rheum" reminds one somewhat of the old erysipelatosus psora which used to "strike inwards," and we are, in reading the book, somewhat at a loss to define such expressions as "red-haired struma;" but there is in reality very much more to commend than to condemn, and the book is a fair exponent, in the local and surgical treatment advised, of sound otological practice, and we can only wish that the medical treatment recommended would bear the test of scientific analysis.

*A Text-Book of Physiology* By M. FOSTER. Second American Edition. By E. T. REICHERT, M. D. Henry C. Lea's Son & Co. 1881.

*Kirkes' Handbook of Physiology.* By W. MORRANT BAKER, F. R. C. S. Tenth Edition. Philadelphia: Presley Blakiston. 1881.

A second American edition of Foster's Physiology has appeared, but as it differs from the first in no essential features, we need only announce its publication. We were at one time disposed to criticise this American edition, but we are willing to confess that the liberal addition of illustrations is a great improvement on the English edition.

We welcome a new edition of Kirkes' Physiology by Dr. Baker, and recommend it most heartily to beginners in that study. In saying this we do not mean to imply that it is an elementary book. It is much more than that. It is particularly clear and intelligible in its descriptions of the mechanical functions of the body, and is not lacking in its exposition of the more difficult problems of the science of physiology. It is brought well up to date, and has been rendered more serviceable by the insertion of *headings* to the leading paragraphs of each chapter. The illustrations have been increased in number, and many of the old ones have been replaced by new, so that it is a delightful as well as an instructive book to read.

*Refraction of the Eye, its Diagnosis and the Correction of its Errors, with Chapter on Keratotomy.* By A. STANFORD MORTON, M. B., F. R. C. S., Edin. etc. Philadelphia: Presley Blakiston. 1881.

It is no easy task that the author has set himself, to compress within fifty-seven small pages so much information on the refraction of the eye and the various methods of determining it as may "enable practitioners to diagnose, and correctly estimate the value of, the phenomena indicating the state of a patient's refraction."

It is not surprising then if he has not wholly succeeded. He has attempted to give too much in the limited space at his command, and the chapter on Keratotomy, so called, would better, with the end in view, have been omitted.

In the preface the hope is expressed that the book "will make evident the necessity which exists for personally working out a large number of refraction cases in order to acquire anything like proficiency in prescribing correct glasses."

It may accomplish this object, but we must doubt if it will furnish the practitioner with sufficient knowledge to enable him to personally work out refraction properly.

# Medical and Surgical Journal.

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## HARVARD UNIVERSITY AND THE MEDICAL EDUCATION OF WOMEN.

At a late meeting of the Board of Overseers of Harvard University, the Board being called upon to advise whether the University should accept a sum of money, to be held until sufficient for the education of women in medicine by the University, and to be returned at the end of ten years if not so used, a committee of three was appointed to confer with the Medical Faculty in regard to its protest against legislation touching the medical education of women under the auspices of the University without consultation with it.

The Medical Faculty, in the mean time, was not slow to give expression to its views by the passage of several votes, in which sixteen out of twenty members concurred. A vote so nearly unanimous would under most circumstances have been thought sufficient, but it is rumored that, had any doubt arisen as to the sincerity of the conviction contained in the protest, the majority would have been also ready to seal its action with its official blood. The Faculty, we are glad to know, has not been called upon for so extreme a proof of sincerity.

A committee of the Faculty conveyed its views to the committee of the Overseers, who reported to the Board at the last meeting, April 12th. The report made no recommendations on the part of the committee of the Overseers, but presented the opinion of the Medical Faculty of the University upon the advisability of permitting women to enter the Medical School, which was substantially as follows: The Faculty, while making no opposition to the medical education of women in general, decidedly oppose it in the Harvard Medical School. The School, they say, was founded for the medical education of men, and has been endowed and sustained for that purpose, a purpose which would be seriously perverted if the School were changed into an institution for the education of both sexes alike. The Faculty has been trying to raise the standard of medical education, and has already made it higher than anywhere else in America. The examinations are harder, and the course of instruction is more complete and thorough, and more distinctly graded than in any other university in the country. Beginning with anatomy, the course ends in the third and fourth years with more abstruse subjects. Although the fourth year is still voluntary, an effort is being made to extend the regular course. The School and the Faculty have now all they can do, and

are doing all that the community can ask of them; and all that they are doing is directly in the line of raising the standard of medical education, and educating students to be good physicians. The addition of a mass of women to the students would probably result either in seriously deranging the machinery of the School, or the standard of the School and of medical education would have to be lowered to the capacity of the many. The closing portion of the report of the Faculty consisted of the following votes, which they adopted in several recent meetings:—

*Voted*, That if the president and Fellows have a desire to be informed of the present views of the Medical Faculty upon the question of female medical education in the University, the latter would respectfully state that, in their opinion, it is not advisable that the president and Fellows should open a course of medical study to women under the auspices of the University.

*Voted*, That the fact that the Medical Faculty is strongly adverse to undertaking female medical education would be, in their belief, of itself fatal to the success of an attempt in that direction.

*Voted*, That female medical education cannot be undertaken in the Medical School without a serious risk of detriment to the interests of the medical education now given to men.

This report having been accepted by the Board the following, which had been proposed at the last meeting, was again brought up by one of the overseers:—

*Voted*, That in the opinion of this Board, it is not advisable for the University to give any assurance, or hold out any encouragement, that it will undertake the medical education of women of Harvard College in the medical school.

After considerable debate the vote was passed by twelve to eleven, *all* the clergymen on the Board voting in the negative, and here the matter stands.

We have given our readers, as briefly as possible, a sketch of the course of recent events and recent action of the University authorities where they relate to the medical education of women, without comment of any kind, and as a result we find that the question has *apparently* accomplished an entire circle and returned to the point from which it was started, by a skillful hand, several years ago, namely: the Corporation of the University. But, though traveling in a circle, the subject has managed to receive considerable enlightenment in the course of its journey.

The Corporation ordinarily originates University legislation and sends it down to the Overseers to be acted on. In the matter of the medical education of women, either from a lack of courage on the part of the Corporation, or a desire for time on the part of the friends of the movement, the Corporation requested advice from the Overseers. This advice is now at length conveyed in a decisive form in the vote above recorded, and it is supposed that the Corporation will act thereon at its approaching meeting.

It is known that the Corporation consists of seven members; we believe the pretense of a certain graceless poet, expressed in a well-known parody, that these seven are represented by one, does not apply to the

present question at least. Of the seven members five are thought to be opposed to the medical education of women by the University, while two are thought to be in its favor. Of the five opposed one is absent from the country.

Two years ago the President of the University stated in his annual report that, "It is obvious that both the governing boards are in favor of giving medical education to women in the University under proper restrictions;" and again, "It is apparent that the reasons given by the Faculty for not admitting women to the school are temporary in their nature." At the present time we find the Medical Faculty opposed to the medical education of women by the University by a vote of sixteen to four; the Corporation — unless we are mistaken — by five to two; and the Overseers opposed to even holding out any encouragement that the University will at any *future* time undertake such education, by twelve to eleven. Had the form of the last vote been less sweeping and less prospective in its character, we have reasons for saying that the majority vote would have been much larger. It is apparent, therefore, either that the President was mistaken in the position assumed in his report two years ago, or that the medical education of women at Harvard is losing favor and friends among those bodies of the University immediately concerned in the decision of the question, — for that the Medical Faculty, as well as the governing bodies, is immediately concerned in the decision of such a question, whether we consider the strength of its expressed convictions or the overshadowing importance of its contributions to the progress and prosperity of the University's medical department, no longer admits of doubt.

A certain degree of direct interest in the management and regulation of the school under its instruction has been formally accorded the Medical Faculty of late by the passage of a vote on the part of the Corporation, that no matters relating to medical education in the University shall be acted upon, in future, until the Medical Faculty shall have had a full hearing on the subject at issue. Hitherto one single individual has enjoyed the advantage over his colleagues of being a member at once of each of the governing bodies, and of each of the school faculties of the University, — that individual being the President. Under such an arrangement, as soon as the President became a partisan upon any important subject, it was scarcely possible that a clear understanding or intelligent cooperation should be established between such a body as the Corporation and the School Faculty involved, and it became almost inevitable that the faculty should feel, with a president in opposition, that they were the victims of a principle comparable to that against which our forefathers rebelled — taxation without representation. The present controversy, between the governing bodies and the Faculty, about the medical education of women, at Harvard, as is always the case when Hector and Achilles are drawn into blows over some one else's Helen, has been long, wearisome, and marked by mistakes as well as by no little personal acrimony on both sides. The most serious mistake on the part of the Medical Faculty we consider to have

been the proposition — whether made as a bluff or in good faith — of three years ago to undertake the education of women for a money consideration of \$200,000; and the most ludicrous and fatal mistake on the part of the anxious advocates of such a step was in not immediately raising the money. They failed to do so, and, a year after, the Faculty passed a vote against receiving women at all, which admits of no misinterpretation. This vote still stands.

At last it is permitted to think that this question is near a tolerably final and, to the majority of the medical world, very satisfactory termination.

The admission of women to the Massachusetts Medical Society, we hope, will shortly be similarly negatived, if again brought up, and some repose may be granted to those who do not live by agitation, and do not believe that either men or women have developed capabilities in our day, which many centuries have failed to reveal.

The other question which this discussion has brought into prominence is one of University government, and has been already touched upon, though as it is by no means a trivial one we venture to refer to it again. The course of this discussion has made it evident that the various schools of a large University cannot safely be governed by any one individual, however able or however earnest, and that there should be, at times, a direct interchange of sentiments between the various faculties and the governing body ordinarily originating legislation.

We have had neither space nor inclination to enter upon the already too vexed question of the general capabilities of women; enough has been said about it. We think, as we have always thought, that time may be safely trusted to dispose of the "woman-movement" to the best advantage of both sexes.

But regarding the extravagances of this movement, as we do, as a temporary enthusiasm, we welcome any indications that old and cherished institutions like the Massachusetts Medical Society and Harvard University, though the future course of one by no means involves that of the other, are not to fall victims in their well-established usefulness to a social fermentation which history will sooner or later refer to simply as a singular phase in the sociology of the latter part of the nineteenth century.

#### RESIGNATION OF THE POST-GRADUATE FACULTY OF THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF THE CITY OF NEW YORK; POST-GRADUATE COURSES IN MEDICINE.

EIGHT of the nine gentlemen composing what has been known as the post-graduate faculty of the Medical Department of the University of the city of New York have recently resigned their positions in that college. Their names and professorships are as follows: Dr. D. B. St. John Roosa, Professor of Ophthalmology; Dr. William A. Hammond, Professor of Diseases of the Mind and Nervous System; Dr. Stephen Smith, Professor of Orthopedic Surgery; Dr. J. W. S. Goutley, Professor of Diseases of the Genito-Uri-

nary System; Dr. Montrose A. Pallen, Professor of Gynaecology; Dr. H. G. Piffard, Professor of Dermatology; Dr. James L. Little, Clinical Professor of Surgery, and Dr. F. R. Sturgis, Clinical Professor of Venereal Diseases. Dr. A. E. Macdonald, Professor of Medical Jurisprudence, will still retain his connection with the University. The reason assigned for this action on the part of the members of the post-graduate faculty is, that certain privileges which they claim had been promised them by the regular faculty in connection with the direction of the work of the college have never been fulfilled; so that they have had no voice whatever in its government, and that instead of constituting a faculty in reality, as they were in name, they were merely a set of medical tutors. The members of the regular faculty, on the other hand, deny that such assurances were ever made on their part; but the great stress which the authorities of the college have always laid in their published announcements upon the superior advantages to be derived from the post-graduate course and upon the prominence of the post-graduate faculty, which they claimed as a special feature of the institution, would seem to afford some ground for believing that it was not altogether without cause that the members of the latter consider themselves to have been unfairly treated. It is true that in both the other large medical schools of New York the professors and lecturers in special departments have always held the same relative position to the regular faculty as they; but there is this difference, that in the other colleges these gentlemen have never been organized as a special faculty, and consequently have not been led to consider themselves entitled to the privileges which are supposed to belong to a faculty, if the title is anything more than an empty name. It will probably be some time before the faculties of the various medical schools will become of Dr. Roosa's opinion, that the humblest instructor in any department of the institution should be duly represented in the administration of its government, as is said to be the case in Yale College, for instance.

The upshot of this secession from the University will probably be the abolition of the so-called post-graduate faculty in that institution, and the incorporation of all the special courses in the curriculum proper. Whether this will be to the advantage of the school or not remains to be seen, — as the gentlemen who have resigned are, as a rule, of very high attainments in their special departments.

Another result that seems likely to follow is the organization of a new college expressly devoted to post-graduate instruction in the various special branches of medicine and surgery. It is the opinion of the most enlightened part of the profession in New York that there is an excellent field for such an institution in that city, and, though it would scarcely be self-supporting for a considerable time, and some sacrifices would be necessary at first on the part of those engaged in its work, that there could be little doubt of its ultimate success. There is, indeed, no reason why the same facilities for post-graduate study should not be offered here in America as are offered in the great medical

centres of Europe; and if such schools should be organized on a proper basis, and their various chairs filled by men of the highest ability and eminence, it is altogether likely that a considerable portion of those who now go abroad for the pursuit of special studies would remain at home for this purpose.

#### CHARLES ROBERT DARWIN.

THE death of Charles Robert Darwin on April 20th, at his home in Kent, is a sorrow to all who knew him, and a regret to all lovers of truth and knowledge. To pay our tribute of respect is a sad duty after so irreparable a loss.

The third quarter of our century has been a period of change. The ways of life and the habits of mind that are ours to-day are unlike the living and thinking of thirty years ago. So complete a revolution could be accomplished only by the contributions of many persons of genius and talent. Of the material changes, a theme often used and abused, we have not now to speak, but to the new mental attitude of our generation those must allude who address the public concerning Mr. Darwin's work, because England's most illustrious naturalist has done more than any other intellectual leader to alter our methods of thought.

The young scientist, who, at the age of twenty-two, offered in 1831 his unsalaried service, in order to join the famous voyage of the *Beagle*, probably little realized the controlling influence that that five years' journey around the world would exert over his entire life. It benefited his mind, while it impaired and weakened his body, for he suffered very greatly from seasickness, and remained in consequence a miserable victim of severe digestive disturbances throughout life. It was therefore most fortunate that his private means rendered him independent, for his invalidism would have been fatal to a discharge of regular and confining duties. It was on the voyage of the *Beagle* that his mind became fixed upon the difficult problem of the origin of species, and his memory stored with many facts that later ranged themselves in support of the theory of natural selection.

During the voyage, and after his return to England, he occupied himself with original investigations, which contributed not only to the advancement of science but also to the development of his own mental powers and the strengthening of those faculties, which, later, enabled him to perfect the great achievement of his life. His early writings display his characteristic qualities, — perspicacity and a calm judicial sense. His mind was essentially historical, and sought always to ascertain the succession of events and the causes thereof. He possessed singular acuteness in appreciating the accumulation of effects from causes in themselves slight. This uncommon gift is especially conspicuous in his last published volume upon the earthworm and the formation of vegetable mould, as well as in one of his earliest works, that on coral reefs.

Darwin was a naturalist of what we should now



call the old school. A geologist, botanist, and zoölogist, he looked upon our earth and its living inhabitants as making the immediate nature around us, and he observed and studied rocks, plants, and animals as nature exhibited them for inspection, and took less part in the present prevailing forms of research than younger men trained in the practice of laboratory work. His voyage enabled him to make many important studies on the natural history of little visited countries, and to form extensive collections, which were afterwards worked up by himself and others. The results of these very prolonged labors are recorded in one of the most delightful books of scientific travel we know, *A Naturalist's Voyage Around the World*.

Darwin's earlier scientific writings gave him a high reputation among *savants*; his book on the origin of species, published in 1859, rendered him world renowned, and awakened the most acrimonious, lasting, and wide-spread discussion of modern times. While others stormed and declaimed, some *pro*, some *contra*, the author of the theory of natural selection himself always discussed the matter calmly, and did much more than any one else to call attention to the serious difficulties in the way of the definite demonstration of the theory. Many of us can remember the denunciations of Darwinism once rife, and can hardly fail to contrast the bitter attacks of a few years ago with the universal respect and appreciation now paid to the former victim of reproach and obloquy. The thought that Darwin lived to see his chief work almost universally accepted calls up a pleasant feeling, for, too often, deserved recognition has been bestowed only by posterity.

Since 1859 Darwin has published a series of volumes, containing the results of his later labors, for the most part in further elaboration of the theory of natural selection. The most important of these is the *Animals and Plants under Domestication*; the most interesting, *The Descent of Man*. Perusal of the former is indispensable for the full comprehension of Darwin's theory, and as there are few persons familiar with it, so there are few who thoroughly understand natural selection. All his writings are pregnant with novel views, and highly original. He has been the first to open several new lines of research. He is always careful and accurate, always painstaking, even as to the form of presentation and the style of language. Indeed, all he wrote, even his occasional brief letters to *Nature*, is pleasant and profitable reading.

The Darwinian theory is thoroughly incorporated in our mental life. As a scientific conclusion it is incontrovertibly established. Its greatest effect has been to infuse biology with new interest, and to impart to it problems and possibilities which have captivated a large proportion of the best scientific intellects of our time. Its widest effect has been to convince us that all the organic world is kin, and that man is a modified and bettered development of a lower type. The far-reaching train of consequences from this conviction extends into every department of human belief.

Mr. Darwin was born February 12, 1809, at Shrewsbury. He counts among both his ancestors (Darwins and Wedgewoods) and children persons of

marked superiority of character. His loss will be deeply felt and long mourned, for he was no less charming in private life than prominent in science.

## MEDICAL NOTES.

### PHILADELPHIA.

— At the quarterly business meeting in April of the Philadelphia County Medical Society, the question of the admission of women as members again came up for decision, but this time in a more material form. A few months ago it was decided, at a very large meeting, that women were eligible to membership under precisely the same regulations as men; at this meeting a practical test was made by placing among the candidates to be balloted for the names of five ladies now practicing in the city, and guaranteed as regular by a professor of the Women's Medical College, and by the Board of Censors of the Society. In presenting these names the Board of Censors declared that it had limited itself strictly to the investigation of the professional standing of the candidates in which it had found nothing objectionable. The Board, however, declared that females are ineligible under the By-Laws of the Society, and offered an amendment inserting the words "or she" in the appropriate sections after the word "he" wherever it occurs. This amendment was not agreed to, the Society apparently adhering to the opinion, expressed in the resolution already referred to, that no amendment is necessary. The question excited sufficient attention to bring out a full attendance at the meeting, but the members proved ungallant enough to black-ball every one of the fair candidates. The advocates of equal rights, though defeated, are but little dismayed by this result, which was not unexpected; the mere fact that the names of women candidates have been allowed by the Board of Censors to be presented for balloting is evidence of marked change, as contrasted with the time when men were professionally ostracised for teaching in the Women's College, or for simply consulting with female practitioners. Now there is apparent among some of our principal practitioners much warm rivalry as to who will bid highest for the consulting practice with the weaker vessels, just as in a neighboring community attention has been called recently to a similar break-neck race for the homœopathic and irregular constituency. Such men do exist in the profession even in Philadelphia, but they have not yet succeeded in capturing our medical societies.

— The College of Physicians, at its April meeting, approved of the necessary alterations for the Nurse Registry, which is expected to be in working order by the first of May. At the same meeting Dr. Geo. C. Harlan reported two cases of congenital iridderemia; and Dr. John M. Keating exhibited specimens of malarial enlarged spleen and liver from a child aged twenty months, and specimens of aortic stenosis and extensive atheromatous disease of the aorta from a woman aged one hundred and three years, both obtained from the wards of the Philadelphia Hospital.

## Miscellany.

## LETTER FROM BALTIMORE.

JOHNS HOPKINS UNIVERSITY AND HOSPITAL. THE  
NEW FREE LIBRARY. THE PEABODY INSTITUTE  
LIBRARY. MEDICAL SCHOOLS.

MR. EDITOR.—Not long ago I took advantage of a leisure afternoon, and made my way over to the Johns Hopkins Hospital, thus endeavoring to combine a little relaxation with the acquisition of some knowledge of a not altogether unprofessional kind. So many years have now elapsed since the trustees invited certain gentlemen to send in plans for the hospital, and the subsequent announcement that the work had been begun, that many persons outside of Baltimore think the hospital is now, of course, open, and doing its beneficent work. In spite of all that has been published about this great undertaking, I have reason to know that many otherwise well informed members of the profession have never understood either the magnitude of the work or the conditions and ideas under which the trustees prosecute it. In the first place, Mr. Hopkins selected for his trustees twelve of the very best and ablest gentlemen in the city, gentlemen who took their ground firmly at the outset that no cost in time and trouble to themselves should hurry them into mistakes which they and their successors might have ample leisure to repent. In young and rapidly developing countries men are naturally anxious to see the immediate results of their labors, the consequences of which anxiety are too often narrowness of conception and lack of thoroughness in execution. In their determination to avoid these errors as far as possible the trustees were aided by a wise provision of Mr. Hopkins, that the hospital should be constructed from the income of his bequest, — \$3,500,000, — thus leaving the principal intact, and insuring a sufficient revenue for the proper maintenance of the charity when in operation. The site for the hospital, selected and secured by Mr. Hopkins before his death, comprises upwards of fourteen acres in a desirable though not fashionable part of the city, and is more than a hundred feet above tide water. The view from parts of the land, and especially from the top of the administration building, is very extended. The subsoil is stiff clay covered by a variable thickness of light, sandy loam.

It is now some five or six years since construction was begun, and I am informed that at least six years more will elapse before the hospital is ready for patients. The whole number of separate wards and buildings contemplated by the plan is over a score, and more than half of these are roofed in. Among these are the immense administration building, the nurses' building, and the two pay wards, one for men, the other for women, with ample accommodation for forty patients each. The construction strikes one as simply magnificent; everything is evidently done in the most thorough manner, and the beauty of the buildings is rather that which belongs to thoroughly honest work; all cheap ornamentation is carefully avoided. This is not the place in which to enter into a detailed description of its careful provisions for ventilation and heating, problems so difficult of solution in our climate with its rapid alternations of temperature, with a winter almost arctic, and a summer almost tropical. It has been my fortune to see all the finest hospitals of Eu-

rope as well as of the Eastern United States, and I have no question that the Johns Hopkins will prove to be by far the most perfect in the civilized world. The buildings are of brick, — of which about *fifteen millions* have already been laid, — with trimmings of a very beautiful, fine-grained, bluish stone, which comes, I understand, from Virginia. The front of the administration building contains some large bits of terra cotta made in your South Boston factory. This is not the only contribution which the "Hub" makes us, for all the plans are sent from the office of Messrs. Cabot and Chandler, one of whom comes on occasionally, though the main supervision of the work is in the hands of Dr. John S. Billings. It is the intention to plaster directly on the brick without furring, and the brick walls are allowed to stand such an unusual length of time that no danger from dampness is anticipated. The visitor can inspect many samples of plastering, all the rival holders of patents and processes being invited to put up a few square yards, that each may be proved, and the best finally selected. The various buildings are to be connected by corridors above and a tunnel below. The tunnel will carry the various pipes and wires of the establishment, — the heating is to be derived from both hot water and steam, — and a railway for transporting the food from the kitchen, linen from the laundry, etc., each ward having its own elevator connected with the tunnel. The hospital will have its own greenhouse in a portion of the grounds, all of which will doubtless be kept in the most beautiful order. A piece of land immediately adjoining that devoted to the hospital has been secured for the medical school, work on which has not yet been begun.

Let me urge it upon any of your readers who pass through Baltimore, or happen to be in its neighborhood, to take half a day for the Johns Hopkins Hospital. Those in charge are most obliging, and take pleasure in showing visitors about, especially medical visitors who know what they are looking at.

To turn next to a subject which is not purely medical, but which has an important bearing on education, medical as well as general. I refer to the establishment of libraries. Within a few months Mr. Enoch Pratt, a Northern man, who came many years ago to Baltimore, and has made a large fortune, offered to the city a library building and about eight hundred thousand dollars in cash, provided that the city government will bind itself perpetually to expend fifty thousand dollars per annum in furnishing and maintaining a free public library. This princely offer has been accepted, and the building is in process of construction. Baltimore has at present no large free *circulating* library, though it has a scholars' library which is without a rival in this country, and probably second to none in the world in the special line of work which it undertakes. This is the library of the Peabody Institute, the fine, new hall for the reception of which has only newly been completed. The library is only for consultation, it not being permitted that books should be taken out. No works of fiction or ephemeral literature of any kind are bought; but no pains or expense are spared to secure all books of science, history, biography, etc., of real value. The library is thus in fact a large one, though it only numbers about ninety thousand volumes. As the name indicates, the funds for its establishment and support were given by the late George Peabody, of London, whose home was at one time in Baltimore.

It will readily be seen how immensely valuable is such a library to the Johns Hopkins University. Every facility is offered to instructors and students alike, and the University is spared the expense of accumulating and maintaining a large library of its own. It has, of course, a carefully chosen collection of works of reference, and also a large number of the important current periodicals within its own doors, and always within the easy reach of the members of the University. A number of other books relating to the work going on are also bought, but any of these which are not considered sufficiently important to keep permanently are sold at a reduction from the cost price at the end of one or two years. A book is kept in the library of the University in which those desirous of buying a book thus to be sold can enter an application for it beforehand.

After the completion of the hospital and medical school our city will thus be thoroughly equipped as a centre of education, and of education, moreover, especially of the higher sort. It is probable that the policy of the medical school will be the same as that of the other departments of the Johns Hopkins University, the attainment, namely, of a high grade of work rather than the attraction of a large number of students. We now have three schools of medicine; one giving a degree after two years of study; the others—for the formation of both of which we have to thank (?) Dr. Edward Warren, late of Egypt, now of Paris—giving degrees after one year's study. We are now also threatened with a female medical college. It will be an interesting matter to watch the effect of the opening of the Johns Hopkins Medical School on these institutions. As in nature, so in medical schools; where competition is close and active the fittest survive, and the weak go to the wall. Very truly yours,

PATAPSCO.

BALTIMORE, April 19, 1882.

#### DR. KEITH AND LISTERISM.

MR. EDITOR,—I have received a communication from my friend Dr. Keith, of Edinburgh, in which he complains, and I think it must be admitted not without cause, of the statements made by your correspondent in the *JOURNAL* of January 12th, as to his position with respect to "Listerism."

After denouncing those statements as being wholly incorrect, and moreover unnecessarily so, in view of the fact that your correspondent could readily have ascertained the truth from himself personally, he (Mr. Keith) goes on to say, "It is untrue that I ever once used carbolic spray one tenth stronger than Mr. Lister's five per cent. solution. It is equally untrue that I ever 'denounced Listerism' or 'pronounced against' the use of antiseptic precautions. I said that for some time I had given up the carbolic spray in abdominal surgery as being unnecessary and sometimes dangerous."

"Giving up the carbolic spray in one special operation,—an operation sometimes lasting a couple of hours,—is a very different thing from giving it up in other surgical work, or from giving up the antiseptic principle. I do not now use the spray in ovariectomy, and since I gave it up my results have been better than they latterly were without it, fifty cases giving a mortality of only one."

In your issue of March 2d you express your desire to do justice in this matter, and I think the above cor-

rection is due to Mr. Keith, who feels indignant at the misrepresentation, and is also due to the profession, who ought to know the exact position as to "Listerism" of one who certainly is second to no man living as an ovariotomist. Whether your correspondent should give up the name of the "English ovariotomist" who made to him such untrue statements touches a question of professional ethics which it is unnecessary to discuss here, though my own opinion is very decidedly thereupon.

Yours respectfully, G. H. LYMAN.

121 BOYLSTON STREET, April 22d.

#### ICE-WATER AND DYSPEPSIA.

MR. EDITOR,—If war is to be waged against the use of ice-water as a thirst quencher, at least let such attacks be discriminating.

When correspondents discuss "excessive" employment of it, in "manufactories," or elsewhere, we are ready to "confess judgment" at once.

But the question offers: is ice-water as likely to be excessively used as that which is not iced?

Our impression is that, under some circumstances at least, it is not. And (although perhaps inaccurate) the impression is drawn from a certain amount of actual experience.

Having, for a term of years, been largely interested in extensive wheat harvests in a Southern State, we reached a conclusion, shared by many others of our section, that the use of ice-water, freely dispensed to the harvesters, lessened the frequency of cholera morbus and other such ills, in great part by diminishing the quantity of fluid ingested.

As a matter of course exposure to excessive solar heat was a potent factor in the production of the maladies sought to be averted, and the ice may have had a salutary effect in counteracting this to some degree. However, admitting possible inaccuracy of observation and conclusion, we submit this for what it is worth.

GEO. BYRD HARRISON, M. D.

WASHINGTON, D. C., April 18, 1882.

#### ILLINOIS STATE EXAMINATION FOR CERTIFICATES OF MEDICAL PRACTICE.

THE following are the questions used at the last annual examination of candidates for certificates of practice by the Illinois State Board of Health (Chicago, April 13-15, 1882). To these questions eighty per cent. of correct answers were required.

The numerous inquiries, both from within and without the State, as to the scope and character of these examinations indicate that the publication of the questions may be timely and useful.

It should be noted that, after the session of 1882-83, candidates will be also required to undergo an examination in the branches of a good English education, including mathematics, English composition, and elementary physics or natural philosophy.

Examination in anatomy, by W. A. Haskell, M. D. 1. Name the bones of the carpus. 2. With what bones does the splenoid articulate? 3. Describe a vertebra. 4. Describe the ligaments of the hip-joint. 5. Name and describe the pronator muscles of the forearm. 6. Give the relations of the femoral artery and vein. 7. Describe the thoracic duct. 8. Give the distribution of the median nerve. 9. Where is Wharton's duct? 10. Describe the liver.

Examination in physiology, by John McLean, M. D. 1. What is the action of saliva in digestion, and what are its chemical constituents? 2. Describe the digestion of starch and of fats

3. Give the source and use of animal heat. 4. How is gastric juice formed, and what is its composition? 5. Explain the secretion of bile, its composition and use. 6. Explain the physiology of sleep. 7. Describe the fetal circulation. 8. What nerves are directly concerned in the act of respiration? 9. Describe the circulation of blood in the fetal heart. 10. What causes the sounds of the heart?

Examination in chemistry, by A. L. Clark, M. D. 1. What is meant by a qualitative, and what by a quantitative analysis? 2. How would you test water for organic impurities? 3. Is hard or soft water most liable to contamination by passage through or standing in lead pipes, and why? 4. How would you test a suspected water for salts of lead in solution? 5. Give the names and symbols for ten elementary substances. 6. Name substances with which it is incompatible to unite KI in prescriptions. 7. What chemical elements are contained in pure grade sugar not found in cane sugar? 8. What liquid is the most universal solvent? 9. What is the difference between analysis and synthesis? 10. What precautions are necessary in handling chlorine in the presence of flame or fire?

Examination in general pathology, by R. Ludlam, M. D. 1. Give a definition of disease. 2. What is the difference between a predisposing and an exciting cause of disease? 3. Name the means employed in physical diagnosis. 4. What is meant by a "qualified prognosis"? 5. What forms of inflammation are reparative? 6. How would you recognize the cancerous cachexia? 7. What diseases are incident to the hæmorrhagic diathesis? 8. In what diseases do we often find albumen in the urine? 9. What form of erysipelas is inoculable? 10. Why do attacks of pelvic and portal congestion frequently alternate with each other?

Examination in the practice of medicine, by John McLean, M. D. 1. What are the symptoms of variola, and its treatment? 2. How would you diagnose variola from varicella? 3. Give ætiology, pathology, and treatment of cholera infantum. 4. What is hysteria, and its treatment? 5. Give ætiology, pathology, and treatment of epilepsy. 6. Give diagnosis and treatment of eczema squamosum. 7. Give pathology, causes, and treatment of typho-malarial fever. 8. Give differential diagnosis of diphtheria, and its treatment. 9. Give symptoms and treatment of leucocythæmia. 10. Give symptoms and treatment of acute idiopathic erysipelas.

Examination in surgery, by W. A. Haskell, M. D. 1. Define inflammation. 2. What is the difference between ulceration and mortification? between caries and necrosis? 3. What is a tumor? 4. Give illustrations of a benign, and of a malignant, tumor. 5. Give the treatment of mammary abscess. 6. Explain the *modus operandi* of reduction of the iliac dislocation of the head of the femur by manipulation. 7. Give the differential diagnosis of compression and concussion of the brain. 8. Give the differential diagnosis of inguinal hernia and hydrocoele of the cord. 9. Give the diagnosis of morbus coxarius: (a) During the first stage before the occurrence of effusion. (b) During the stage of effusion, the capsule of the joint remaining entire. 10. Give the general treatment of fractures of the lower extremities.

Examination in obstetrics, by A. L. Clark, M. D. 1. Define obstetrics. 2. How can you differentiate pregnancy from ovarian tumor or cyst? 3. At what period or stage of labor is there the greatest danger to the mother, and what is the danger? 4. Give the contra-indications to the use of ergot. 5. Under what circumstances should version be performed? 6. Will the mother's blood pass out from the umbilical cord unless this be tied before being cut? 7. Give diagnosis and treatment of puerperal eclampsia. 8. Give diagnosis and treatment of hydrocephalus of the infant during parturition. 9. What is the shape of the posterior fontanelle? 10. Give the treatment for prolapse of the funis umbilicalis.

Examination in gynecology, by R. Ludlam, M. D. 1. What are the uses of the uterine sound? 2. What diseases are accompanied by an increased depth of the womb? 3. In constipation, with or without hæmorrhoids, which ovary is most frequently inflamed, and why? 4. What intra-pelvic inflammation is most frequently rheumatic? 5. What diseases are followed by fixity, or anchorage of the uterus? 6. Name the most frequent cause of menorrhagia in women who have had one or more children. 7. Define a menstrual headache, and give the treatment for it. 8. What are the sources of puerperal traumatism, and what are the most serious lesions that may result from it? 9. In a lying-in patient, how would you distinguish a physiological from a pathological chill? 10. When are mammary abscesses salutary?

Examination in materia medica and therapeutics, by J. H. Rauch, M. D. 1. Classify remedial agents, broadly, by their actions and uses. 2. Name some of the principal agents in each class. 3. Name the principal nino genital remedies, and write

five prescriptions, embracing a different one in each. Give the indications intended to be met by each prescription. 4. What alteratives, emetics, and cathartics are indigenous in Illinois? 5. Give the sources, active principles, two or more official preparations, and uses of (a) camphor, (b) ergot, (c) nux vomica, (d) opium, (e) physostigma. 6. Describe the therapeutic uses of the bromides, and write prescriptions for each of three of them, with indications. 7. Mention some of the most important recent additions to the materia medica, with their uses. 8. Give the therapeutic uses and applications of *aqua fluviatilis* or *fontana*. 9. Mention the different official preparations of antimony. 10. Give the doses of (a) ammonii phosphas, (b) odoformum, (c) strychni sulphas, (d) acidum boracicum, (e) ext. belladonnæ alc., (f) atropiæ sulphas, (g) resina podophylli, (h) tr. aconiti rad., (i) extr. gelsemii fld., (k) acidum hydrocyanicum dilutum.

Examination in hygiene, by J. H. Rauch, M. D. 1. Give the prophylaxis of small-pox, and the measures to prevent its spread on the appearance of the first case. 2. To what extent should vaccination be made compulsory in the United States, and why? 3. What is "ground-water," and what is its agency on health? 4. Describe the principal disinfectants, their applications and modes of use. 5. Formulate a set of rules for school hygiene. 6. What is "sewer-gas," and what evils are ascribed to it? 7. Give the differential diagnosis, for sanitary purposes, of (a) scarlatina, (b) rubella, (c) varicella, (d) variola, (e) febris flava, (f) cholera Asiatica, (g) trichiniasis. 8. Describe vaccination and its progress through the different stages, the effects ascribed to it, its complications, and the ages at, or conditions under, which it should be repeated. 9. What are the chief causes of an excessive mortality, and their remedies? 10. Describe Pasteur's recent experiments.

Examination in medical jurisprudence, by J. H. Rauch, M. D. 1. At what age is the fœtus viable, and what are the signs and indications of such age? 2. What precautions—other than for the safety of the subject—would you observe in the exhibition of an anæsthetic, and why? 3. How would you determine whether lesions, injuries, or discolorations, found on a cadaver, were produced before or after death? 4. What is the course of procedure in the commitment of persons to an insane asylum in this State? 5. Has the registration of vital statistics any legal bearing, and, if so, what?

#### AMERICAN MEDICAL ASSOCIATION.

The thirty-third annual session will be held in St. Paul, Minn., on Tuesday, Wednesday, Thursday, and Friday, June 6, 7, 8, 9, 1882, commencing on Tuesday at eleven A. M.

The delegates shall receive their appointment from permanently organized State Medical Societies, and such County and District Medical Societies as are recognized by representation in their respective State Societies, and from the Medical Department of the Army and Navy, and the Marine Hospital Service of the United States.

Each State, County, and District Medical Society entitled to representation shall have the privilege of sending to the Association one delegate for every ten of its regular resident members, and one for every additional fraction of more than half that number: *Provided*, however, that the number of delegates for any particular State, territory, county, city, or town shall not exceed the ratio of one in ten of the resident physicians who may have signed the Code of Ethics of the Association.

Secretaries of Medical Societies as above designated are earnestly requested to forward, at once, lists of their delegates.

Sections. Practice of Medicine, Materia Medica, and Physiology: Dr. J. A. Oesterlony, Louisville, Ky., Chairman; Dr. D. J. Roberts, Nashville, Tenn., Secretary. Obstetrics and Diseases of Women and Children: Dr. H. O. May, Boston, Mass., Chairman; Dr. C. V. Mottram, Lawrence, Kan., Secretary. Surgery and Anatomy, Dr. ———, Chairman; Dr. W. A. Byrd, Quincy, Ill., Secretary. State Medicine: Dr. A. L. Gibon, U. S. Navy, Chairman; Dr. J. H. Sears, Waco, Texas, Secretary. Ophthalmology, Otolaryngology, and Laryngology: Dr. ———, Chairman; Dr. J. Solis Cohen, Philadelphia, Secretary. Diseases of Children: Dr. S. C. Bussey, Washington, D. C., Chairman; Dr. William Lee, Baltimore, Md., Secretary. Dentistry: Dr. D. H. Goodwillie, New York city, Chairman; Dr. T. W. Brophy, Illinois, Secretary.

A member desiring to read a paper before any Section should forward the paper, or its title and length (not to exceed twenty minutes in reading), to the Chairman of the Committee of Arrangements at least one month before the meeting. — *By-Laws*.

Committee of Arrangements: Dr. A. J. Stone, St. Paul, Minn., Chairman.

WILLIAM B. ABRINSON, M. D., *Permanent Secretary*.  
PHILADELPHIA, 1400 PINE STREET.

## REPORTED MORTALITY FOR THE WEEK ENDING APRIL 15, 1882.

| Cities.                           | Population by Census of 1880. | Reported Deaths in each. | Deaths under Five Years. | Percentage of Deaths from         |                |                       |                |            |
|-----------------------------------|-------------------------------|--------------------------|--------------------------|-----------------------------------|----------------|-----------------------|----------------|------------|
|                                   |                               |                          |                          | The Principal "Zymotic" Diseases. | Lung Diseases. | Diphtheria and Croup. | Scarlet Fever. | Small-Pox. |
| New York.....                     | 1,206,590                     | 820                      | 359                      | 28.52                             | 18.89          | 6.10                  | 9.14           | .61        |
| Philadelphia.....                 | 846,984                       | 429                      | 138                      | 17.02                             | 8.39           | 4.20                  | 2.10           | 1.86       |
| Brooklyn.....                     | 566,689                       | 295                      | 140                      | 23.05                             | 21.36          | 9.19                  | 8.14           | —          |
| Chicago.....                      | 503,304                       | 213                      | 100                      | 29.57                             | 13.15          | .61                   | .23            | .94        |
| Boston.....                       | 362,535                       | 183                      | 47                       | 14.20                             | 19.66          | 6.00                  | —              | —          |
| St. Louis.....                    | 359,522                       | —                        | —                        | —                                 | —              | —                     | —              | —          |
| Baltimore.....                    | 332,190                       | 143                      | 50                       | 21.68                             | 11.19          | 9.79                  | 1.40           | 2.10       |
| Cincinnati.....                   | 255,708                       | 140                      | 49                       | 40.72                             | 12.14          | .71                   | 1.43           | 29.29      |
| New Orleans.....                  | 216,140                       | —                        | —                        | —                                 | —              | —                     | —              | —          |
| District of Columbia.....         | 177,638                       | 85                       | 29                       | 20.00                             | 17.64          | 3.53                  | 2.33           | —          |
| Cleveland.....                    | 160,140                       | —                        | —                        | —                                 | —              | —                     | —              | —          |
| Pittsburgh.....                   | 156,381                       | 65                       | 36                       | 41.54                             | 13.85          | 6.15                  | —              | 7.69       |
| Buffalo.....                      | 155,137                       | 98                       | 50                       | 29.59                             | 22.45          | 5.10                  | 7.14           | —          |
| Milwaukee.....                    | 115,578                       | 42                       | 20                       | 16.66                             | 14.28          | 7.14                  | —              | —          |
| Providence.....                   | 104,857                       | 47                       | 13                       | 4.26                              | 14.90          | 2.13                  | —              | —          |
| New Haven.....                    | 62,882                        | 33                       | 13                       | 12.12                             | 9.09           | 3.03                  | 3.03           | —          |
| Charleston.....                   | 49,999                        | 35                       | 10                       | 14.29                             | 8.57           | —                     | —              | —          |
| Nashville.....                    | 43,461                        | 17                       | 6                        | 11.76                             | 11.76          | 5.88                  | —              | —          |
| Lowell.....                       | 59,485                        | 23                       | 7                        | —                                 | 8.69           | —                     | —              | —          |
| Worcester.....                    | 58,295                        | 15                       | 3                        | 13.33                             | 6.66           | 6.66                  | —              | —          |
| Cambridge.....                    | 52,740                        | 30                       | 10                       | 13.33                             | 26.66          | 9.99                  | —              | —          |
| Fall River.....                   | 49,006                        | 20                       | 6                        | —                                 | 5.00           | —                     | —              | —          |
| Lawrence.....                     | 39,178                        | —                        | —                        | —                                 | —              | —                     | —              | —          |
| Lynn.....                         | 38,284                        | 11                       | —                        | 27.27                             | 18.18          | 18.18                 | —              | —          |
| Springfield.....                  | 33,340                        | 9                        | 4                        | 11.11                             | 22.22          | —                     | 11.11          | —          |
| Salem.....                        | 27,598                        | 12                       | 3                        | 8.33                              | 16.66          | 8.33                  | —              | —          |
| New Bedford.....                  | 26,875                        | 13                       | 4                        | 7.69                              | 7.69           | —                     | —              | —          |
| Somerville.....                   | 24,985                        | 9                        | 3                        | 22.22                             | 22.22          | 22.22                 | —              | —          |
| Holyoke.....                      | 21,851                        | 9                        | 3                        | 44.44                             | —              | 22.22                 | —              | —          |
| Chelsea.....                      | 21,785                        | 7                        | 1                        | —                                 | 14.28          | —                     | —              | —          |
| Taunton.....                      | 21,213                        | 6                        | 1                        | —                                 | —              | —                     | —              | —          |
| Gloucester.....                   | 19,329                        | 12                       | 4                        | 8.33                              | —              | 8.33                  | —              | —          |
| Haverhill.....                    | 18,475                        | 8                        | 1                        | 25.00                             | —              | 12.50                 | —              | —          |
| Newton.....                       | 16,995                        | 9                        | 2                        | —                                 | 22.22          | —                     | —              | —          |
| Brocton.....                      | 13,608                        | 4                        | 2                        | —                                 | —              | —                     | —              | —          |
| Newburyport.....                  | 13,537                        | 10                       | 3                        | 30.00                             | 10.00          | 10.00                 | —              | —          |
| Fitchburg.....                    | 12,405                        | 7                        | 3                        | —                                 | —              | —                     | —              | —          |
| Malden.....                       | 12,017                        | 4                        | 1                        | —                                 | —              | —                     | —              | —          |
| Eighteen Massachusetts towns..... | 134,955                       | 44                       | 4                        | 9.10                              | 13.64          | 2.27                  | —              | —          |

Deaths reported 2907 (no reports from St. Louis, New Orleans, and Cleveland); 1125 under five years of age; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and fevers) 673, lung diseases 449, consumption 394, diphtheria and croup 167, scarlet fever 129, small-pox 82, measles 64, typhoid fever 51, diarrheal diseases 50, whooping-cough 34, cerebro-spinal meningitis 31, erysipelas 26, malarial fevers 22, puerperal fever 14, typhus fever three. From *measles*, New York 33, Chicago seven, Philadelphia and Pittsburgh six each, Brooklyn five, Cincinnati four, Buffalo two, Baltimore one. From *typhoid fever*, Philadelphia 25, Cincinnati four, New York, Chicago, and Baltimore three each, Boston, District of Columbia, Buffalo, and Charleston two each, Brooklyn, Pittsburgh, Milwaukee, Holyoke, and Waltham one each. From *diarrheal diseases*, New York 16, Chicago nine, Boston six, District of Columbia five, Baltimore four, Pittsburgh three, Brooklyn and Buffalo two each, Cincinnati, Milwaukee, and Charleston one each. From *whooping-cough*, New York 18, Brooklyn five, Philadelphia and Baltimore two each, Chicago, Boston, Pittsburgh, Buffalo, Providence, Charleston, and Cambridge one each. From *cerebro-spinal meningitis*, Buffalo nine, New York eight, Pittsburgh four, Philadelphia and Chicago two each, District of Columbia, Milwaukee, Worcester, New Bedford, Haverhill, and Milford one each. From *erysipelas*, New York nine, Boston four, Philadelphia, Brooklyn, Cincinnati, and Pittsburgh two each, Chicago, Baltimore, Buffalo, Newburyport, and Weymouth one each. From *malarial fevers*, New York 13, District of Columbia four, Brooklyn two, Baltimore, New Haven, and Nashville one each. From *puerperal fever*, New York, Chicago, Boston, and Cincinnati two each, Philadelphia, Pittsburgh, Milwaukee, New Haven, Holyoke, and Newburyport one each. From *typhus fever*, New York two, and Charleston one.

One hundred and seventeen cases of small-pox were reported in Cincinnati, Pittsburgh 19, Brooklyn eight, Baltimore six, Buffalo four, District of Columbia and Milwaukee each two; diphtheria 10 cases, scarlet fever 12, and typhoid fever five, in

Boston; scarlet fever 16 cases, and diphtheria two, in Milwaukee.

In 38 cities and towns of Massachusetts, with a population of 1,039,313 (population of the State 1,783,086), the total death-rate for the week was 22.26 against 22.83 and 21.80 for the previous two weeks.

For the week ending March 25th, in 173 German cities and towns, with an estimated population of 8,418,545, the death-rate was 27.1. Deaths reported 4388; under five 2063; pulmonary consumption 731, acute diseases of the respiratory organs 492, diphtheria and croup 232, diarrheal diseases 140, scarlet fever 79, whooping-cough 75, typhoid fever 54, measles and röteln 39, puerperal fever 21, small-pox (Königsberg, Munich, Essen four, Bochum, Koblenz, Strassburg, Darmstadt) 10, typhus fever (Königsberg, Stargard, Tilsit two, Posen) five. The death-rates ranged from 15.7 in Halle a. S. to 38 in Strassburg; Königsberg 27.7; Breslau 34.5; Munich 35.3; Dresden 23.8; Berlin 22.6; Leipzig 24.3; Hamburg 27.2; Hanover 23.8; Bremen 28; Cologne 26.2; Frankfurt a. M. 24.5.

In the 28 English towns, with an estimated population of 8,457,514, for the week ending April 1st, the death-rate was 23.2. Deaths reported 3767; acute diseases of the respiratory organs (London) 408, whooping-cough 226, measles 181, scarlet fever 71, fever 61, diarrheæ 43, diphtheria, 42, small-pox (London) 9. The death-rates ranged from 10.6 in Huddersfield to 34.3 in Oldham; Leeds 21; London 22.7; Sheffield 22.6; Bristol 24.1; Liverpool 26.9; Manchester 32.7; Birmingham 20.8.

For the week ending April 1st in the Swiss towns, population 479,934, there were 64 deaths from acute diseases of the respiratory organs, pulmonary consumption 43, diarrheal diseases 28, diphtheria and croup 17, whooping-cough and typhoid fever each four, puerperal and scarlet fever each two. The death-rates were, Geneva 29.3; Zurich 41.6; Basle 19.6; Berne 40.2.

The meteorological record for the week ending April 15th, in Boston, was as follows, according to observations furnished by Sergt. O. B. Cole, of the U. S. Signal Corps:—

| Date.               | Baromet-<br>er. | Thermom-<br>eter. |          |          |            | Relative<br>Humidity. |             |       | Direction of<br>Wind. |            |             | Velocity of<br>Wind. |            |             | State of<br>Weather. <sup>1</sup> |            |             | Rainfall.                |                      |
|---------------------|-----------------|-------------------|----------|----------|------------|-----------------------|-------------|-------|-----------------------|------------|-------------|----------------------|------------|-------------|-----------------------------------|------------|-------------|--------------------------|----------------------|
| April,<br>1882.     | Mean.           | Mean.             | Maximum. | Minimum. | 7.23 A. M. | 3.23 P. M.            | 11.23 P. M. | Mean. | 7.23 A. M.            | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.           | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.                        | 3.23 P. M. | 11.23 P. M. | Duration,<br>Hrs. & Min. | Amount in<br>inches. |
| Sun., 9             | 29.84           | 37                | 46       | 32       | 100        | 73                    | 85          | 86    | SE                    | SE         | NE          | 4                    | 18         | 16          | G                                 | F          | R           | —                        | —                    |
| Mon., 10            | 29.79           | 31                | 38       | 28       | 76         | 65                    | 68          | 76    | N                     | E          | NE          | 13                   | 13         | 7           | Z                                 | O          | F           | —                        | —                    |
| Tues., 11           | 29.795          | 34                | 45       | 27       | 78         | 56                    | 45          | 60    | NW                    | E          | W           | 8                    | 11         | 9           | C                                 | F          | C           | —                        | —                    |
| Wed., 12            | 29.810          | 36                | 43       | 25       | 56         | 24                    | 53          | 44    | W                     | W          | SW          | 17                   | 25         | 15          | C                                 | F          | C           | 14.58                    | .15                  |
| Thurs., 13          | 29.769          | 42                | 50       | 32       | 54         | 39                    | 50          | 48    | W                     | W          | W           | 16                   | 20         | 10          | C                                 | F          | O           | —                        | —                    |
| Fri., 14            | 29.932          | 45                | 55       | 39       | 57         | 36                    | 65          | 53    | NW                    | NW         | N           | 8                    | 12         | 7           | O                                 | F          | O           | —                        | —                    |
| Sat., 15            | 29.974          | 41                | 57       | 32       | 54         | 51                    | 57          | 54    | W                     | E          | NW          | 10                   | 14         | 10          | C                                 | F          | C           | —                        | —                    |
| Means, the<br>week. | 29.846          | 38                | 57       | 25       |            |                       | 60          |       |                       |            |             |                      |            |             |                                   |            |             | 14.58                    | .15                  |

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; X., clearing.

#### DR. HERBERT SHURTLEFF.

At the meeting of the Plymouth District Medical Society, held in North Abington, Wednesday, the following resolutions on the death of Dr. Shurtleff were passed:—

If *thereas*, We are called suddenly and unexpectedly to mourn the loss of our highly esteemed associate, Dr. Herbert Shurtleff, whose intently death was the sad result of faithful and untiring devotion to his professional duties:—

*Resolved*, That we deeply sympathize with the family thus suddenly bereaved of a beloved husband and father, and with the people where he resided, who had unbounded confidence in his skill and faithfulness as a physician, as well as a high appreciation of his social and moral qualities as a citizen and friend.

*Resolved*, That, as a Society, we shall ever hold in grateful remembrance his genial disposition, his warm and lasting interest in the Society, and his worth and high standing as a member of the profession.

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM APRIL 15, 1882, TO APRIL 21, 1882.

CORBUSIER, W. H., captain and assistant surgeon. Now awaiting orders, to report in person to the commanding general, Department of the East, for assignment to duty. S. O. 78, C. S., A. G. O.

DAVIS, W. B., captain and assistant surgeon. Now awaiting orders, to report in person to the commanding general, Department of the Platte, for assignment to duty. S. O. 78, C. S., A. G. O.

KING, WM. H., captain and assistant surgeon. To be relieved from duty in Department of the East on receipt of this order, and then to proceed to his home.

Granted leave of absence until further orders, on account of sickness. S. O. 82, A. G. O., April 10, 1882.

GILLENLAP, CHARLES B., major and surgeon. In accordance with paragraph 12, S. O. 78, C. S., from headquarters of the Army, relieved from duty in this Department. S. O. 57, Department of Dakota, April 11, 1882.

GARDNER, W. H., captain and assistant surgeon. His assignment to duty at Fort McKavett, to relieve Surgeon Waters, revoked, and to report to the commanding officer, Fort Davis, Texas, for duty as post surgeon. S. O. 38, Department of Texas, April 14, 1882.

LAUDERDALE, J. V., captain and assistant surgeon. Paragraph 1, S. O. 47, C. S., from these headquarters, in regard to him, revoked; and he will proceed to Fort Sully, D. T., and report to the commanding officer of that post for duty. S. O. 59, Department of Dakota, April 13, 1882.

BROWN, P. R., captain and assistant surgeon. To be relieved from duty in Department of Texas on receipt of this order; to proceed to New York city, and, on arrival, report by letter to the Surgeon-General. S. O. 88, A. G. O., April 17, 1882.

FISLEY, J. A., captain and assistant surgeon. Relieved from duty at Fort Concho, Texas, and assigned to duty as post surgeon at Fort McKavett, Texas, relieving Surgeon Waters. S. O. 38, C. S., Department of Texas.

KILBOURN, H. S., captain and assistant surgeon, having re-

ported in person at these headquarters, will proceed to Fort Shaw, Mont. T., and report to the commanding officer of that post for duty. S. O. 60, Department of Dakota, April 14, 1882.

CORBUSIER, WILLIAM H., captain and assistant surgeon. Assigned to duty as post surgeon at Fort Mackinac, Mich. S. O. 67, Department of the East, April 15, 1882.

DAVIS, WILLIAM B., captain and assistant surgeon. So much of paragraph 12, S. O. 78, April 5, 1882, from A. G. O., as directs him to report for duty to the commanding general, Department of the Platte, is amended so to direct him to report in person for duty to the commanding general, Department of Dakota. S. O. 87, A. G. O., April 15, 1882.

MASSACHUSETTS COLLEGE OF PHARMACY. — The fourteenth annual commencement of the Massachusetts College of Pharmacy was held in the College Hall, 1151 Washington Street, Boston, on Wednesday evening, April 5, 1882. The degree of Graduate in Pharmacy was conferred upon the following gentlemen of the class of 1882 by the president, Mr. Solomon Carter: Nathaniel Herbert Clark, Richard Barker Dawson, Henry Eugene Fleming, Franklin Willard Freeman, Lyman Whitney Griffin, Edwin Hirth, Edgar Clarence Maxey, Edward Franklin Otis, Daniel Ellis Ray, George Melzar Stetson, James Henry Thompson, Henry Thacher.

SUFFOLK DISTRICT MEDICAL SOCIETY. — The annual meeting of the Suffolk District Medical Society will be held at 19 Boylston Place, on Saturday, April 29th, at 7.45 p. m. The following papers will be presented: Scrofula, or Hodgkin's Disease, Dr. G. Liebmann. Apparatus for Spinal Curvature, Dr. E. H. Bradford. Report of Cataract Operations, Dr. B. Joy Jeffries. Exhibition of Obstetrical Manikin. Election of officers. Supper at the usual hour. Members are requested to notify the secretary of any change of address or failure to receive notices of meetings. H. C. HAVEN, Secretary.

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — A regular meeting of the Society will be held on Monday, May 1, 1882, at eight o'clock p. m., at the hall, 19 Boylston Place. Reader, Dr. Abner Post. Dr. M. H. Richardson will show a Dissection of the Nerves of the Hand. C. M. JONES, Secretary.

GYNÆCOLOGICAL SOCIETY OF BOSTON. — The next regular meeting will be held at the Medical Library Rooms, on the first Thursday of May, at eleven o'clock a. m. W. S. BROWN, M. D., will present a paper introducing a discussion upon Septicæmia in Women. Profession invited.

HENRY M. FIELD, M. D., Secretary.

BOOKS AND PAMPHLETS RECEIVED. — The International Scientific Series, Suicide: An Essay on Comparative Moral Statistics. By Henry Morselli, M. D. New York: D. Appleton & Co. 1882.

Myxœdema. By A. Clifford Mezer, M. D., F. R. M. S., Instructor in Histology in the College of Medicine, Syracuse University. A paper read before the Syracuse Medical Association, February 15, 1881. (Reprint from the Medical Record.)

## Original Articles.

CASES OF PULMONARY CONSUMPTION FOLLOWED BY RECOVERY, OR BY ARREST OF THE DISEASE.<sup>1</sup>

BY FRANCIS MINOT, M. D.,

*Physician to the Massachusetts General Hospital.*

EVERY practitioner of much experience occasionally meets with instances of recovery from pulmonary consumption, or of long-continued arrest of the disease. Dr. Flint, in his valuable work on Phthisis, gives the histories of forty-four recoveries, besides thirty-one cases of arrested or non-progressive phthisis, from which it would appear that neither age, sex, family predisposition, nor hæmoptysis are unfavorable circumstances as elements in the prognosis. The great fatality of the disease should lead us to study such cases in the hope of obtaining some hints which may guide us in the treatment, or at least in the prognosis of this malady. Of the following cases perhaps three can be considered as examples of recovery, one of which was followed, ten years afterwards, by a recurrence of the disease, which proved fatal.

## CASE I. PULMONARY SYMPTOMS FOR SEVERAL MONTHS; SIGNS IN RIGHT APEX; TWO YEARS AFTERWARDS GOOD HEALTH AND ABSENCE OF PHYSICAL SIGNS.

A hack driver, aged thirty, much exposed to weather, often up all night, and when off the box spending most of his time in a small, ill-ventilated room with several other coachmen; had a cough during the whole of the winter of 1859-60, which began in an acute attack of chest affection of some kind. Considerable expectoration, chiefly early in the morning. Never hæmoptysis. Steadily lost flesh and strength from the first. No night sweats.

March 7, 1860, dullness below right clavicle, especially towards outer extremity. Prolonged expiratory murmur throughout whole of same region. Inspiration loud, somewhat harsh, with occasional moist clicking sounds. After cough abundant explosion of moist crackling. Some crackling after cough in right supra-spinous fossa. Heart sounds normal. Pulse 96. Patient is a large, stout man, but appears weak and depressed. Features somewhat pinched. Complains of feeling cold in spite of extra clothing, but declares he is not sick, and only applies for advice at the request of friends. (Cod-liver oil; croton oil to chest.) Two years afterwards, in April, 1862, he consulted me about a pain in the left side, apparently neuralgic, and without physical signs. Examination of the right apex showed roughness of the respiratory sound, with prolonged expiratory murmur, below the clavicle, but no râle, even after cough. There was but little difference in the percussion sound between the two sides of the chest. No cardiac murmur. No record concerning cough. He had kept steadily at work, and his health had "considerably improved."

The absence of proper details leaves us in doubt whether a *considerable improvement* in health can be regarded as a complete recovery from the symptoms of pulmonary disease; but the examination of the chest shows that the local disease had retrograded, and was perhaps in a state of permanent arrest.

CASE II. HÆMOPTYSIS, WITH GENERAL SYMPTOMS OF PHTHISIS, SIGNS IN LEFT APEX; RAPID IMPROVEMENT AND COMPLETE RESTORATION TO HEALTH; TEN YEARS AFTERWARDS RECURRENCE OF THE DISEASE AND DEATH IN SIX MONTHS.

An unmarried lady, thirty-five years old. Her mother died with pulmonary symptoms, over sixty years of age. Health delicate; she was liable to "take cold," and suffered from dysmenorrhœa, rheumatism, and dyspepsia. Short in stature, slender. In January, 1865, a severe catarrh, lasting many weeks, for which she took fusel oil, and had croton oil and blisters applied to the chest. My notes state that some trouble in the apex of the left lung was suspected, but no signs were recorded. She recovered perfectly, and became unusually well, gaining eight pounds in weight. In August, 1866, she took cold, and had a slight cough, with debility. August 31st hæmoptysis twice. This occurred a few days after menstruation.

September 1st, dullness below outer extremity of left clavicle; respiration rough, with clicking; fine bubbling râle after cough in left supra-spinous fossa. (Fusel oil; croton oil to chest; full inspirations to be practiced regularly.) Immediate improvement in general health.

December 17th, some hæmoptysis for several days. She had gained four pounds in weight. (Cod-liver oil.)

January 31, 1867, increase of cough and expectoration, and subjective "rattling" within the chest; nevertheless she rapidly improved, and on March 31st was apparently in perfect health.

October 10th her weight was one hundred and twenty-five pounds, more than ever before in her life. Occasional cough and slight expectoration in the morning. She walks without fatigue. Catamenia regular, digestion good. She had taken regularly half an ounce of cod-liver oil twice daily, except when she had been able to procure plenty of good cream.

November 20th, some dullness below left clavicle to whole extent horizontally, and two or three inches vertically. In same region occasional dry, creaking sounds on full inspiration. No crackling after cough, no râles, bronchial respiration, bronchophony, or other signs anywhere.

August 9, 1869 (four years from first sickness), strength, color, and flesh perfectly good; catamenia regular. No dullness in left apex; some dry sounds below left clavicle and in supra-spinous fossa; no moist râles heard anywhere, even after cough.

This patient afterwards went to Europe, where she was married, and remained during the rest of her life. Her health continued to be good until 1875, when she had a "rheumatic attack," which prostrated her very much. She died, November 1, 1876, of "consumption of the lungs" the symptoms of which began six months previously. I have not been able to obtain any further particulars of the case.

Here, as in the preceding case, the disease remained limited to its original seat, the active processes ceased, and the patient was in the enjoyment of good health, with no pulmonary symptoms for about nine years. Whether the return of the lung disease could be ascribed to any particular cause we have no means of knowing. The patient was remarkably faithful in carrying out the treatment, and to this I ascribe some share of her improvement.

<sup>1</sup> Read before the Boston Society for Medical Improvement, April 24, 1882.

CASE III. FAMILY PREDISPOSITION TO CONSUMPTION; COUGH, HÆMOPTYSIS, GENERAL SYMPTOMS OF PHTHISIS, WITH PHYSICAL SIGNS; RAPID IMPROVEMENT AND APPARENT RECOVERY; SUDDEN DEATH ELEVEN YEARS AFTERWARDS, PRESUMABLY FROM CARDIAC AFFECTION.

A gentleman, twenty-eight years old, single. His mother and one brother died of consumption. Previous health good. In April, 1869, he "caught cold," coughed, and raised a considerable quantity of blood. The only signs found were jerking inspiration in left front, and a remarkably loud arterial whiff below outer extremity of left clavicle. Respiratory murmur everywhere rather faint; no râles. May 6th, increased cough, sweating at night, hoarseness of voice; abundant moist râles in right apex, front and back. (Churchill's hypophosphites, whiskey, cold sponge bathing, iodine to chest.) He improved rapidly, strength and weight good; he seemed well, except for slight morning cough and expectoration. The voice was nearly free from hoarseness, but he was not able to sing, as formerly. October 19th, dullness throughout right upper front, with marked depression of chest wall. Clicking râle on full inspiration. Amphoric respiration in right supra-spinous fossa. Resonance of voice throughout right summit. Subjective "rattling" about the base of the neck, especially at night. He passed the following winter (1869-70) in Europe, continuing the treatment, and returned in good condition. October 10, 1870, the depression of chest wall below right clavicle was very striking; the râles were drier than before; the amphoric respiration in the supra-spinous fossa had disappeared. General health apparently perfectly good. December 9, 1872, he weighed one hundred and fifty-three pounds, and was apparently in perfect health. Below right clavicle for a space of several inches, vertically, corresponding to the sunken chest wall, there was a distant, harsh, cavernous sound with both inspiration and expiration. He had taken no medicine, except from two to eight ounces of whiskey daily. In 1878 he was married. In the spring of 1880 he complained of indefinite symptoms, which he suspected might be caused by disease of the heart, and he appeared hypochondriacal. He did not consult me, and I do not know whether there was any ground for his suspicion, but he died suddenly, while in a railroad train, after complaining for a few minutes of faintness. There was no autopsy.

This case is interesting on account of the apparently complete recovery of a patient with a family predisposition to consumption, whose right lung had been destroyed to such an extent as to cause much depression of the front wall of the chest. The fortunate event may in part be attributed to the perseverance with which the treatment was carried out, and to the means which the patient possessed of traveling, riding on horseback, and living much in the open air.

CASE IV. HÆMOPTYSIS FIVE YEARS AGO; SIGNS OF STRUCTURAL DISEASE OF LUNG CONTINUING EVER SINCE, WITH APPARENT GOOD HEALTH.

A young lady, eighteen years old, well nourished, blonde, previously very healthy. Parents both living and well; no consumption in the family of either. March 21, 1877, during the monthly period, she coughed up bloody mucus. No fever. Abundant crackling and creaking sounds were heard in the right lower front, lateral, and

posterior regions of the chest. In upper front and back, respiration normal. No dullness anywhere. The signs disappeared completely the next day, and she appeared quite well. There was no change in her general condition during the summer, which she spent at the sea-shore and in traveling, taking cod-liver oil regularly.

October 2d. Decided dullness below right clavicle. Moist creaking sounds at the end of inspiration in every part of right front and lateral region and upper half of back, but most marked between mamma and right edge of sternum, where there is also a fremitus perceptible to the finger. The patient refers to a peculiar sensation at this spot. Pulse 72; temperature of axilla 97.9° F. There had been scarcely any expectoration during the summer.

She went abroad for two years, returning in October, 1879. She gained constantly, and never had much cough or expectoration. She took cod-liver and iron, and thought she derived great benefit from the inhalation of the vapor of tar. Weight, in December, 1879, one hundred and fourteen pounds. January 8, 1880, she raised a few drops of blood during the menstrual period, the first for about a year. She was apparently well, though delicate. She lived carefully, but went into society in the evening. She had scarcely any cough, and no expectoration. Catamenia regular and normal. No sweating. Tall in stature and under weight. Pulse 84. Chest wall below right clavicle considerably sunken, and dull on percussion for a breadth of two or three inches. Moist clicking or bubbling râle on full inspiration, with crackling after cough throughout whole of upper two thirds of right front. Râle is also heard beneath axilla and below mamma. Loud resonance of voice in same regions. Behind, the râle is limited to the space between the upper part of scapula and spinal column of right side. On quiet breathing the respiratory murmur in the right upper front is harsh, compared to the left. No cardiac murmurs; second sound of heart not much attenuated. No signs in left chest. She still takes cod-liver oil, and has a vessel of tar by her bedside, the vapor of which fills the room. December 5, 1881. By report she is quite well, and has had no cough during the past six months. She continues in the same condition at the present time.

The pathology of this case is obscure. The hæmoptysis invariably occurred during menstruation, which has always been normal in all respects. Hence we may infer that it resulted from congestion of the pulmonary vessels, as is confirmed by the fact that there was considerable variation in the extent of the signs after it. That some destruction of the lung tissue has taken place seems, however, evident from the persistence of well-marked signs of softening about the right apex, with sinking of the chest wall. The almost complete absence of cough and expectoration is remarkable, but such cases have been observed. I have had one under my care, in which the disease was revealed by the autopsy, and two are reported by Dr. H. A. Lediard in the *London Medical Times and Gazette* for April 1, 1882. Finally, the preservation of good general health during the whole period from the first attack of hæmoptysis to the present time is as unusual as it is gratifying. It may, perhaps, be in part accounted for, as in the two preceding cases, by the fidelity with which the patient carried out the treatment, and the possession of facilities for travel, etc.



CASE V. RATIONAL AND PHYSICAL SIGNS SINCE FEBRUARY, 1880; IN SIX MONTHS IMPROVEMENT WHICH HAS STEADILY CONTINUED. APPARENT GOOD HEALTH AT THE PRESENT TIME.

A young lady, fifteen and a half years old, of rather slender frame, but general good health. No lung disease in family of either parent. In February, 1880, signs of failure of strength, loss of appetite and of cheerfulness, dyspeptic symptoms, etc. In May, cough, especially troublesome early in the morning. It increased in June. Rapid loss of flesh; dusky hue of the surface; cold hands and feet; shortness of breath on exertion; no hæmoptysis. Physical signs first noted June 19th, dullness, with harsh expiratory murmur below left clavicle, and in upper part of left back, between scapula and spinal column; and bronchophony in latter place, also below inner extremity of clavicle. Cough spasmodic, lasting an hour or more, accompanied by frothy expectoration. Sweating at night. Pulse 120. Extract of malt, whiskey, phosphoric acid, tincture of belladonna at night; full inspirations practiced regularly. The patient went to the sea-shore June 25th, and a slight improvement immediately showed itself, which progressed slowly but without interruption. She passed almost the whole day in the open air. The cough became less urgent at night, the appetite improved. She could, however, walk but a short distance; there was much emaciation, shortness of breath, and duskiess of surface.

August 12th. Weight eight-two pounds, being the same as when she left town. Pulse 108; temperature 99.6° F. Principal signs noticed were harsh expiration with resonance of voice, and especially of whisper below inner end of left clavicle, and between upper part of left scapula and the spinal column. Some general improvement shown by increased animation, and interest in people and things about her, and by some gain in strength. She can walk a little, and drives a good deal. Appetite somewhat improved. The nights are better; cough less urgent, softer and looser, and has lost its paroxysmal character. From this time the improvement was regular, and comparatively rapid. The patient returned from the sea-shore early in November in apparent good health, appetite good, complexion blooming; very little cough. She could walk two miles, and spent almost the whole day in the open air. The signs were but little altered, except that the bronchial respiration in the left upper back had disappeared. There was abundant moist crepitation after cough in the left axilla. The treatment had been assiduously carried out. November 26th, she raised a little blood for the first time. A year later she was the picture of health, weight one hundred and twelve and a half pounds, no cough, no expectoration. The only signs were some fine, dry, crumpling sounds below left mamma, at the end of full inspiration. Pulse 90 to 100. Menstruation appeared for the first time January 8, 1882. It lasted four days, was rather scanty, and without pain. March 31st, below left mamma and in the lateral region of the same side are heard a few bubbling râles, somewhat increased after cough. The upper part of the chest is quite free from râle. Pulse 88 to 92. There have been some cough and expectoration of late, owing apparently to a cold. The general condition continues as good as before. Weight one hundred and twelve pounds. The monthly periods have been irregular and scanty.

The duration of this case up to the present time is

two years and two months. The patient cannot be considered well, and certainly is not free from danger of a return of the grave symptoms which once threatened her life. It may be considered as one of "arrested phthisis." There is, however, a reasonable prospect of eventual recovery.

CASE VI. FAMILY PREDISPOSITION; COUGH, EXPECTORATION; SIGNS IN LEFT LUNG; RAPID DEVELOPMENT OF GENERAL SYMPTOMS; GREAT IMPROVEMENT WHILE AT THE SEA-SHORE; APPARENT RECOVERY WITH PERSISTENCE OF THE PHYSICAL SIGNS.

A married lady, thirty-eight years old, has four children, youngest four years old; no miscarriages. Her mother and two of her sisters died of consumption. Health good till the winter of 1879-80, when she had dry cough and loss of flesh. In April, 1880, a little expectoration; never hæmoptysis; chest wall in left front somewhat sunken. Dullness, with clicking, bubbling râle after cough in left upper front and back. During the summer she was at Rye Beach, where at first all the symptoms were greatly increased; she lost much flesh and strength, the voice became husky, and her condition was very discouraging. In a few weeks she began to amend, and the improvement continued during the whole of her stay at the sea-shore. August 15th, she weighed one hundred and seventeen pounds, but before leaving Rye Beach in September, she weighed one hundred and twenty-seven pounds, and on November 27th, one hundred and forty pounds. September 28th, there was dullness in left subclavicular region, with depression of the chest wall; the râle had greatly diminished in the same region, and could not be heard at all behind, though the respiration was louder and harsher there than on the right side. The general condition was correspondingly good; there was very little cough, scarcely any expectoration, appetite and sleep good, catamenia normal, pulse 108, voice still "veiled." In October, 1881, after another season at Rye Beach, during which she was as well as usual, without cough or expectoration, her weight was one hundred and forty-seven pounds. She was then taking two ounces of whiskey three times a day, no medicine. She remains in the same general condition, but there is still some râle in the left upper front.

This case must also come under the head of "arrested phthisis," but we may hope the patient may eventually recover. This case and the last are remarkable instances of rapid and progressive improvement during a residence at the sea-shore, a situation which is not usually considered favorable for patients with chronic lung diseases, especially where the temperature is very low, as at Rye Beach. I visited the last patient during one of the hottest days of the summer of 1879, and found her in a room which was made only comfortably warm by a good fire. The other patient (Case V.) always felt more comfortable during an east wind.

CASE VII. SUDDEN HÆMOPTYSIS DURING APPARENT GOOD HEALTH IN A PATIENT WHOSE HUSBAND WAS IN ADVANCED PHTHISIS; SIGNS AND SYMPTOMS OF PHTHISIS; GRADUAL IMPROVEMENT; GOOD HEALTH AND WEIGHT WITH PERSISTENCE OF SIGNS TEN YEARS AFTERWARDS.

A married lady, thirty years old, in good health. Her husband had been ill with consumption for three

years, and was now in an advanced stage of the disease. In August, 1870, while in Boston, sudden hæmoptysis in night-time. She raised about half a pint. This was one week before the menstrual period. The weather was extremely hot. The catamenia appeared at the regular time, but slightly diminished in quantity. Abundant crackling after cough in right upper front was noted August 27th, and in left upper front October 25th. She had some cough, slight expectoration, and hoarseness. About this time she became pregnant. She went to the South in the winter, where her husband died in February, 1871. She was confined without accident in July following, having been in very fair health previously, with very little cough. She raised a little blood from time to time. In May, 1873, no dullness was found in front, and no râles, but the expiratory murmur was exaggerated below right clavicle; behind, moist crackling after cough between left scapula and spinal column; also in left lateral region and below left mamma. She passed the summer in Bethlehem, N. H., in good health, and gained seventeen pounds. October 22, 1878, weight good; menstruation regular; slight cough and expectoration; hæmoptysis from time to time; decided dullness throughout left front, with moist râles after cough; strength and wind not good. She spent the next three winters in Europe, and another in Norfolk, Va. While there her weight was one hundred and thirty pounds. In June, 1879, the general condition and symptoms were about the same. In October, 1879, "health for the past year quite good, with very little cough, and no hæmoptysis. She looks perfectly well; weight one hundred and thirty-one pounds; voice good; catamenia regular."

This case may be called one of tolerated phthisis. There is no evidence of retrogression of the lesions; on the contrary, they are apparently advancing, but at an extremely slow rate, so that there is a reasonable prospect of eventual recovery, especially as the general condition is so satisfactory. The case is also of interest as one of possible contagion. The patient's child is living, and though somewhat delicate is in good health.

The treatment of these cases did not differ essentially, I believe, from that employed by most physicians. All the patients were enjoined to spend as much time as possible in the open air in all weathers (except stormy); never to stay long in a room warmed by furnace heat unless there were also a fire burning in the chimney; always to have a window partly open in their sleeping rooms at night; to use a sponge bath daily, as cold as could be borne without chill or depression, of course followed by rubbing; to wear suitable, but not oppressive, underclothing of woolen summer and winter.

I attach much importance to the habit of fully inflating the lungs at regular intervals throughout the day (just before sitting down to meals, for instance), in order to stimulate the pulmonary circulation, especially of the apices, but I have found it very difficult to persuade patients to carry out this precept faithfully.

External irritation was employed in every case, with the usual analgetics, diet, etc.

## A DISEASE OF THE MAMMARY AREOLA PRECEDING CANCER OF THE MAMMARY GLANDS, PAGET'S DISEASE.<sup>1</sup>

BY C. B. PORTER, M. D.,

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In the St. Bartholomew's Hospital Reports for 1874 Sir James Paget describes the disease, to a case of which I wish to direct the attention of the Society this evening. His description is so concise, and the article so short, that I cannot do better than to read it entire.<sup>2</sup>

I believe it has not yet been published that certain chronic affections of the skin of the nipple and areola are very often succeeded by the formation of scirrhus cancer in the mammary gland. I have seen about fifteen cases in which this has happened, and the events were in all of them so similar that one description may suffice.

The patients were all women, various in age from forty to sixty or more years, having in common nothing remarkable but their disease. In all of them the disease began as an eruption on the nipple and areola. In the majority it had the appearance of a florid, intensely red, raw surface, very finely granular, as if nearly the whole thickness of the epidermis were removed; like the surface of very acute diffuse eczema, or like that of an acute balanitis. From such a surface, on the whole or greater part of the nipple and areola, there was always copious, clear, yellowish, viscid exudation. The sensations were commonly tingling, itching, and burning, but the malady was never attended by disturbance of the general health. I have not seen this form of eruption extend beyond the areola, and only once have seen it pass into a deeper ulceration of the skin after the manner of a rodent ulcer.

In some of the cases the eruption has presented the characters of an ordinary chronic eczema, with minute vesications, succeeded by soft, moist, yellowish scabs or scales, and constant viscid exudation. In some it has been like psoriasis, dry, with a few white scales slowly desquamating; and in both these forms, especially in the psoriasis, I have seen the eruption spreading far beyond the areola in widening circles, or, with scattered blotches of redness, covering nearly the whole breast. I am not aware that in any of the cases which I have seen the eruption was different from what may be described as long-persistent eczema, or psoriasis, or by some other name, in treatises on diseases of the skin; and I believe that such cases sometimes occur on the breast, and after many months' duration are cured, or pass by, and are not followed by any other disease. But it has happened that in every case which I have been able to watch, cancer of the mammary gland has followed within at the most two years, and usually within one year. The eruption has resisted all the treatment, both local and general, that has been used, and has continued even after the affected part of the skin has been involved in the cancerous disease.

The formation of cancer has not in any case taken place first in the diseased part of the skin. It has always been in the substance of the mammary gland, beneath or not far from the diseased skin, and always with a clear interval of apparently healthy tissue.

In the cancers themselves, I have seen in these cases nothing peculiar. They have been various in

<sup>1</sup>—The fourth International Sanitary Congress will be held in Geneva, September 4th to 9th, and preparations have been made for a very full attendance.

<sup>1</sup> Read before the Boston Society for Medical Observation, April 17, 1882.

<sup>2</sup> St. Bartholomew's Hospital Reports, vol. x., page 87, 1874.

form; some acute, some chronic, the majority following an average course, and all tending to the same end; recurring if removed, affecting lymph glands and distant parts, showing nothing which might not be written in the ordinary history of cancer of the breast.

The single noteworthy fact found in all these cases is that which I have stated in the first sentence, and I think it deserves careful study. For the sequence of cancer after the chronic skin-disease is so frequent that it may be suspected of being a consequence, and must be always feared, and may be sometimes almost certainly foretold. I believe that a nearly similar sequence of events may be observed in other parts. I have seen a persistent "rawness" of the glans penis, like a long-enduring balanitis, followed after more than a year's duration by cancer of the substance of the glans. A chronic soreness or irritation (of whatever kind) on the surface of the lower lip often long precedes cancer in its substance; and, with a frequency surpassing all other cases of the kind, the superficial syphilitic diseases of the tongue are followed, and not superseded, by cancers which do not always appear to commence in a diseased part of the tongue.

For an explanation of these cases it may be suggested that a superficial disease induces in the structures beneath it, in the course of many months, such degeneracy as makes them apt to become the seats of cancer; and that this is chiefly likely to be observed in the cases of those structures which appear to be, naturally, most liable to cancer, as the mammary gland, the tongue, and the lower lip. One may suspect that similar surface-irritation has much to do with the frequency of cancer of the rectum, pylorus, and ileo-cæcal valve, in any of which parts the degeneracy, which might come naturally in old age and make them apt for cancer, may be hastened, and made prematurely sufficient, by an adjacent disturbance of nutrition.

In practice, the question must be sometimes raised whether a part, through whose disease or degeneracy cancer is very likely to be induced, should not be removed. In the member of a family in which cancer has frequently occurred, and who is at or beyond middle age, the risk is certainly very great that such an eruption on the areola as I have described will be followed within a year or two by cancer of the breast. Should not, then, the whole diseased portion of skin be destroyed or removed as soon as it appears incurable by milder means? I have had this done in two cases, but, I think, too late. Or, again, when one with a marked family liability to cancer has syphilitic disease of the mucous membrane of the tongue, with frequent recurrences of inflammation, should not all the worst pieces of the membrane be removed? I should certainly advise it, especially if the membrane were ichthyotic, if it were not that the disease is commonly so extensive that good scar-tissue would not be likely to be formed, and that bad scar-tissue, often irritable and ulcerating, is as likely to induce cancer as the syphilitic or ichthyotic patches would have been.

The case which I have to present was that of a woman about fifty years of age, of robust health, florid complexion, with delicate skin; in other respects healthy, with no hereditary tendencies. Two years previous to my seeing her she noticed, in her own words, "three little pimples like water blisters near the nipple of the right breast. There was no pain nor inconvenience from them and she gave them no attention."

Some months later, in hot weather, a moisture ex-

uded from the pimples and caused the clothing to stick to the breast and a constant desire to lift the undergarment from it. The disease increased very slowly by the eruption of new vesicles and became more troublesome. In about nine months it was accompanied by sharp pains in the nipple and occasionally shooting through the breast. I first saw her two weeks before operation, and about two years and two months from the first appearance of the disease. The affected surface was quite symmetrical and covered the areola and a considerable surface of the skin on its periphery. It presented a dry scaly appearance in some parts, and in others was covered with yellowish, soft moist scabs. On removing these the surface underneath was red and raw. Dotted about on the outer edge of the disease were minute vesicles, some covered with tiny, dry crusts. This condition was confined to the areola and its immediate neighborhood, and there was nothing abnormal about the rest of the skin. The nipple was strongly retracted, in fact depressed below the surface. The depression was filled with moist crusts, which, being washed away, showed the surface of the nipple, red, raw, and bleeding. There was a slight induration under and about the nipple, but the rest of the breast seemed normal to the touch. The pain was severe, at times of a stabbing, darting character. I advised immediate removal of the whole breast on the ground that the disease would probably result in cancer, if it were not that already. She accepted the operation at once. I removed the whole breast, which was quite voluminous with a wide margin of healthy skin around the nipple. The operation was done without the spray, otherwise with antiseptic precautions. The wound was washed out with a solution of thymol, one part to one thousand of water, and a drainage tube inserted. The dressing was eight thicknesses of cotton batting wet in same solution, and four more perfectly dry outside to afford elastic compression, all held in place by a swathe pinned tightly. The whole wound healed by first intention without a drop of pus. It is now nearly a year since the operation, and there is as yet no return of the disease.

The literature of the subject is meagre, though valuable papers upon the pathology of the disease have been published by Mr. Henry T. Butlin, in the *Medico-Chirurgical Transactions*, volume lix., page 107, and volume lx., page 153, and by Dr. George Thini, under the name of "Malignant Papillary Dermatitis of the Nipple, and the Breast Tumors with which it is found associated," in the *British Medical Journal*, May 14, 1881, page 760, and May 21, 1881, page 798. In his work on Tumors of the Mammary Gland Prof. S. W. Gross calls attention to eczema and psoriasis of the nipple. In the chapter on the *Ætiology*<sup>1</sup> of Neoplasms of the Mamma, he mentions two cases of cancer of the breast which had come under his observation, both preceded by long standing eczema. Dr. Thini's paper is based upon the microscopic examination of four breasts, in all of which cancer had followed upon so-called chronic eczema, but he seems to consider this a misnomer, and calls the disease malignant papillary dermatitis, and says: "In distinguishing, clinically, this malignant dermatitis from eczema, the chief points to be borne in mind are the well defined margin in the former, and the evidence, when the tissue is grasped between the fingers, of infiltration in the papillary layer. An eczema of the areola that had the

<sup>1</sup> *British Medical Journal*, May 21, 1881, page 801.

thickening and moist redness which have characterized some of the cases of this affection, would be so acute in its nature that the zone of inflammation would pass off gradually into the surrounding skin, would probably become wide-spread, and would give rise to very active symptoms. The overlapping margin forming a veritable ridge, with a sulcus behind it, which characterized another case, would of itself be sufficient to exclude the diagnosis of eczema. The history of the case may be found useful in establishing the diagnosis. In two cases which have come under my notice there was clear evidence that the disease began in a position corresponding to the openings of the lactiferous ducts, and remained limited in that position for some time before extending over the surface of the nipple."

Mr. Butlin reports the examination of four cases. The first two did not prove to be cancer, though both had been preceded by long standing eczema. The other two were both found to be carcinomata. One following upon eczema of only a fortnight's duration, the tumor being the size of a small egg, and reaching to within about half an inch of the diseased areola. His conclusions are as follows:—

(1.) That a certain relation existed between the eczema of the nipple and areola and the carcinoma of the breast.

(2.) That one of the first effects of the eczema was to produce proliferation of the mucous layer of the epidermis of the parts affected.

(3.) That in time the epithelium lining the galactophorous ducts became affected in like manner.

(4.) That the disease traveling along the large ducts reached the smaller ducts and acini, which became dilated and filled with proliferating epithelium, which was at length, so to speak, discharged into the surrounding tissues.

(5.) That the carcinoma thus formed was therefore essentially a disease of epithelium.

In the Clinical Society of London, May 27, 1881, Mr. George Lawson exhibited a cancerous breast following long standing eczema, the microscopic examination of which was made by Dr. Thin and included in his cases. At the same meeting Professor Lister reported a case which he had seen with eczema of nipple, and had contented himself with ordering the application of ointments only, and which he learned afterwards resulted in cancer of the breast.

If chronic eczema of the nipple can induce cancer of the breast, we need more careful observation and more definite data to determine at what point in the disease it is necessary to operate to avoid so serious a result. If, as Dr. Thin believes, the disease itself is a malignant dermatitis, or a form of epithelioma, it is desirable to be able to differentiate and so attack the disease with the knife at the outset.

Careful observation, and report of similar cases with microscopic examination, may ultimately lead to a grouping of appearances and symptoms that will make an accurate diagnosis possible.

#### REPORT OF EXAMINATION BY DR. A. T. CABOT.

The breast was little, if at all, enlarged, and contained no circumscribed swelling or thickening. The nipple and areola had disappeared, and in their place was a depressed, ulcerated surface covered with a scab.

On section through the breast the gland tissue seemed in about the same abundance as is usual in a person of

the patient's age, and did not differ noticeably in consistence from the normal. Immediately beneath the site of the nipple, however, there was an increased quantity of fibrous tissue extending down as a wedge into the breast beneath.

The breast was hardened in alcohol, and examined microscopically.

Sections through the depressed ulceration and the adjoining skin showed the following appearances: In the skin about, the papillæ were of the usual size and form. As the edge of the depression was reached, the papillæ abruptly changed their character, became much elongated, and were covered and surrounded by a greatly increased quantity of epithelium.

The subcutaneous cellular tissue was thickened, fibrous, and infiltrated with abundant small, round cells. The epithelium dipped down beneath its ordinary level; it was confined in the deep parts by the overgrown papillæ meeting over it, and in places had begun to form isolated alveoli in the neighboring tissues. No onion bodies were discovered.

The milk ducts running back from the site of the nipple towards the breast were often of normal size, and lined with a single layer of epithelium; others, on the other hand, were much dilated and packed with epithelium, while in their neighborhood were numerous nests of epithelial cells (cancer alveoli). The fibrous tissue was more abundant about these affected ducts, and richly infiltrated with fine, round cells.

The breast tissue at a distance of two inches from the site of the nipple showed a commencing carcinomatous degeneration. The gland acini were here and there largely dilated, irregular in shape, and stuffed full of cells, which in places were beginning to encroach on the surrounding tissues, and were forming in places true cancer alveoli in the parts about. Here, too, the same slight thickening of the fibrous tissue about was noticed, and its infiltration with small, round cells.

To recapitulate: The nipple was destroyed by a cancerous change resembling that seen in superficial cancer of the face. In many of the milk ducts was an abnormal growth of epithelium which had led to a carcinomatous infiltration of the surrounding parts, and in the breast itself were the typical appearances of a commencing carcinoma mammae.

#### RECENT PROGRESS IN DERMATOLOGY.<sup>2</sup>

BY GEORGE H. TILDEN, M. D.

##### MICROCOCCHI OF LUPUS.

For over a year past Max Schüllers<sup>3</sup> has examined lupus with especial reference to the presence of micrococci. The portions of diseased tissue in which micrococci are most easy of detection are the small, young nodules, which, embedded in the connective tissue, underlie and surround the larger and older centres of the disease. The freshly excised bits of tissue were placed immediately in a one per cent. solution of carbolic acid in water, in order to exclude any accidental access of micrococci. Sections of these made with a Roy freezing microtome, were colored in a one per cent. solution of methyl-violet in water, washed to remove excess of

<sup>2</sup> Concluded from page 392.

<sup>3</sup> Centralblatt für Chirurgie, Nov. 19, 1881, No. 46, page 1.

<sup>1</sup> Volume IX., page 160.

coloring matter, and put up in oil of cloves or glycerine. By this process only the cells and micrococci are colored blue, while the connective tissue remains uncolored. Powers of 660 and 1120 diameters were used, and Abbe's system of illumination with condensed artificial light. In the groups of round cells and single epithelioid cells which go to make up a lupus nodule, micrococci were seen situated between the cells, and also surrounding the individual groups of cells. From various points in the periphery of such a group of cells, rows of micrococci run out into the adjacent connective tissue, sometimes reaching as far as the next group of cells. As a rule the micrococci were not crowded together, but rather loosely distributed. In many specimens they were to be seen arranged around the large, nucleated epithelioid cells which lie scattered about in the neighborhood of the smaller lupus nodules. Each one of these large cells formed the centre of a group of micrococci, which sent out offshoots into the surrounding connective tissue. In regions where these large cells were more crowded together, it was not unusual to see rows of micrococci running from one cell to another, and when several of such rows met, at the points of intersection ensued small, star-shaped groups of micrococci. In the large and fully developed lupus nodules micrococci are very difficult of detection, by reason of the fact that the contained cells are very closely packed together. Nevertheless, in very thin sections, micrococci may be seen sparsely scattered about. They are invariably easy of demonstration at those points in the circumference of the larger lupus nodules, from which accumulations of cells extend in the form of long processes into the surrounding connective tissue. The free ends of such rows of cells are surrounded by groups of micrococci, which are also connected with the collections of micrococci belonging to the neighboring and smaller lupus nodules. Within the limits of diseased tissue micrococci were also found in the hyperplastic sebaceous glands, in the sheaths of the hairs around the coils of sweat glands, and occasionally in the walls of the smaller blood-vessels. In one case of superficial ulcerating lupus of the nose, micrococci were found in the epidermis between the hypertrophied papillae of the skin. The younger the lupus formation and the softer the surrounding tissue, that is, the less amount of cicatricial tissue present, the more abundant and the more distinct were the micrococci.

#### IODOFORM IN LUPUS.

Dr. Riehl<sup>1</sup> has used this drug as a local application in lupus vulgaris with flattering success. In order to remove the epidermis, and thus render the diseased tissue accessible to the action of iodoform, a fifty per cent. solution of caustic potash was applied to the skin after the removal of all dirt and grease from the same by means of washing with soap and water. Left in contact with the skin, a caustic solution of this strength in from one half to two minutes causes transparency, swelling, and detachment of the epidermis. This effect produced, the excess of caustic potash was washed off with water, the surface thoroughly dried, and a layer of finely powdered iodoform from one to two millimetres in thickness was applied to the surface which had been denuded of epidermis. This, covered with cotton batting, retained in place by strips of sticking plaster, was left undisturbed for from five to eight days. In no

case was there suppuration, and on removal of the dressing the iodoform was found embedded in the depressions formed by the disappearance of diseased tissue. Adherent at some points, at others, which were in process of cicatrization, the iodoform was merely superimposed. The sound skin between the points of pathological infiltration was pale and soft, and the general swelling and redness of the parts had in great measure diminished. In severer cases, while there was never suppuration, two or three successive applications of this dressing were required before the pathological infiltration of the tissues disappeared. The application of iodoform to surfaces of skin denuded of epidermis caused neither pain nor any disagreeable sensations. To do away with the pain necessary to the application of caustic potash local anesthesia may be used. The author has used this dressing in twenty cases of lupus, and always with good result.

#### MALIGNANT PAPILLARY DERMATITIS OF THE NIPPLE.

Dr. Thin<sup>2</sup> reports the microscopical appearances of four specimens of this lesion (known as Paget's disease). The microscopical examination of the skin proves that the disease is not eczema, but an inflammatory infiltration into the superficial layers of the cutis, combined with destruction of the connective tissue thereof, a destruction which never takes place in true eczema. In distinguishing clinically this malignant dermatitis from eczema, the chief points to be borne in mind are the well-defined margin of the former and the evidence to the touch of infiltration into the papillary layer of the skin. This malignant dermatitis has neither the symptoms nor the pathological anatomy of any hitherto-described skin disease. It is characterized by destruction of connective tissue and by permanence of the destructive process, for repair of the destroyed elements of tissue does not take place. The condition of things in the breast during the early stages of the disease, before any tumor can be felt, requires further investigation. In a case described by Mr. Butlin,<sup>3</sup> in which the breast was removed merely on account of the condition of the skin, the milk ducts for an inch or more beneath the nipple were found to be completely stuffed with epithelium. The breast tumors which follow this disease of the nipple are not the ordinary scirrhous or parenchymatous cancer of the breast, but are so-called "duct cancers," the fibro-carcinoma cysticum mammae of Waldeyer. In these cases the tendency of the growth is in round columns, which, as they grow larger, coalesce into round masses, the disposition to penetrate and infiltrate the interlobular connective tissue of the breast being but small. The growth of these tumors is regular, symmetrical, and centrifugal, and occasionally small cysts are formed by the breaking down of the cells contained in the central portions of the growth. The differences between these tumors and those usually known in England as adenomata are rather of degree than of kind. When an epithelial growth in the breast takes its origin in the epithelium of the milk ducts, if the development of columns and tubes (formed by reason of hyperplasia of duct epithelium) is localized and encapsulated by a growth of connective tissue, the tumor is an adenoma. If, on the contrary, there is progressive destruction of connective tissue and continued growth of the original tumor, the tumor

<sup>2</sup> British Medical Journal, 1881, i., pp. 760, 798.

<sup>3</sup> Med. Chir. Transactions, vol. lix., page 108.

<sup>1</sup> Wiener Med. Wochenschrift, 1881, xxxi., page 534.

is a so-called "duct cancer," fibro-carcinoma cysticum mammae of Waldeyer.

POLYPAPILLOMA TROPICUM (FRAMBESIA, PIAN, YAWS).

Dr. Charlonis<sup>1</sup> has an interesting article upon this disease in the *Quarterly of Dermatology and Syphilis*. The malady is endemic in the East Indian Archipelago and in the West Indies. It begins with fever ushered in by a chill. The bodily temperature, which is normal in the morning, reaches 39° F. to 40° F. in the evening, the fever rarely lasting longer than fourteen days. Severe pain in the joints, both by day and by night, and lasting about three weeks, accompanies this initial fever. The joints affected are not swollen, but are very sensitive to pressure. About eight days after the first oncome of the fever appear gradually, here and there upon the body, papules about the size of the head of a pin, surmounted by a small yellow point. These papules are afterward surrounded by a dusky halo, and increase peripherically in size, reaching in some instances a diameter of three centimetres. They are flattened and of a papillary, fungous appearance, whence the name frambesia. Hard to the touch and movable only with the skin, they are covered with a honey-like, yellowish crust, upon the removal of which is seen a surface of papillary appearance, covered with a small quantity of white, sticky fluid. These tubercles may present themselves on any part of the body, head, or limbs, and by their coalition around the mouth and anus, on the penis and elsewhere, ensue larger, circular, and annular plaques. Mechanical irritation of these tubercles may cause long-standing and deep ulcerations. With the appearance of the skin manifestations comes swelling, painfulness, and sensitiveness of the lymphatic glands throughout the body. This condition of the glands gradually subsides, although for some time subsequent to the cure of the disease they may remain enlarged and hard. The disease is never fatal, the patients remaining in good general health notwithstanding the chronicity of the malady, which untreated may last for years. The pathology of the affection is essentially a localized dermatitis, characterized by accumulations of granulation cells, beginning around the smaller blood-vessels. Secondary changes are dilatation of the smaller blood-vessels, of the tubes of the sweat glands, hypertrophy of the papillae of the skin, of the sebaceous glands, and of the erectoris pilorum. Strange to say, the nutrition of the hairs is not interfered with, and even when the scalp is the seat of the local skin manifestations neither temporary nor permanent baldness ensues. The disease is contagious, being both auto and hetero inoculable, the point of infection being, as a rule, marked by an ulceration which runs the usual course of an ordinary local venereal ulcer (chancreoid). The contagium is fixed, and the period of incubation is from three to five months. Both the blood contained in and the pathological excretions from the tubercles are carriers of contagion, but retain this property only "in stadium incrementi et acmes" of the same, afterward becoming innocuous. The disease is chronic by reason of the continued appearance of new tubercles or groups of tubercles, the older ones meanwhile becoming dried up and disappearing without leaving any cicatrix. The prognosis is good, the malady being very amenable to

treatment, which consists in the local application of mercurial ointment to the lesions of the skin and the internal administration of iodide of potassium or iodoform. These latter benefit only the osteoscopic pains, and in no way influence the course of the tubercles. During the initial febrile stage quinine is given. The many notable points of resemblance between this disease and syphilis have led most observers to regard frambesia as a modified form of the latter, but the author has decided this point by inoculating two individuals suffering from frambesia with syphilis. In both the persons thus inoculated syphilis was developed and ran its usual course.

PEMPHIGOID AND ANTHRACOID ERUPTIONS DUE TO THE INGESTION OF IODIDE OF POTASH.<sup>2</sup>

In reporting a case of each of the above, Besnier takes occasion to remark upon the inaccuracy of the common opinion, that in cases of so-called medicinal eruptions the character of the skin manifestations is *always* determined by the drug administered. Another factor in many such instances is the individual idiosyncrasy of the patient. The resultant of these two factors, however, is constant, in other words, the same drug always produces the same variety of eruption in the same person. The common form of cutaneous lesion due to the ingestion of iodide of potash is papular and pustulo-papular, the so-called iodine acne, essentially alike in the majority of cases. Nevertheless, erythema, anthracoid or giant acne, resembling the acne seen in severe bromism, bullae and purpuric spots, may each be caused by iodide of potash in different individuals. Any one of these may also be produced by the bromides, by mercurials, salts of quinine, morphia, and atropia, and by salicylate of soda. The variety of results implies a difference in pathogenesis. In ordinary cases in the common acne due to iodide of potash for example, the eruption is very likely due to direct irritation of the skin, by reason of the elimination of the drug through the same; but in other instances, the cause is probably reflex irritation, the starting point of which is the intolerance of the stomach to the drug ingested. This is the more likely as Besnier has observed, in one instance, that the same drug which, taken by the mouth, produced morbid changes in the skin, when administered hypodermically to the same individual did not give rise to any cutaneous lesions whatever. The author also states that he has never seen any eruption upon the skin caused by the absorption of iodine when applied as a dressing to wounds, in the shape of iodoform.

— The following resolution was adopted by the St. Louis Medical Society, April 1, 1882:—

*Resolved*, That the St. Louis Medical Society, while it desires to accord the broadest freedom to medical investigation and recognizes fully the right of individuals to form and hold private opinions, hereby declares that it regards with disfavor any steps taken to lessen or obliterate the distinctions and safeguards between an honorable practice of medicine founded upon science and that founded upon any of the current delusions and exclusive medical systems of the day.

<sup>2</sup> Annales de Derm. et de Syph., 2me série, No. 3, 1882, page 168.

<sup>1</sup> Vierteljahrsschrift f. Derm. u. Syph., 1881, 2, a. 3 Heft, page 411.

## Hospital Practice and Clinical Memoranda.

### SOLID TUMORS OF BOTH OVARIES.

BY GEORGE H. BIXBY, M. D., BOSTON,  
Surgeon to St. Elizabeth Hospital for Women.

By the kindness of Dr. Garceau, of Boston, Mrs. M. consulted me for an obscure abdominal enlargement. She brought from her family physician the following history:—

"Dear Doctor: I was called to see the bearer, who was suffering from an enlargement of the abdomen. The patient exhibited signs of great debility. I ordered iron, and occasionally diuretics. These remedies failing to arrest the daily increasing enlargement, I removed by paracentesis twelve quarts of dark-colored serum. I now found on palpation in the left ovarian region a smooth, spherical, and unyielding mass, the size of a fetal head. On making this discovery I directed the patient to see you."

My own records read thus: Mrs. M., native of Ireland, aged fifty-two, had been in this country a number of years. Above the medium stature, dark complexion, and prominent features, she looked haggard and careworn. The enlarged abdomen was apparent through the clothing, and she seemed with the greatest difficulty and discomfort to support her burden. Notwithstanding her immense size and weight, she informed me that she lived quite alone, on the third floor, attended personally to all her domestic affairs, and had even walked a distance of two miles that morning. There was no history of malignant disease in her family.

The catamenia first appeared at sixteen with normal type and duration. She married at twenty-two, and gave birth with normal birth and child-bed a year later. Shortly after this event conjugal disagreement necessitated a separation. The climacteric was reached at fifty-two without complication of any kind.

For years her occupation had been that of a cook among the higher classes. She first noticed her ailment eight months before, manifesting itself by a sensation of discomfort when in the right lateral position, and later, by the presence of a tumor in the right ovarian region. The growth began rapidly to increase in size, and the abdomen to enlarge generally. At the third month from the first discovery of the tumor, the distended abdomen interfered materially with respiration. On inspection the following conditions presented: Neck and shoulders emaciated, mamme atrophied, abdomen enormously enlarged with pendulous walls, lower portion of the same, pudenda and lower extremities highly oedematous. Girth of abdomen at umbilicus forty-six inches, six inches nearer the pubes fifty-five inches.

On deep pressure in the right ovarian region, a smooth regular mass was indistinctly made out, the relations of which, owing to the fullness of the abdominal and pelvic cavities, could not be accurately determined. Percussion showed universal flatness including flanks, with signs of fluctuation of which the wave was unbroken throughout. Auscultation showed heart and lungs unaffected. Vaginal exploration revealed the uterus in a condition of senile atrophy. Douglas's fossa impacted by a firm non-fluctuating mass. Rectal exploration confirmed the absence of fluctuation with more fullness at the left. Bimanual palpation showed

the tumor presenting in left ovarian region and that felt in Douglas's fossa to be the same. In view of the above history, namely, short duration (less than eight months), rapid accumulation after tapping, presence of blood in the serum, early oedema of the abdominal walls and pudenda, I was inclined to consider the case one of malignant disease of the ovaries.

An operation was suggested, but not urged at this late stage. Later, I saw the patient at her home with her family physician. On this occasion I found her in bed; she was suffering pain and difficulty of breathing from the great distention of the abdomen.

Dr. G. at once performed paracentesis, removing twelve quarts of dark-colored serum, the last third of which was mixed with blood. Immediate relief followed. Now the tumor at the left was found, upon palpation, to be the size of a fetal head, pediculated, and apparently free from adhesions. On deep pressure over the right ovarian region there presented an irregular mass the size of the fist; the latter admitted of slight motion in any direction, and seemed firmly attached to the right corner of the uterus.

From a later report I learned that the operation was followed by acute peritonitis, ending fatally on the fourth day.

Report of the post mortem twenty-five hours after death. Rigor mortis slight; general emaciation; abdomen distended with gas; walls oedematous. On section, abdominal and pelvic cavities contained considerable serum. Enlarging the opening in the direction of the pubes, there presented, in the left ovarian region, a round smooth mass, the size of a fetal head, free from adhesions, and traceable by a long slender pedicle to the left corner of the uterus. In the same region on the right an irregular mass the size of the fist. Upon section its tissue yielded readily to the edge of the scalpel. It consisted of a honey-comb arrangement of cysts, varying in size from a flax-seed to that of a ripe cherry. This arrangement extended from periphery to centre, throughout the whole mass, the larger ones being nearest to the centre. Of a round, uniform shape, they were made up of meshes of fibrous tissue, the interspaces of which were filled with material differing in color and consistence, some resembling calf's foot jelly, others cream.

The uterus in a condition of senile atrophy.

The tumor of the right side, round, or rather oblong in shape, was attached to the right corner of the uterus by a slender flat pedicle at least six inches in length; its surface showed no evidence of former adhesion. The same pathological conditions obtained as in the other specimen.

As regards the nature of this affection, it would seem from its duration, course, symptoms, and result, that we may have had to do with malignant disease.

Entertaining some doubt in regard to this question, while looking up the subject of ovarian pathology I was struck with the similarity of this case with one reported by Rindfleisch in his text book on Pathological Anatomy,<sup>1</sup> which I quote in full. Under the third form of ovarian cystoids, he says, "Both ovaries have equally advanced, in a certain form of cysts, and colloid degeneration. They have passed beyond the size of a man's fist; are smooth at the surface, and through the albuginea a large number of cysts, from the size of a millet seed to a cherry, are seen, which are all arranged side by side like a mosaic; upon

section we perceive that the mosaic of cysts extends throughout the thickness of the organ, in such manner, however, that the largest specimens, up to the size of a cherry, are found at the centre; the whole reminds us of a honey-comb.

"The contents of the cysts are throughout a clear jelly, so that in this ovarian cystoid, also, the name of ovarian colloid, which is particularly customary, in forms one and two, might be not unfittingly applied.

"Moreover, form three is very rare, and hence it probably comes that nothing certain is known of the origin of the cysts. The microscopic examination speaks decidedly in favor of the Graafian follicles; even the smallest cysts are not smaller than these; moreover, each cyst has a proper firm membrane, and finally the already mentioned arrangement of the cysts, the smaller without, the larger within, very strikingly reminds one of the same arrangement of the Graafian follicles. I would designate the degeneration as *Struma Ovarii* (according to Virchow's acceptance of *Struma*)."

As regards the indications for, or the propriety of, operative procedure in this form of ovarian disease (which one is strongly tempted to denominate semimalignant), my experience and observations show that at no distant day recurrence after operation with a more decided type of malignancy has been the rule. When an operation is contemplated, from the rapid yet insidious course of the affection, the patient is generally not impressed with the seriousness of her trouble until the opportune moment has passed.

## BOSTON CITY HOSPITAL.

CASES IN THE SERVICE OF DR. JOHN G. BLAKE.

REPORTED BY MR. H. B. WHITNEY.

### CASE I. SUDDEN PERICARDIAL EFFUSION.

M. W., a married woman, twenty-six years of age, was brought to the hospital on Monday, March 14th, at about 12 M. She was seen immediately by the house-physician, and gave the following history: Had been well until two weeks ago, when she was attacked with pain in the joints of lower extremities, without noticeable redness or swelling. Had some loss of appetite and other symptoms of febrile condition. Continued in this way until five days ago, when she was attacked with chills. These have been since repeated; but from their indefinite history it is doubtful if they were true rigors. Following the occurrence of chills her abdomen became swollen and tender; there was vomiting of green material, with constipation. Last catamenia occurred one week ago, last but one seven weeks ago. Nothing to be ascertained of a nature pointing to miscarriage. Has been no jaundice, no dyspnoea or swelling of feet, no sensation of weight or pressure in præcordia. Nothing unusual has been noticed in connection with micturition.

Patient appears on inspection to be comfortably sick. No cyanosis or especial dyspnoea. Abdomen moderately distended; no redness or swelling of joints. Tongue moist, covered with a thick white coat; slight oedema of lower extremities. Some tenderness on pressure over præcordia; apex beat very indistinct on palpation. Abdomen everywhere tympanitic, somewhat painful on deep pressure. Examination of lungs entirely negative. Relative dullness of heart begins at upper border of third left costal cartilage, and does

not extend beyond middle of sternum toward the right, or beyond apex toward the left. Heart sounds very indistinct and distant; no souffles; apex beat in normal situation.

Pulse 130, a little soft; temperature 103.4° F. Half an ounce of brandy was ordered every two hours, an abdominal poultice, diet restricted to milk and lime-water.

Patient was next seen at 4.30 P. M. Seemed much more comfortable, and made a statement to that effect. Pulse 143, but of better strength than before; temperature 104.2° F. No pain or dyspnoea; countenance brighter. No further physical examination made at this time.

At 6.30 P. M. house-physician was summoned in great haste, and found the patient in a moribund condition; respiration exceedingly embarrassed; face and extremities cyanotic; pulse small, feeble, very irregular and intermittent. Nurse stated that nothing had occurred to call attention to the patient previous to the time when house-officer was summoned. Two and one half grains of carbonate of ammonia were immediately given by subcutaneous injection, but without effect, patient living only a few moments.

The feebleness of the heart sounds at the first examination had given rise to a suspicion of pericarditis, and percussion was consequently practiced immediately after death. The upper limit of relative dullness was found to be at the second left costal cartilage, dullness extending on the right half an inch or so beyond the margin of the sternum. The pericardial sac was at once punctured with an ordinary subcutaneous syringe in the third left intercostal space, and several syringefuls of clear serum removed, position of body being on the back. No autopsy allowed.

### CASE II. ANEURISM OF THE INNOMINATE.

H. D., colored, forty-six years old, a jobber, entered the hospital March 5th with a history of only four weeks' sickness. Comrades state that for many years he has been very old, considered by many to be a little unsound. For past four weeks has had cough and loss of flesh. Was, however, perfectly able to keep at work until ten days ago, when suddenly, without unusual exertion, he lost his voice and got very short of breath. These symptoms have grown constantly worse up to the present time. Complains of no pain; says he has had none from the outset either in throat or thorax. Refers all his difficulty in breathing to the throat where he himself locates the obstacle to easy respiration. Never had any palpitation, but has been a little short of breath for two months. Feet have never been swollen to his knowledge. Has had no chill; sputum has been tough, but not noticeably reddish. Never had acute rheumatism; doubtful specific history.

Lips and nails are cyanotic. No marked emaciation; no oedema of extremities. Tongue readily protruded, is clean and moist. Mind clear. No pulsation at either wrist; but heart beats with fair strength, not weak enough, apparently, to account for absence of radial pulses; beats number 120 to the minute. Cannot talk above a whisper; breathing is excessively difficult; coughs and expectorates with great effort; sputum tough, of uniformly reddish tinge. Dyspnoea comes on in paroxysms, during which expiration is much prolonged; inspiration comparatively easy. In the intervals the difficulty seems to be chiefly with in-



spiration; and the loud sounds issuing from the larynx makes it seem as though there is some obstruction at that point. Respirations 31; lips buff, and alae nasi dilate with each expiration; temperature 100.4° F.

Nothing to be seen in throat with the aid of a spatula. Area of relative cardiac dullness not increased; no abnormal dullness on percussion over fronts; both contain sonorous and sibilant râles throughout. Heart sounds normal at apex; at base a soft systolic soufflé is heard over both second interspaces, near borders of sternum, propagated upward into carotids, in both of which a very distinct systolic soufflé is heard. Slight fullness of throat noticed, but not unilateral or such as to attract further notice. No marked pulsation of carotids, no thrill discovered at any point. Dullness over lower two thirds of right back; faint bronchial respiration; numerous fine, moist, and dry râles. Left back contains dry râles like the fronts; otherwise normal. No soufflés, pulsation, or thrill to be discovered behind.

Ordered whiskey, half an ounce, carbonate of ammonia five grains, every two hours. Nitrite of amyl, three drops, was given by inhalation, with some slight relief.

March 6th. Sweats profusely, but is much brighter and more comfortable; no pulse at either wrist; femoral pulse fair strength; same with the carotid, but none can be felt over either subclavian; small quantity of brown, tenacious sputum; tongue moist; pulse 130; temperature 99.6° F.; respirations 14. P. M. A faint pulsation is perceptible in the right radial artery. Urine: acid; high color; specific gravity 1020; slight trace of albumen; sediment not remarkable.

March 8th. Has continued about the same as at last record, but difficulty in breathing seems to be increasing, is more constant and less paroxysmal. Careful examination shows no further development of physical signs. Toward the latter part of the day the dyspnoea became more excessive, patient sank into a semi-conscious condition, and died at 9.30 P. M.

Autopsy, made by Drs. Cutler and Gannett, showed the following pathological changes in the lungs, heart, and great vessels, other organs being comparatively healthy:—

Right lung free; few old adhesions between lobes. Pleura opaque, thickened, injected. Covered with false membrane over whole lower and half the upper lobe: lower lobe oedematous, and in condition of red hepatization; upper lobe injected and oedematous. Bronchial glands enlarged, and considerably thickened. Bronchi filled with frothy, bloody serum.

Left lung free; anterior edge of upper lobe emphysematous; lower part of lower lobe somewhat oedematous and consolidated; smaller bronchial tubes slightly inflamed; upper lobe slightly oedematous and injected.

Pericardium contained a few centimetres of clear fluid. Heart enlarged laterally and vertically. Left ventricle contracted and empty, right ventricle and auricle moderately distended with a pale, soft, gelatinous, dark-red coagulum. Mitral opening admits tips of three fingers. Tricuspid valves not remarkable. Both right and left ventricles somewhat enlarged; walls of both thickened, especially the left. Muscular substance not remarkable.

In the aorta, above valves, were numerous thickened, opaque, yellow patches of calcified appearance. Opening of innominate admitted middle finger, which passed immediately into a sac, the size of a lemon, occupying the position of the innominate, a portion of

the carotid, and the right subclavian as far as the thyroïd axis. Thickness of wall of sac equal to that of normal aorta. Sac contained a red fibrin thrombus, nearly filling its cavity, adherent to half its inner wall. Opening of left carotid two millimetres in diameter; from here on carotid is the size of end of fourth finger. Opening of left subclavian entirely obliterated. Lumen of subclavian beyond this point reduced in size to that of normal radial. Walls three times their usual thickness. Aortal arch half again as large as usual, intima throughout showing numerous calcareous plates.

Trachea lay beneath sac above described, somewhat flattened out, admitting the little finger. Apparently no compression of œsophagus.

## Reports of Societies.

### PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

T. M. ROTCH, M. D., SECRETARY.

APRIL 24, 1882. Dr. Goss presided in place of Dr. Warren who was unable to be present.

#### PULMONARY CONSUMPTION.

Dr. F. MINOT read a paper entitled cases of Pulmonary Consumption followed by Recovery or by Arrest of the Disease.<sup>1</sup>

Dr. H. I. BOWDITCH said that he had seen cases similar to those reported by the reader, but that they were comparatively few in number. He could recall two or three cases whom he had examined six or eight years ago with the result of finding decided disease at the apices of the lungs, and who yet to-day were going about town apparently well, and engaged in active business.

It is well to go on with careful treatment even after the rational and physical signs of disease seem to have disappeared, for we frequently in these cases have the disease return. Dr. Bowditch then cited the case of a patient whom he had sent to Colorado with disease of the lung, and who after a year returned to Boston perfectly well, and was found on examination to present normal auscultation and percussion of the lungs. He resumed his work of a moulder, and in four months began to cough, lose strength, develop crackling under the clavicles, and is now a hopeless case of phthisis pulmonalis. The disease is so likely to lie dormant at the apices for a time, and then break out again under circumstances favoring its development, that patients in its early stages had not only better go away from Boston but stay away permanently.

Dr. Bowditch also remarked that the sea-coast from Cape Cod to Cape Sable, with its damp winds, was, as a rule, bad for consumptive patients; these patients should either go well out into the ocean, as to Block Island, or the Isles of Shoals, or far into the interior; this is of course not of so much importance further south. In answer to a question by Dr. Reynolds as to whether consumption had increased among the well-to-do classes during the last twenty-five years, and whether our present habits of living do not tend to lessen the tendency to phthisis pulmonalis, Dr. MINOT said that he thought that there were fewer cases, and that there was a very noticeable improvement in physique corresponding to the great improvement in living and dressing.

<sup>1</sup> Vide page 409 of this number of the JOURNAL.

DR. REYNOLDS spoke of the large number of people who wore flannels at the present time in comparison with those of twenty-five years ago; he also inquired as to the value of respirators in a climate like that of New England, as it seemed to him that a moderate protection would be good.

DR. BOWDITCH said that the difficulty was to make the patients use them; he had tried them forty years ago, and found that they kept the patients warmer, but did nothing towards a cure of the disease; he suggested that experiments with respirators charged with disinfectants might be useful, making the treatment continuous, and only removing the respirator at meal time.

DR. F. C. SHATTUCK said that antiseptics, especially carbolic acid, had been used in this way; also eucalyptol and creosote, and that much benefit had been attained by this treatment in gangrene of the lung. Dr. Shattuck also spoke of a remarkable increase in weight in a patient while the physical signs were decidedly advancing.

DR. MINOT remarked that in deciding whether we should send a consumptive patient to some other place rather than to the sea-shore, we should take into consideration other factors which are often of great importance in the individual case, namely, the dislike of the patient to go away from her family, great comfort at home, etc.

DR. BOWDITCH mentioned the case of a gentleman whom he examined ten years ago and who complained of cough and dyspnoea, but was the picture of health. A physical examination revealed explosions of crepitant râles under the left clavicle; these signs have continued ever since, and have gradually extended further down, with also a slight increase in the dyspnoea, but very slight cough and the general health is good.

#### SOLITARY KIDNEY.

DR. BOLLES presented a specimen of solitary left-sided kidney found in an old woman; there were two ureters, one of them lying unattached on the surface of the right psoas muscle. There was no renal fat on either side.

#### PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL OBSERVATION.

C. M. JONES, M. D., SECRETARY.

MEETING April 17, 1882. DR. HAVEN presided.

DR. C. B. PORTER reported a case of

#### DISEASE OF THE MAMMARY AREOLA PRECEDING CANCER OF THE MAMMARY GLAND,

which is published in full on page 412.

DR. A. T. CABOT reported the microscopical appearances in the specimen.

DR. WILLIAMS asked if direct connection could be traced between the irritation of the skin and that in the areola.

DR. PORTER replied that there appears at first an irritation of the surface of the breast; that from this the epithelial disease extends into the ducts, and that it was still a question whether excision at the early period would stay the progress of the disease or not. It is difficult to diagnose in these cases between chronic eczema and the beginning stage of cancer of the breast. Paget holds that at the outset we have only eczema to

deal with, that this sets up an irritation which eventuates in cancerous degeneration. Only eight of the cases heretofore reported have been microscopically examined. The only guide for interference where the cancerous degeneration is not manifest is the duration. An eczema of the breast of long standing should be removed. He would consider it chronic after a year's duration, and advise excision.

DR. BOWDITCH thought that physicians generally did not recognize conditions like those described, or appreciate the possible result; that the idea of exciting an eczema of the breast, even if chronic, would seldom occur to them as necessary. In the case of such an eruption, if recovery did not ensue after treatment for a reasonable time, removal would seem advisable.

In answer to Dr. M. H. Richardson, DR. PORTER stated that the disease in this case began in three minute water blisters located in the areola near the nipple.

DR. RICHARDSON has at present under observation a case in which similar appearances exist on the summit of the nipple itself, and the induration and inclination to bleed in this case recall epithelioma of the lip.

In answer to Dr. Sabine, DR. PORTER said he did not know, in his case, how long retraction of the nipple had existed; and, further, in the cases already published there had been no statement of improvement of the eczematous condition under treatment. In his own case the patient thought she had at one time improved while under one treatment, and deplored not having begun the treatment earlier, but the apparent improvement was not maintained.

In reply to Dr. Jeffries, it was stated that there had at no time been any glandular enlargement, and none has occurred since. Further, if the operation is undertaken, no matter what the period, the whole breast should be excised. In two of Dr. Butlin's four cases in which the breasts were removed, no trace of cancerous disease was found. Mr. Lawson holds that all chronic eczema of the breast should be removed.

DR. A. T. CABOT stated that he had recently removed a breast whose nipple had appearances similar to those in Dr. Porter's case. The nipple had been affected in this case five years, and had disappeared, but the cancerous disease, though recent, was much farther advanced than in the case reported.

DR. F. W. DRAPER showed a

#### SPECIMEN OF RUPTURE OF THE HEART.

The subject was a nurse, sixty-four years old, able to do all ordinary work, who was found dead in bed, having evidently died without a struggle. The pericardium contained fourteen ounces of blood; the left ventricle was in systolic contraction, and posteriorly was found an external opening from the ventricle, about one half inch in length, the internal opening being a point located just below the auriculo-ventricular roof. The muscular fibres between were torn asunder, and in the course of the wound were blood clots. The heart was distinctly fatty degenerated, yellow mottled, and friable; the coronary arteries were atheromatous, also the thoracic and abdominal aorta. The position of the rupture towards the base and not at the apex was unusual. Attention was also called in the same case to a congenital anomaly, one of the kidneys having two ureters which united about half way towards the vesical opening.

DR. PORTER showed a

# KNEE-JOINT AND SECTION OF THE FEMUR FROM A CASE OF AMPUTATION AT THE HIP.

Disease had existed in the hip-joint for about two years, and in the knee for six months. Previous to operation there appeared to exist dorsal dislocation of the femur, as usual in hip disease, but degeneration and absorption of the head of the bone had taken place, and the end was found in the acetabulum. The position of the head with reference to the trochanter, nearly on a level with each other, suggested the possibility of an old impacted fracture, but the longitudinal section disproved this idea, as the cancellous tissue was found to be intact.

The knee was ulcerated, the joint filled with pus, the cartilages degenerated, and lifted from the underlying bone, and the head of the tibia was also involved in the general destruction.

## MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

At the last stated meeting of the Society, held April 24th, Dr. A. D. ROCKWELL read a paper entitled:—

### OBSERVATIONS ON HEMIPLEGIA, BASED ON EIGHTY-ONE RECORDED CASES, WITH SPECIAL REFERENCE TO CEREBRAL LOCALIZATION.

All the eighty-one cases, Dr. Rockwell said, had occurred in his own practice during the last fourteen or fifteen years. Of course the symptoms, and groupings of symptoms, varied very widely in hemiplegia on account of the different parts of the brain that might be affected. He first related a typical case, in which the patient, after suddenly becoming partially unconscious, was found to be suffering from hemiplegia, facial paralysis, and some aphasia. The aphasia disappeared altogether in the course of two weeks, and, as was usually the case, the paralysis of the upper extremity disappeared much less rapidly than that of the lower. In fact, the patient never fully recovered the use of the arm.

The anatomical or regional diagnosis was made of an effusion of moderate extent in the vicinity of the corpus striatum. A second attack, two years after the first, proved fatal. Eighteen of the eighty-one cases were of very similar character to this.

In Dr. Rockwell's cases the rule was found to be carried out, that right hemiplegia preponderates, and it had occurred to him that the reason why in right hemiplegia aphasia was apt to continue for a short time and then disappear was, that the great majority of persons were probably left-brained, just as they were right-handed. When, therefore, there was a lesion affecting the speech-centres of the left hemisphere, those of the right hemisphere had to be educated in the same manner as was necessary in the case of the left hand when any accident occurred to the right. The right side was so little exercised that it was incapable of action until this "education" had been acquired. Sometimes the hemiplegia was of very short duration, while the aphasia persisted. In one patient, aged fifty-three, who came under Dr. Rockwell's care, the paralysis (of the right side) had recovered in a few days after its appearance, but the aphasia had remained for a very considerable time. After a month's treatment, by means of central galvanization, there was very marked improvement.

When there was increased temperature, with swelling of the parts paralyzed, the optic thalamus was sup-

posed to be involved in the cerebral lesion, and Dr. Rockwell mentioned one case in which the pons varolii and the crus cerebri were believed to be affected. The evidence of the former being involved was, increased temperature and emotional demonstrations on the part of the patient, and of the latter, a paralysis of the third nerve, as indicated by ptosis, dilated pupil, and external squint. As an instance of the cortical substance of the brain being the seat of lesion, the case of a physician was mentioned in which the patient suffered for several days from intense pain in the head, when he became unconscious, and complete hemiplegia, with aphasia, resulted. Recovery from the hemiplegia was very rapid, it having quite disappeared by the end of five days; but the aphasia persisted longer. At the present time, four years after the attack, he seemed to be perfectly well, with the exception of slight aphasia. He exhibited marked amnesic symptoms in writing however, and he generally had great difficulty in understanding what he read himself, while if another read to him there was no trouble of this kind.

In all the cases that had thus far been referred to, Dr. Rockwell said it was presumed that there was either rupture or occlusion of the blood-vessels. There was a third cause which operated more rarely, indeed, but which he thought should not be lost sight of, namely, spasm of the vessels. In one case of this character the patient had several attacks of hemiplegia, from which he recovered after a short time, but at last there came one of so great severity that it proved fatal. The autopsy showed that there was no injury or occlusion of vessels whatever, although there were other abnormal conditions found in the brain, the nature of which was not stated. The concluding portion of the paper was devoted to the affection of the special senses in hemiplegia, and in this connection Dr. Rockwell expressed the opinion that the special senses were independent of the hemispheres. In hemiplegia the sight was not infrequently more or less affected, but this was much more rarely the case in regard to the hearing.

An unusual case was related in which the patient suffered for several years from epileptiform convulsive seizures, repeated from time to time, and at last was attacked with hemiplegia accompanied with complete loss of sight. This had continued for some time when he came under Dr. Rockwell's observations, and the extraordinary part of the case was that complete recovery from this total blindness was instantaneously accomplished by means of the application of a powerful induction current. He had no doubt, however, that the recovery would have occurred spontaneously in the course of time, as he regarded the loss of sight as purely functional. The strong reflex stimulation afforded by the electric current had simply hastened this result.

At the conclusion of the paper Dr. SEGIN, being called on by the chair, remarked that the blindness in connection with hemiplegia to which Dr. Rockwell had referred, while it was of great importance clinically, was not really of positive value from the fact that no ophthalmic examination was made in the cases. In the statement that the special senses were not connected with the hemispheres he believed that Dr. Rockwell was in error, since evidence by experiments and observations was all the time accumulating which tended to establish this connection. Especially was this true in regard to sight; and he had himself known of four cases of hemiopia in man. With respect to audition, while the evidence was conclusive in the

case of experiments upon animals, this was not so as regards man. Dr. Seguin then referred to a peculiar case of aphasia accompanied with impairment of audition, from which the patient never recovered, occurring in a well-known physician of New York. He could always distinguish and understand two or three words or simple sentences spoken to him, but any long, connected discourse was, as he expressed it, "all Greek" to him. The same was true of any new or unaccustomed terms with which he was not familiar. When he died the third frontal convulsion was seen to be perfectly healthy; while the lesion was found in the upper part of the parietal lobe—there being an area of softening in this locality which approximated the areas supposed to govern the special senses.

After a few concluding remarks by Dr. ROCKWELL, the next business of the evening was taken up, which was the reading of a report on

#### CALCIUM SULPHIDE AS AN ANTISUPPURATIVE,

by DR. ANDREW H. SMITH, president of the Therapeutical Society.

(To be concluded.)

### Recent Literature.

*A Practical Treatise on the Diseases of Children.* By J. FORSYTH MEIGS, M. D., and WILLIAM PEPPER, M. D. Seventh Edition, revised and enlarged. Philadelphia: P. Blakiston, Son & Co. (successors to Lindsay & Blakiston). 1882.

A noticeable change in the arrangement of this work, the last edition of which appeared in 1877, is a separate article on Food, which was very much needed for the completeness of the book as a whole, in former editions this subject having been treated incidentally in connection with the causes and management of thrush.

The important subject of the different average amounts of foods to be given at different ages is thoroughly treated and practical rules laid down for the frequency of its administration, rendered all the more valuable from the varied and wide experience which one of the authors at least has had for the last thirty years among a class of patients where observations on this most difficult and vital branch of the subject can be studied with presumably the best results, as they have been a class who, both from cultivation and means, were willing and able to carry out minutely the difficult details laid down by a beloved and respected family friend as well as practitioner.

It will be well for those physicians who are inclined to rely on condensed milk as the proper food for infants to carefully read that portion of the article on Food which is devoted to this preparation, as it is a very sensible and fair exposition of the subject, bringing out strongly the point that while in the early weeks of infancy it may be used as a useful substitute where good cows' milk cannot be obtained, owing to its approaching very nearly the much diluted milk adapted to that age, yet for the older infant, where a less diluted milk is required, the amount of sugar in the condensed milk becomes so greatly in excess of what nature has provided in mother's milk, that it must necessarily interfere with the infant's nutrition, making fat babies rather than muscular, hardy ones.

While willingly accepting the authors' opinions as

results of long experience, and as supported by the most recent chemical and physiological investigations, we would suggest that it is not by citing individual cases and giving general rules alone that the intelligent student of the infant's digestive organs is aided in the best way, for the failures which he inevitably must meet in treating his cases by exactly the same methods spoken of by the authors arise from the great variety of factors which enter into the problem of regulating the individual infant's digestion, and he would find of equal if not greater value the principles of chemistry and physiology, on which the authors' deductions are based, in aiding him to treat understandingly a large number of cases. The important investigations showing the rôle which the fats play in the infant's digestion, the careful analysis of the dyspeptic stools of breast and cow-fed infants made by Herz and others, might be very well cited in support of the very sensible views expounded by the authors, and without taking up much additional space.

A few words, if but of warning, about the numerous farinaceous foods so commonly used by the laity and recommended by physicians, would be of great service in advancing the success of artificial feeding, from the mere fact of their being laid down in a book of such wide-spread circulation in our community as the one before us. We have been unable to find even the word farinaceous in this edition, although it appeared in the sixth in the article on Thrush.

Although it is stated on page 918 that the authors have accepted the classification of skin diseases made by the American Dermatological Association in 1878, yet when various skin diseases are spoken of they are not classed under their proper headings, eczema, for instance, being placed under vesicular diseases of the skin, while the classification accepted makes eczema as much an erythematous and pustular disease as a vesicular. The nomenclature is, however, a great improvement on that of the last edition.

An entirely new article on Rôtheln has been incorporated in the text, embodying the latest views and knowledge of this disease. It is, considering the great variety of opinions which have been brought forward as to the characteristic symptoms of rôtheln, about as concise and satisfactory a description of the disease as has yet appeared in print. The elaborate table on the relative mortality of croup and diphtheria has been brought up to the year 1880.

*Note on the Microscopic Appearances Presented by the Blood of Scarletina and Typhoid Fever.* By J. H. KIDDER, Surgeon, U. S. Navy. (With six Photographic Illustrations.) Washington: Office of the Surgeon-General of the Navy. 1882. Two pages.

In this note the author describes the appearances observed in the blood from a child twelve years old, who was ill with scarlatina for twelve days, and from a case of typhoid fever terminating fatally on the seventeenth day.

The peculiar appearances on the fourth day of scarlatina were "the increase in the number of leucocytes, numerous granules of varying size and corresponding to the color of the red corpuscles of the blood; thin and blue like coagula, within which the red corpuscles shrunk away from the leucocytes and arranged themselves in a compressed row upon the margin of the clot

very similar to the arrangement of columnar epithelium, and very minute spherical, highly refracting, globules of a vinous red color attached to the leucocytes."

In the blood from typhoid fever, taken upon the fifteenth day of the disease, "the leucocytes were but little if at all increased in number and did not present the shining red globules of scarlatina. For the most part they did not differ materially from the leucocytes of healthy blood, but here and there one was found containing ill defined opaque spherules mostly within the substance of the leucocytes, and neither colored nor highly refractive. These bodies bear a closer resemblance to micrococci than those found in scarlatina blood."

In neither case, however, does the author consider that these "globules" and "spherules" are micrococci, but inclines rather to the opinion that they are due to some form of fatty degeneration, as has been observed in the blood of yellow fever.

The blood was examined after first drying a thin layer which was subsequently stained with methyl violet or iodine. Koch has lately shown that this method is not always to be relied upon in detecting the presence of bacteria in blood, as the coagulated albuminous material often prevents the staining fluids from acting upon the organisms. His method is to subject the film of blood for some time to a heat of 140° Cent., then to stain with methyl blue (which does not have a tendency to overstain as in the case of methyl violet), and finally wash off the superfluous blue with distilled water. It is suggested, also, that in the proper use of osmic acid there would be a means of determining the fatty nature of the globules.

The micro-photographs are remarkably clear, and show the great advantage of this method of depicting such minute bodies.

*Lectures on the Pathological Anatomy of the Nervous System. Diseases of the Spinal Cord.* By J. M. CHARCOT. Translated from the reports by Dr. E. BRISSAND, in the *Progrès Médicale* by CORNELIUS G. COMEGYS, M. D. With illustrations. Cincinnati: Peter G. Thomson. 1881. xi, and 165 pages.

It is scarcely necessary to commend the writings of Charcot, or the reports of his lectures. Dr. Comegys has done a service in giving these lectures to the profession in English; they are not only of interest theoretically, they have also a practical bearing, and will aid to an understanding of diseases of the spinal cord.

There is given first a brief, but very clear, outline of the normal course of the columns of the cord, the pyramidal tracts being followed into the centrum ovale of the hemispheres and even to the cortex. The study of these tracts would not be complete without the aid given by a careful study of secondary degenerations affecting these columns, hence six or seven lectures are devoted to that subject.

Lecture twelve is devoted to a consideration of "foot phenomenon" and "tendinous reflexions." The latter is considered a spinal reflex, and the reasons therefor are given at length. In the next lecture is considered tardy contractions. "To sum up, gentlemen, the contracture of hemiplegia is not a passive rigidity. It responds, on the contrary, to a state of muscular activity. It is, doubtless, a phenomenon comparable to a normal contraction; only it is a durable, permanent contraction." By the use of a microphone his interns have shown that in muscles affected with this contracture

there is a constant interchange of contraction and relaxation in the fibres, "whilst the muscles in normal contraction produce a regular, sonorous, rolling sound constant in the number of its vibrations; the contracted muscle produces only a dull, heavy, irregular sound, with the interruptions and resumptions, or, in other terms, intermittent in character. It seems, then, patent, that here the muscular fibres follow each other in contraction, and relieve each other unceasingly."

The translation is not quite so good as might be. There are many instances of a transfer of French idioms into English, or the use of words in awkward connections which might have been avoided. The optic thalamus is also called the "optic bed" and the "optic couch." The "gray couches of the cortex cerebri" are spoken of. "*Fasciculi cerebelli directi*" is rather a hybrid expression. "Moieté" is several times used where "half" would be better. "Pyramidal direct" and "pyramidal crossed" may be good French order, but in English we usually speak of the direct pyramidal fasciculi, etc.

"On account of a coincidence which cannot be fortuitous, they are truly in the antero-lateral columns, the same crossed and direct pyramidal fasciculi that disease sometimes attacks separately." "I wish to attempt to show you that certain documents drawn from normal anatomy, allow us to recognize as many distinct parts, anatomically and physiologically, the same regions that pathological anatomy and the clinic have already placed in relief." These two quotations may serve as examples of a lack of clearness which is noticed much too frequently.

These are, however, only slight defects, and do not detract from the value of the book to the student and practitioner. We can commend it to the attention of all who desire to be familiar with the pathological anatomy of the spinal cord and with some of the phenomena of its diseases.

— Judge Brady, of New York, has refused to grant the application for a new trial for William Sindram, the murderer of Mrs. Crave, which was made recently under the statute passed for his especial benefit. Judge Brady said he had in the interest of the prisoner entirely disregarded the objections to the application for a new trial, which would be valid in an ordinary case, and which in strictness would be valid in this case. Against all the theories of experts the plain fact remained that Mrs. Crave, a moment before the shooting, was in apparently good health, and was attending to her ordinary duties. No one of the experts had pretended to affirm that the wound she received had no part in her death. The doctrine of the law was that if a person by unlawful violence injure a person having a dangerous bodily infirmity, this infirmity shall not become a shield for the evil doer. If the death be accelerated by the injury, the person inflicting it must be held responsible for the death; otherwise the weak and infirm would be deprived of the protection which they in a peculiar degree need. In regard to the statement that Mrs. Crave's medical treatment had not been as skillful as it ought to have been, Judge Brady said that a malefactor who creates the necessity of a physician's science could not be permitted to take advantage of the unskillful treatment of the victim, except in very extraordinary cases.

# Medical and Surgical Journal.

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## THE NEW STATE-PRISON AT CONCORD, MASSACHUSETTS.

The old State-Prison at Charlestown, built in 1805, was enlarged and remodeled from time to time until 1874, when the necessity of confining more prisoners than it could properly accommodate led to a consideration of the question of removal to a new spot. Although the location of the prison had been carefully chosen for its sanitary advantages, the recent discharge of a vast quantity of offensive sewage in its immediate vicinity had made the air of one wing extremely offensive. The increase in crime had necessitated the crowding of 683 convicts into a space designed for 652, and the north wing, constructed in 1829, with 304 cells of only 171½ cubic feet each, opening by grated doors into a corridor containing 139,840 cubic feet, was so disgracefully foul after having been occupied over night, that much serious illness resulted therefrom. The ventilation of the other two wings was defective, but the air-space to each convict was sufficient. The external walls of the prison could properly contain 500 convicts, 183 less than the actual number within them, while accommodation was thought to be needed for 800.

There were three plans suggested to overcome the difficulties in the way: first, to build a new prison large enough for 800 convicts; second, to enlarge and remodel the old prison for the same number; third, to put the old prison in proper order for 500 convicts, and to build a new prison for 300.

The last, and by far the best, plan would have involved a remedy for the stinking sewage spread out on the flats, improvement in the ventilation of the south and west wings, and rebuilding the north wing so as to make it contain only one half as many cells as before. The second plan was open to the objection that there was not sufficient available space for carrying it out. The first was chosen as in the end not likely to cost any more than the third, and as being more consistent with the views of prison discipline on the part of those in power.

The place chosen for the new prison was not the best, on sanitary grounds, but still without serious objection if the original plan had been adhered to of getting a pure supply of water from a pond not far distant. On the contrary, the surface water is taken from the sluggish Concord River or from superficial wells, with the sewage rudely spread on the neighboring flat, sandy land. The internal drainage, to say nothing of the water-closet in each cell, and the venti-

lation were originally very bad. In spite of poor water to drink, and vitiated air to sleep in, the health of the prison has been very good indeed, a fact which may be explained by the skill of the surgeon in charge, the toughness of the prisoners, or the natural salubrity of the situation.

The question now arises in the reflective legislative mind, after having spent over a million dollars on the prison, whether or not to spend seventy-five thousand dollars more for a pure water supply and faultless plumbing. With the economical aspect of the question we naturally have no familiarity, but an abandonment of the present prison on sanitary grounds is simply absurd, and any sort of condemnation of it for the same reason implies only the censure of evils which may be easily remedied by spending money. If from the reckless waste of money and unsatisfactory result in this prison and in the Worcester and Danvers insane asylums the State learns the obvious lesson, the experience, although dearly bought, may be of use in the future.

## ORGANIZED RAILROAD SURGERY.

PUBLIC notice has repeatedly been called of late to the necessity of properly providing for the care of the victims of accidents in civil life. Public ambulances and St. John guilds have sprung up here and there on both sides of the Atlantic, policemen and firemen are being taught in various places how to give the first aid to the wounded, and leaders in the daily papers have called attention to the good work. In this connection a mention of the organization of the corps of railroad surgeons of the Wabash, St. Louis, and Pacific Railroad Company may not be out of place. A little pamphlet, recently received, calls attention to the organization, and gives an account of what is claimed to be the first formal meeting of railroad surgeons ever held. This is by no means the first attempt made by a railway company to establish a surgical service; probably most lines of any extent have some sort of relation with various surgeons along their routes. It is simply claimed for it that it is the first time in which any body of surgeons ever met as forming a distinct surgical railway service organized as such.

The pamphlet alluded to contains two addresses by the Chief Surgeon, on the Organization of Railway Surgery, and on the Transportation of the Wounded. In the first is given an outline of the origin and growth of the service, and the general attitude of the employing company towards its wounded employees and its medical officers. The writer states the position of the company, that legally it is responsible for but few of the injuries received, and that it is neither legally nor logically under obligation to render aid. The object of the system is to secure the best service for those the corporation desires to aid, and to act in such a manner that the arrangement may not grow into an imposition, but be carried out at such a limited expense that on the whole nothing would be lost to the organization, and possibly a gain made by se-

curing the higher regard of the employees, who would feel that an interest was taken in their welfare that would prompt them to greater care and effort in matters pertaining to the welfare of the employing corporation.

The service has evidently been, to a certain extent, the surgeon-in-chief believes, a success, in that it has not grown, during the seven years of its existence, into the feared imposition, and has gained the confidence of the employees, securing to the unfortunates among them the best surgical science, at the same time affording the surgeons, as a whole, more remuneration for their work than they would have obtained had they done the same in the ordinary way. The employees have not been slow to learn that men who are expecting and hold themselves prepared for this special duty are none the less careful, and are, because of their assumed responsibility, more ready with appliances in greater perfection than those who are otherwise wholly engaged. In the same direction, and of vital importance alike to the employer, the patient, and the surgeon, lies the fact that familiarity with this class of work leads to better results than could otherwise be expected. In railroad surgery, as in other branches, especial attention and especial experience is of inestimable value.

Ever since the organization of the corps it has received the most cordial support of the management of the road. Their desire has been to deal with the utmost kindness and generosity toward the injured within the limit of business possibilities. They have only demanded that the case be deserving, the work well done, and the expense kept within the limits of business endurance.

In the second address some rather crude, as their author calls them, but at the same time valuable, suggestions are made in relation to the handling and transporting of those who are injured. The suggestions are not numerous, but well worth bringing to the attention of any body of men who are liable to have the care of the victims of railway casualties. They relate specially to the proper use of the stretcher, and the employment of ordinary cars as ambulances. Though fully alive to the advantages of properly constructed appliances, the author falls back upon the true surgical principle of taking what is at hand and making of it a bed in "which a patient with crushed legs, arms, or ribs, or suffering from concussion, can be placed easily, and on which he can ride without detriment." "Railroading is a civil service, but it smacks strongly of the military, and all concerned seem to acquire its spirit, and expect what pertains to it," and these suggestions as to surgical uses of railroad carriages and their appliances remind one curiously of the directions for the transformation of a soldier's weapons into implements for his own care when wounded.

The addresses are interesting, not merely from the humanitarian and economic stand-point, but from the suggestion of a possible branch of surgery as distinct as military surgery, which may grow up from the changed relations of the present day. The literature

of the subject is sure to be voluminous, and when the peace congresses of our time shall have made Ballingall and Longmore of interest only to the antiquarian, and the Military History of the War has been relegated to the trunk-maker and the upper shelves of the library, military surgery will, after all, only be replaced by volumes on railroad surgery and civil service emergencies.

#### JUDGE ALDRICH'S DECISION IN A SUIT FOR MALPRACTICE.

STOWELL *versus* DRs. SMITH AND FOX.

THE decision of the judge in a suit for damages for malpractice against two physicians, which was recently tried in the Superior Court at Lowell, Massachusetts, was accompanied by a just and clear statement of the rights and duties of the profession in its relations to the public.

We have frequently had occasion to call attention to instances in which members of our profession have been wantonly and maliciously subjected to annoyance, anxiety, and expense, by ignorant or unscrupulous patients bringing suits for malpractice, for all of which a tardy verdict of acquittal even is but a poor compensation. So long as no penalty exists for bringing idle suits of this character, and so long as both respectable lawyers and disreputable patients consider physicians fair game in this respect, the only available defense of the medical profession consists in giving the widest possible publicity to rulings such as that recently delivered by Judge Aldrich at Lowell.

The case in which suit was brought is typical of many others, and was briefly as follows: The plaintiff, a woman, broke a needle in a joint of one of her fingers, and after allowing it to remain there several days she consulted a physician at his office, who made a slight incision and withdrew the piece of needle. In three days she returned with the finger somewhat inflamed. The physician requested the patient to return the following day; instead of doing so, however, she consulted another physician, remaining under his care about two weeks, during which time the finger was lanced several times. Subsequently the patient repaired to the hospital and came under the care of the first physician. After some days she became impatient, left the hospital of her own accord, and sought the services of a third physician. After the lapse of two months the finger was healed though its usefulness was impaired. The woman then brought suit against the two first physicians, Drs. Smith and Fox, for \$5000 damages each, claiming that the cutting of the finger, probing the wound, and the application of poisonous carbolic acid highly intensified by boiled linseed oil, showed a want of skill on the part of the defendants.

Judge Aldrich, in announcing his decision for the defendants, began by reading the law governing such cases: that an honorable physician does not guarantee a cure, nor a lawyer insure a verdict; they only undertake to give their patient or clients their best judgment, skill, and care. And even then they are not bound

to exercise the highest skill of the profession to which they belong, but only the ordinary, average skill and care of men in like business in the same locality. As to this particular case on trial, he had deemed it of much importance, for it was a serious matter when professional men of good standing in the community were brought into court charged with ignorance and neglect of duty. For this reason he felt it his duty not to dismiss the case lightly with the simple statement that the plaintiff had failed to prove her case; nor did he wish the impression left that there was an almost even balancing of the evidence with a slight preponderance in favor of the defendants. A stronger vindication was needed, and he felt it his duty to say that his decision must be governed not by the rhetoric of the counsel, but by the facts in the case, and that there was absolutely no evidence showing that these physicians were unskillful, or did not exercise proper care. The fact that this finger finally got well under the care of another physician was no evidence of want of skill or care on the part of the defendants. There was a natural progress in diseases, and while at the commencement they were aggravated from day to day, there came a time, a crisis, when they ended in a destruction of the tissues, or the healing process began. And it was too often the case that thoughtless persons improperly gave the credit of the cure to the last physician in attendance, or to the last medicine administered.

The evidence in the case showed that the entrance of the needle into the joint was an adequate cause for the result; that the plaintiff did not follow the instructions of the defendants; that the healing process began before leaving their care; and that the physicians used all necessary care and skill in their treatment of the finger.

#### BORO-GLYCERID AN ANTISEPTIC COMPOUND.

A PAPER was recently read before the Society of Arts, in London, by Professor Barff, describing his antiseptic compound, boro-glycerid ( $C_3 H_5 Bo_2$ ). Specimens of preserved food were shown from Jamaica, the Falkland Islands, Zanzibar, and other distant places, the freshness of color, taste, and aroma of which are said to have been remarkably perfect. Oysters opened since last September, and kept in an open jar, gave entire satisfaction, as did fresh turtle, lobsters, cream, eggs, beef, mutton, etc., which were shown both raw and cooked. The length of time these edibles had been kept varied from three to twelve months.

If we are not mistaken an attempt was made three or four years ago to introduce this same compound, or one extremely like it, into practical use in this country, but it was unsuccessful, owing to a difficulty about a patent or some other similar impediments. Professor Barff seems to have convinced the Society of Arts of the value of his compound, and we hope may have perfected it to such a degree as to be able to carry the general public with him.

The cost is insignificant, the expense of treating fifty pounds of meat and fish being only about two shillings. Many other uses, besides those connected with domestic economy, immediately suggest themselves for such a compound, if fulfilling the promises made for it. What a boon to both surgeon and patient a tasteless, inodorous, unirritating, inexpensive antiseptic would be!

#### BOSTON LYING-IN HOSPITAL.

THE Annual Report for 1881 has just been received. The year's record shows a constant increase in the number of patients, while the proportion of unworthy applicants is steadily lessening. By far the larger number of those confined are admitted free, and this fact, combined with the increased expenses, has compelled the Trustees to appeal in their report for pecuniary aid. Unless such assistance is rendered, the Trustees will be obliged to reduce the running expenses by rejecting the applications of many of those who, by reason of their poverty, are most in need of help.

During the year the hospital has frequently received patients at the request of the Dispensary physicians who suddenly found themselves called upon to attend some poor woman in quarters utterly unfit for such purposes. An Out-patient Department has been opened, by which medical attendance at their homes is furnished during confinement to all women residing within the limits of the city proper, who are unable to pay for such services. This new departure has been found to fill a gap which the medical profession has long felt existed. It is to be hoped that the appeal soon to be made to the public will obtain a liberal response.

#### MEDICAL NOTES.

— The Hampden District Medical Society had their annual meeting Tuesday, April 18th, with an attendance of about forty. The present system of child-birth reports were unfavorably regarded, and one doctor suggested that physicians in general would live up to the law better if it was so framed as to be of real service for census purposes. For instance, the law might require the registration of the sex and nationality of the child. Dr. Stebbins read an interesting paper on Diseases Incident to School Life. Dr. J. W. Hannum read a paper on Disease Germs; and these officers were chosen: President, S. W. Bowles; Vice-President, G. S. Stebbins; Secretary, Treasurer, and Librarian, G. C. McClean; Committee on Trials, Dr. J. H. Waterman, of Westfield; Censors, Drs. Sanford Lawton, F. W. Chapin, David Clark, and M. Calkins, of Springfield, and A. F. Reed, of Holyoke; Councilors, Drs. T. F. Breck, G. C. McClean, L. S. Brooks, and M. Calkins, of Springfield, F. F. Dole, of Chicopee, and D. H. Nutting, of Chicopee; Committee on Ethics, Drs. T. F. Breck, T. L. Chapman, and J. W. Hannum; Delegates to the American Medical Association, Drs. Lawton, Calkins, S. D. Brooks, W.



G. Breck, of Springfield, and J. J. O'Connor, of Holyoke; Reporter, L. S. Brooks; Councilor of Nominating Committee, T. F. Breck.

— One of our exchanges says that "one cow's milk" may be worse than the mixed article, as proven by a case in which a baby fed on the milk of one cow sickened and died of tubercular disease, the cow itself dying two months later of tuberculosis. Had the milk of that cow been mixed with the milk obtained from a dozen others, the child would not have received daily such large doses of the diseased milk, and might have lived.

— At the annual meeting of the Middlesex North District Medical Society the following officers were chosen for the ensuing year: President, Charles Dutton, Tyngsboro'; Vice-President, William Bass; Secretary, George C. Osgood; Treasurer, N. B. Edwards, North Chelmsford; Librarian, William B. Jackson; Commissioner of Trials, Nathan Allen; Councilors, Charles Dutton, George E. Pinkham, Francis C. Plunkett, Franklin Nickerson, Cyrus M. Fisk, Samuel W. Fletcher, Pepperell; Lorenzo S. Fox, Hermon J. Smith, Moses G. Parker; District Nominating Committee, George E. Pinkham; Censors, John C. Irish, F. W. Chadbourne, Leonard Huntress, Jr., John J. Colton, T. Pierpont Shaw; Reporter, William H. Lathrop, Tewksbury.

A vote of thanks was tendered George E. Pinkham, the retiring president, for his faithful, impartial, and valuable services. The president and secretary were authorized to secure a permanent place of meeting. The following resolution was unanimously adopted:—

Voted, While we tender our sympathy to the family of our late associate, Dr. Abner W. Buttrick, in their affliction, and deplore the loss occasioned to the Society by his death, we recall, with pride and admiration, the traits of character to which his excellence as a man and physician was due. He had a mind analytic, observing, unusually clear and well-balanced, with a breadth of view that had been enlarged by foreign travel, a heart easily moved by human woes, a genuineness of purpose and sturdy common sense that frowned on charlatanism, whether in religion, politics, society, or the practice of medicine, a quiet heroism and calm philosophy which, rendered prominent by a long and trying illness, touched that illness with a gentle pathos and made the closing scenes of his life seem less like a bed of sickness than an impressive triumph over suffering.

The following delegates were chosen to the annual meeting of the American Medical Association to be held in St. Paul, Minnesota, commencing June 6th: M. G. Parker, C. A. Savory, Lorenzo S. Fox, Harvey Knight, George E. Pinkham, J. H. Eaton, W. T. Carolin.

Dr. Allen made suitable remarks regarding the death of Dr. George Stearns of Groton. Dr. E. Hyde read a long but interesting paper on The Germ Theory of Disease. A discussion of it was reserved till the next meeting. The following essayists were appointed for the next meeting: Drs. Irish, Jackson, Jefferson, and Kimball.

After the business of the meeting had been transacted an excellent supper was discussed in one of the rooms on the second floor, and an hour or two was passed in a very agreeable manner.

— At the annual meeting of the Suffolk District Medical Society, held on Saturday evening, April 29th, the following officers were chosen: President, Richard M. Hodges; Vice-President, J. C. White; Secretary, H. C. Haven; Treasurer, E. M. Buckingham; Librarian, B. J. Jeffries; Reporter, F. H. Williams; Commissioner of Trials, Charles W. Swan; District Nominating Committee, George C. Shattuck; Committee of Supervision, Benjamin S. Shaw, Samuel A. Green; Committee on Social Meetings, Calvin Stevens, George W. Gay, H. I. Bowditch, W. S. Dennett; Censors, W. H. Boardman, E. G. Cutler, A. N. Blodgett, T. M. Rotch, F. C. Shattuck; Councilors, S. L. Abbot, James Ayer, H. I. A. Beach, H. J. Bigelow, C. J. Blake, J. G. Blake, H. I. Bowditch, S. Cabot, D. W. Cheever, Hall Curtis, H. Derby, O. W. Doe, F. W. Draper, Thomas Dwight, C. Ellis, R. H. Fitz, C. F. Folsom, J. O. Green, S. A. Green, F. B. Greenough, W. H. Hastings, D. H. Hayden, R. M. Hodges, C. D. Homans, John Homans, W. Ingalls, B. J. Jeffries, F. I. Knight, S. W. Langmaid, G. H. Lyman, F. Minot, C. B. Porter, John P. Reynolds, W. L. Richardson, G. C. Shattuck, B. S. Shaw, A. D. Sinclair, D. H. Storer, A. M. Sumner, C. W. Swan, G. G. Tarbell, O. F. Wadsworth, J. C. Warren, Thomas Waterman, James C. White, E. A. Whittier, W. G. Wheeler, H. W. Williams.

#### NEW YORK.

— At a meeting of the Academy of Medicine, held April 20th, Dr. W. M. Chamberlain exhibited some of the uses of rubber tubing in the application of cold and heat to various parts of the body, to which he first called the attention of the profession in a paper read before the Medical Journal Association in the year 1874. He was led to make this second demonstration in view of the fact that within the past year the Leiter coils of metallic tubing have been introduced from Vienna as a novelty. The rubber tubing he claimed to be much superior, on account of its greater flexibility and smaller cost, and he believed that he was fairly entitled to the priority in suggesting this ready and efficient method of applying heat and cold to all parts of the body. The paper of the evening was by Dr. J. D. Bryant, Professor of Anatomy in Bellevue Hospital Medical College, and was entitled Peristoleal Preservation in Amputations of the Leg, illustrated by Specimens.

— The resignations of the eight members of the post-graduate faculty of the University Medical School were tendered on the 5th of April, with the request that they should take effect on the 20th of May, when the spring course of lectures terminates at the college; but in view of the fact that the dean of the regular faculty, in an interview with a reporter of one of the daily papers, made use of language in connection with their action which they regarded as disrespectful and uncalled for, and as the statements alleged to have been made by the dean have not been publicly contradicted, they have all insisted on their resignations being accepted at once, and have notified the faculty that they would not complete their courses of lectures. Dr. Roosa was the first to adopt this course, and Dr. H.

Knapp has now been appointed professor of ophthalmology in his place.

It seems now that the gentlemen thus resigning are in negotiation with the authorities of Cornell University, at Ithaca, for the establishment of a medical department in New York. If the present plans should be carried out, however, it will not be merely a post-graduate school, but a regular medical college, requiring an entrance examination and a three years' graded course, with an examination at the end of each; and it is the design to secure such an endowment for the new institution that the professors shall be independent of the students' fees.

—Dr. G. B. Taylor, inspector of vaccination, has reported to the Board of Health that 61,988 persons were vaccinated by the officers of his bureau during the year 1881. Of these 13,628 were in the public schools, and 8,039 were inmates of public institutions. In only 148 cases were there complaints of bad results following vaccination, and in 58 it was found that the trouble was caused by other diseases, while no deaths at all resulted from vaccination. During the year 1342 cases of small-pox were reported, and there were 404 deaths from the disease. Of the entire number of persons who suffered from small-pox 439 had never been vaccinated, while of those who died 122 had been vaccinated and 267 had not.

—Dr. Frederick R. Sturgis, president of the County Medical Society, has begun suit on behalf of the Society against the United States Medical College (eclectic) of New York to annul its charter, and to recover fines for its illegal issuing of diplomas and other abuses. The board of censors of the County Society has been satisfied for a long time that this college was engaged in fraudulent practices, and it has now ascertained that the institution was illegally organized. A law of the State, passed in 1853, provides for the organization of medical colleges by the Board of Regents of the State University, and requires that there shall be a paid-up capital of \$50,000. The United States College, however, was organized under a law of 1848 providing for the incorporation of manufacturing companies. It was opened in 1878, and since then has graduated a large number of students.

#### PHILADELPHIA.

—An outbreak of trichinosis occurred a short time ago in a German family keeping a hotel at Bridesburg from eating infected ham. The mother is dead, the father and two young children are very ill, and hopes are scarcely entertained of their recovery, a third child, and two of the neighbors, were less severely affected, but are still very sick. The fatal ham was only about half cooked, and a close inspection of its cut-surface, even without a microscope, showed the presence of the parasite in immense numbers. A section of muscular tissue obtained from the lady who died revealed living trichinae.

—During the compounding of a prescription in Frankfort, one of the outskirts of the city, an explosion occurred which severely burned the hands and face of the proprietor of the store who was compounding

the medicine, and also seriously injured a by-stander. The formula, which was intended to be used as a mouth wash, called for an ounce each of tannic acid and chlorate of potash. The druggist carefully powdered them separately, but on mixing the tannin with the chlorate the explosion occurred.

—An interesting surgical operation was performed recently by Dr. William A. Forbes, Demonstrator of Anatomy at Jefferson College. An eminent pianist of this city had an increasing difficulty in flexing the ring finger in performing. Dr. Forbes suggested the dividing of the tendinous slip which runs on each side to the little finger and to the third finger, from the tendon of common extensor running to the ring finger. This operation was performed subcutaneously, and a rapid cure resulted. The patient expresses great delight at the unusual freedom of motion given to the affected finger, and he is now able to use it with ease and comfort in his brilliant performances on the piano.

#### ST. LOUIS.

—A College for the Instruction of Medical Practitioners has been inaugurated in St. Louis, with the avowed object of teaching the special branches of medicine and surgery. There will be twelve departments, so arranged that special courses may be taken with as little loss of time as possible. Full particulars with regard to the time that special courses may be taken, the kind of clinics, the terms, etc., will soon be ready.

### DISSECLAMP.

#### EXHIBIT OF SURGICAL APPLIANCES AT NEXT MEETING OF MASSACHUSETTS MEDICAL SOCIETY.

An exhibit of surgical appliances will be held at Horticultural Hall at the time of the annual meeting of the Massachusetts Medical Society. No sale of articles or advertisement of such sale will be permitted.

Any member of the Society having articles of proved value which he may be ready to loan, will oblige the committee by communicating with them before May 30th. The committee consists of A. T. Cabot, M. D., 11 Park Square, and E. H. Bradford, M. D., 150 Boylston Street.

#### UNUSUAL RESULTS OF VACCINATION.

MR. EDITOR.—I have noticed in several numbers of your JOURNAL recently reports of eruptions simulating variola or varioloid following vaccination, and having had in my practice this winter two such cases, thought possibly they might be of interest.

I made during December, 1881, and January and February, 1882, one hundred and thirty vaccinations, of which I have a record, and in that number two presented the symptoms spoken of in the reports referred to above. One was a married woman, about forty years, who told me when I vaccinated her that she was subject to attacks of erysipelas, which I supposed to be some other cutaneous eruption, as nearly all such are called erysipelas among the ignorant here, a notion

encouraged by many irregular practitioners and traveling quacks, into whose hands such people frequently fall.

This case was vaccinated with a point of animal vaccine from Codman and Shurtleff, of Boston. The eruption appeared within twenty-four hours after the arm began to show any considerable inflammation, and covered the whole body so thickly that the point of a pencil could hardly be put down on normal skin. It took the shape of a small vesicle, never passing into the pustular form; these dried up in a few days, leaving dark-colored crusts, which separated in a week or ten days, leaving a slight dusky hue to the skin, which lasted several weeks.

The other case was in a boy, about twelve years old, and was similar in nature to the first, except that he had probably taken a slight cold, as he exposed himself hunting rabbits in the snow. This case was vaccinated with a point obtained from Cleveland, Ohio. Both cases exhibited some little constitutional disturbance, though not more than is frequently seen in a good vaccination. There was some general malaise, and some headache, but no pain in the back of consequence, and only slight fever.

I vaccinated five others in the same family with the first case, but *not* the woman's children, with points from the same package, without any eruption; and in the second, two others, brothers of the boy, also with points from same package, with no eruption. All these vaccinations took naturally and well. I have had several cases where there was an eruption of several small vesicles, over the inflamed areola of the arm, some distance from the points where the virus was inserted, but only these two where it affected the whole body. I have kept a record of all my vaccinations for several years, and have about two hundred on my list, in which I have noted the kind of virus used, whether animal or humanized, whether vaccination was primary or secondary, and whether successful or failure. One case I will detail, as it illustrated remarkably the protective influence of vaccination.

Some years ago I was called, one Friday, to see a patient at a boarding-house. I found a case of small-pox, the eruption already partially umbilicated. On Saturday he was removed to a tent, his room-mate going with him as nurse, and on Sunday morning I vaccinated the nurse, who, about the last of the week, had complained of backache and pain in the head, but by the next day his vaccination inflamed, and went through the regular course of vaccine disease, and he had no further signs of small-pox, though he stayed two weeks longer nursing the patient, a bad case of confluent small-pox, until he died, and assisted in burying him. Yours very truly,

JAMES L. QUINN, M. D.

EATON, OHIO, April, 1882.

#### PHYSICAL EDUCATION OF GIRLS.

It is very satisfactory to note that, in the course of the progress of the movement for the higher education of girls, a wise attention is being directed, in influential quarters, to their physical education. At a recent school congress, Miss Müller, a member of the London School Board, directed attention, in happy and energetic language, to the still prevalent neglect of physical exercises in our girls' schools. "It generally happens," she said, "that, if we walk into a playground, the boys

during their playtime are in full swing; one or two of the masters are half joining in and half directing the fun; there is scrambling, and laughing, and running, and shouting, and no thought of anything but play. All this is very good for the lungs and the muscles, and makes the blood circulate freely. But in the girls' playground we see groups of feeble, languid girls dawdling about. Sometimes the swings are locked up during play-hours, because the teacher considers it 'unladylike' for girls to swing. . . . The elastic movements of a graceful woman, the buoyancy of her step, and the dignity of her bearing, are the result, not of lessons on deportment, but of much free and unchecked activity in youth. The girl who can ride and skate and walk is the one who forms and retains a graceful figure, not the one whose only idea of locomotion is to walk with self-conscious stiffness for a quarter of a mile along a paved street." We are glad to see that, in the first number of the *Girton Magazine*, just issued, great stress is laid upon the value of the tennis-court as part of the collegiate system in the education of girls, and on the cultivation generally of physical exercises, which are, it appears, vigorously and vivaciously pursued at Girton. At the recent exhibition of hygienic dress held in London, under the auspices of the National Health Society, which attracted crowds of fashionable ladies, one of the most useful stalls was contributed from Girton, and the Girton corset was especially noticeable as a well-devised tribute to the laws of physiology applied to dress. M. Bert lately said shrewdly, "When you educate a boy, you perhaps educate a man; when you educate a girl, you are laying the foundation for the education of a family." This is as true physically as it is morally and mentally, and too much stress cannot be laid upon the importance of physical education and recreation in girls' schools.—*British Medical Journal*.

#### THREE CASES OF POISONING BY STRAMONIUM.

Cases of poisoning by stramonium are by no means common, but, apart from this fact, it is interesting to trace the accident by which these persons were poisoned with it. On March 19th I was summoned to a house where three members of a family (mother, daughter, and granddaughter), who had been quite well up to the time of having dinner, were soon afterwards seized with symptoms of poisoning, apparently by belladonna. I found on inquiry that they had had for dinner broth, with dried herbs in it, and also some beef, with turnips, carrots, and potatoes. In about ten minutes after taking the broth, and before rising from the table, they began to feel uncomfortable symptoms, these differing in each case. The mother felt her head first affected, the daughter her throat, and the child her stomach, causing nausea and vomiting. These symptoms supervened much more quickly than is usually experienced in poisoning by belladonna. As they had eaten nothing else for dinner besides what I have mentioned, it seemed hard to understand how they had been poisoned. I, however, obtained the remainder of the dried herbs, but there were only a few small pieces left. On adding boiling water, in order to make an infusion of them, the leaves expanded, and I found two unmistakable portions of the leaf of the datura stramonium, also two of the characteristic buds of the

plant and the corolla of a flower. On filtering the solution I applied a few drops to my eye, and it rapidly and fully dilated the pupil, causing indistinctness of vision and loss of accommodative power, which lasted for forty-eight hours. A stramonium plant most probably had been growing amongst the herbs, and was unwittingly picked and dried with the rest. The following is a short record of the cases: Mrs. A., aged seventy, was quite unconscious when first seen, four hours after dinner; her pupils were widely dilated and insensible to light. Her lips were swollen and the lower one was of a purplish hue. She was quite unable to swallow. Her pulse was 90, soft, and compressible. There was complete loss of power in her lower extremities, accompanied by subsultus tendinum, but she was busy with her hands pecking at imaginary objects. She also had several convulsions. My stomach-pump, unfortunately, being out of order, I gave her a subcutaneous injection of one sixth of a grain of pilocarpine, followed by a similar one in a quarter of an hour. This produced free vomiting and perspiration. She then began to rally, and I left her after giving her a fourth of a grain of morphia in pill. She had a fair night, but was very giddy and weak next day, and unable to get up. Susan A., a daughter of the above, was in a less serious condition, being in a state of mirthful and busy delirium, and very restless. Her pupils were widely dilated, and her cheeks flushed. She was able to take an emetic, and her bowels had been very freely moved, four times since dinner. She complained much of her throat, also of headache and vertigo. Her first sensations of discomfort, she afterwards told me, were referable to her throat. She gradually improved, but her throat and the mucous membrane of her mouth were sore for several days after. The granddaughter, a child four and a half years old, appearing poorly and vomiting after dinner, was taken home, nearly a mile off, to which she walked, though wandering more or less in her mind. She then came under the care of another medical man, who found her very restless and suffering from illusions. She was able to swallow an emetic, which caused renewed vomiting, and she was then treated with small doses of opium, under which she gradually became quieter, and was nearly well on the following day. Morphia, physostigma, and pilocarpine are all physiological antidotes to belladonna and its allies, but if pilocarpine can be depended upon to cause free vomiting (physiologically) as in the above case, its value would be enhanced in such cases of poisoning. — H. COUPLAND TAYLOR, M. B., in *British Medical Journal* of April 15th.

#### NOTE ON A CASE OF PSEUDO-HYPERTROPHIC PARALYSIS (?): RECOVERY.

Dr. H. DONKIN, Senior Assistant Physician, Westminster Hospital, relates in the *British Medical Journal* the following interesting case:—

On the 19th of November last (1881), I saw a boy six years old among my out-patients at Westminster Hospital, whose mother stated that he had been "slow and inactive" for about five or six weeks previously, and that she had noticed that his calves and buttocks seemed larger than before. These facts were given spontaneously, not elicited by questions.

The boy stood with his legs wide apart, straddled

and swung from side to side as he slowly walked, fell down on attempting to walk quickly, and was unable to raise himself from the sitting posture without pressing on one of his knees, and previously turning round and sitting on all fours. There was protrusion of the abdomen, and a noteworthy degree of lordosis. On stripping him, it was obvious to me, and the students who were present that his calves and buttocks were remarkably large for a boy of his size. The skin, especially over the lower part of the body, was markedly mottled; and, after repeated trials, I failed to elicit the knee-jerk, except perhaps very slightly in the left leg. Knowing, however, how erroneous it often is to attach any value to the absence of this latter phenomenon in children, and the general want of knowledge about the importance of this symptom at all, I mention it only because, on the recovery of the boy, which is the excuse for this record, the knee-jerk was elicited in both legs with as much ease as could be expected in the case of a rather excitable child. There was not any obvious enlargement of the muscles of the upper extremity. But I was able on that day to make but an imperfect examination, and unfortunately postponed both the measurement of the girth of his calves and all further methods of inquiry. Owing to an unavoidable absence, I did not see the case again till January 7th, more than six weeks after the first visit. Then, to my surprise, beyond some waddling in walking, I noticed no symptoms of loss of power. The boy could run with ease, and raise himself from the ground in the ordinary manner, even without placing his hands on the floor. The calves still appeared to me to be somewhat large; but the mother, again spontaneously, observed that both the calves and buttocks had "got quite small again." There was no mottling of skin. On the 14th, I saw him again. He still waddled slightly in walking; and I again failed, as I had also on the 7th, to produce any knee-jerk after careful trial. The mother believed the child to be now quite well. On the 21st, I could detect nothing abnormal about the child or his movements, with the exception of the knee-jerk symptom. I saw him again on February 10th, when I did not examine him; and for the last time on March 11th, when I found the appearance of the body normal; the gait in no way altered; running performed with perfect ease; and the knee-jerk produced with tolerable readiness.

The treatment I ordered from the first was complete rest; the boy having previously been exercised by the mother, believing, as she did, that he was careless. For medicine, as he looked somewhat weakly and pale, although quite cheerful, I gave him our mixture of iron and nux vomica. This he discontinued taking on February 10th.

I am well aware that this is but an imperfect report of the case, and that the diagnosis may be open to question. Still there is enough to show that we may have to look out at least for a set of symptoms *simulating* the disease about which so much has been written and so little is known. And there would seem to be no reason in nature why there should not be some temporary affection of the nerve-centres (even if this disease be regarded as connected with changes in the cord) giving rise to transient symptoms, just as we have the same possibility hinted to us in the occurrence of other forms of recovering paralysis.

The author disclaims any probable connection between the drug treatment and the result.

## REPORTED MORTALITY FOR THE WEEK ENDING APRIL 22, 1882.

| Cities.                      | Population by Census of 1880. | Reported Deaths in each. | Deaths under Five Years. | Percentage of Deaths from       |                |                       |                |            |
|------------------------------|-------------------------------|--------------------------|--------------------------|---------------------------------|----------------|-----------------------|----------------|------------|
|                              |                               |                          |                          | The Principal Zymotic Diseases. | Lung Diseases. | Diphtheria and Croup. | Scarlet Fever. | Small-Pox. |
| New York                     | 1,206,590                     | 798                      | 320                      | 26.44                           | 18.29          | 6.27                  | 9.52           | 1.00       |
| Philadelphia                 | 846,984                       | 390                      | 133                      | 16.15                           | 11.03          | 5.38                  | 1.51           | 1.28       |
| Brooklyn                     | 566,689                       | 298                      | 114                      | 29.86                           | 18.45          | 7.05                  | 11.51          | —          |
| Chicago                      | 503,304                       | —                        | —                        | —                               | —              | —                     | —              | —          |
| Boston                       | 362,535                       | 181                      | 50                       | 12.16                           | 20.44          | 5.53                  | 1.55           | —          |
| St. Louis                    | 350,522                       | —                        | —                        | —                               | —              | —                     | —              | —          |
| Baltimore                    | 332,190                       | 150                      | 53                       | 29.33                           | 9.33           | 10.00                 | 7.99           | 1.33       |
| Cincinnati                   | 255,708                       | 127                      | 48                       | 49.60                           | 8.66           | 1.57                  | 1.57           | 40.16      |
| New Orleans                  | 216,140                       | 139                      | 51                       | —                               | —              | —                     | —              | —          |
| District of Columbia         | 177,638                       | 83                       | 18                       | 12.05                           | 12.05          | 4.82                  | 1.20           | 1.20       |
| Cleveland                    | 160,140                       | —                        | —                        | —                               | —              | —                     | —              | —          |
| Pittsburgh                   | 156,381                       | 80                       | 37                       | 35.00                           | 12.50          | 6.25                  | 2.50           | 7.50       |
| Buffalo                      | 155,137                       | 82                       | 30                       | 25.60                           | 14.63          | 3.66                  | 2.44           | —          |
| Milwaukee                    | 115,578                       | 42                       | 20                       | 19.04                           | 7.14           | 2.38                  | 4.76           | 2.38       |
| Providence                   | 104,857                       | 39                       | 8                        | 5.13                            | 10.26          | 2.56                  | —              | —          |
| New Haven                    | 62,882                        | 33                       | 21                       | 12.12                           | 18.18          | 3.03                  | —              | —          |
| Charleston                   | 49,999                        | 33                       | 8                        | 9.09                            | 6.06           | —                     | —              | —          |
| Nashville                    | 45,461                        | 21                       | 5                        | 9.52                            | 14.29          | —                     | —              | —          |
| Lowell                       | 59,485                        | 26                       | 11                       | 23.07                           | 7.69           | 3.84                  | —              | —          |
| Worcester                    | 58,295                        | 28                       | 12                       | 10.71                           | 10.71          | 3.57                  | 3.57           | —          |
| Cambridge                    | 52,740                        | 22                       | 5                        | 13.64                           | —              | 4.54                  | —              | —          |
| Fall River                   | 49,006                        | 18                       | 6                        | 11.11                           | 5.55           | —                     | —              | —          |
| Lawrence                     | 39,178                        | —                        | —                        | —                               | —              | —                     | —              | —          |
| Lynn                         | 38,284                        | 12                       | 3                        | 8.33                            | 16.66          | —                     | 8.33           | —          |
| Springfield                  | 33,340                        | 11                       | 3                        | —                               | 27.27          | —                     | —              | —          |
| Salem                        | 27,598                        | 18                       | 3                        | 16.66                           | —              | —                     | 5.55           | —          |
| New Bedford                  | 26,875                        | 6                        | —                        | —                               | —              | —                     | —              | —          |
| Somerville                   | 24,985                        | 8                        | 1                        | 25.00                           | —              | 12.50                 | —              | —          |
| Holyoke                      | 21,851                        | 9                        | 2                        | 33.33                           | 11.11          | —                     | 11.11          | 11.11      |
| Chelsea                      | 21,785                        | 6                        | —                        | —                               | —              | —                     | —              | —          |
| Taunton                      | 21,213                        | —                        | —                        | —                               | —              | —                     | —              | —          |
| Gloucester                   | 19,329                        | 5                        | 0                        | —                               | —              | —                     | —              | —          |
| Haverhill                    | 18,475                        | 4                        | 1                        | 25.00                           | —              | —                     | —              | —          |
| Newton                       | 16,995                        | 9                        | 4                        | —                               | 22.22          | —                     | —              | —          |
| Brookton                     | 13,608                        | 2                        | 1                        | 100.00                          | —              | 50.00                 | —              | —          |
| Newburyport                  | 13,537                        | 6                        | 2                        | 16.66                           | 16.66          | 16.66                 | —              | —          |
| Fitchburg                    | 12,405                        | 3                        | 0                        | —                               | —              | —                     | —              | —          |
| Malden                       | 12,017                        | 4                        | 0                        | —                               | —              | —                     | —              | —          |
| Eighteen Massachusetts towns | 141,534                       | 43                       | 8                        | 6.98                            | 4.65           | 2.33                  | —              | —          |

Deaths reported 2736 (no reports from Chicago, St. Louis, and Cleveland); 978 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and fevers) 600, consumption 406, lung diseases 375, scarlet fever 142, diphtheria and croup 141, small-pox 75, typhoid fever 48, whooping-cough 42, measles 37, diarrheal diseases 30, malarial fevers 26, cerebro-spinal meningitis 25, puerperal fever 15, erysipelas 12, typhus fever seven. From *typhoid fever*, Philadelphia 19, New York five, Pittsburgh four, Boston and Baltimore three each, Brooklyn, Cincinnati, Buffalo, and Milwaukee two each, District of Columbia, New Haven, Lowell, Cambridge, Fall River, and Holyoke one each. From *whooping-cough*, New York 20, Brooklyn six, Charleston and Lowell three each, Boston and Buffalo two each, Baltimore, Cincinnati, District of Columbia, Pittsburgh, Nashville, and Salem one each. From *measles*, Brooklyn 10, Philadelphia nine, New York eight, Pittsburgh five, Buffalo three, Cincinnati two. From *diarrheal diseases*, New York 20, Buffalo four, Baltimore two, Brooklyn, Boston, District of Columbia, and Pittsburgh one each. From *malarial fevers*, New York and Brooklyn 10 each, Baltimore three, District of Columbia, Buffalo, Lowell one each. From *cerebro-spinal meningitis*, New York and Buffalo four each, Brooklyn and Boston two each, Philadelphia, Cincinnati, Pittsburgh, Milwaukee, New Haven, Nashville, Worcester, Cambridge, Fall River, Salem, Haverhill, Brockton, and Waltham one each. From *puerperal fever*, New York and Pittsburgh three each, Boston and Baltimore two each, Cincinnati, Milwaukee, New Haven, Somerville, and Quincy one each. From *erysipelas*, New York four, Brooklyn three, Philadelphia two, Boston, Cincinnati, and Providence one each. From *typhus fever*, Baltimore four, New York three.

Two hundred and two cases of small-pox were reported in Cincinnati, Pittsburgh 29, Baltimore 17, Brooklyn seven, Buffalo four, District of Columbia one; diphtheria 23 cases, scarlet fever 10, typhoid fever nine, in Boston; scarlet fever eight, and diphtheria three, in Milwaukee.

In 37 cities and towns of Massachusetts, with a population of 1,024,669 (population of the State 1,783,086), the total death-rate for the week was 21.36 against 22.26 and 22.83 for the previous two weeks.

For the week ending April 1st, in 173 German cities and towns, with an estimated population of 8,391,316, the death-rate was 27.8. Deaths reported 4492: under five 2182; pulmonary consumption 669, acute diseases of the respiratory organs 510, diphtheria and croup 224, diarrheal diseases 121, scarlet fever 95, whooping-cough 66, typhoid fever 47, measles and rubella 28, puerperal fever 25, small-pox (Königsberg, Memel, Bruthen two, Munich, Essen six, Eupen) 12, typhus fever (Thorin two, Memel, Grandenz, Bromberg two) six. The death-rates ranged from 16.7 in Bremen to 44.1 in Nuremberg; Königsberg 29.1; Breslau 35.6; Munich 37.9; Dresden 20.8; Berlin 25; Leipzig 18.3; Hamburg 25; Ilanover 23; Bremen 16.7; Cologne 29.8; Frankfurt a. M. 27.7.

In the 28 English towns, with an estimated population of 8,457,514, for the week ending April 8th, the death-rate was 22.3. Deaths reported 3620: acute diseases of the respiratory organs (London) 333, whooping-cough 202, measles 172, scarlet fever 68, fever 52, diarrhoea 44, diphtheria, 33, small-pox (London 14) 19. The death-rates ranged from 14.7 in Halifax to 31.5 in Plymouth; Sheffield 18.5; Birmingham 19.5; Bristol 21.1; London 21.4; Leeds 21.8; Liverpool 25.1; Manchester 29.1. In Edinburgh 22; Glasgow 25.1; Dublin 27.7.

For the week ending April 8th in the Swiss towns, population 479,934, there were 51 deaths from acute diseases of the respiratory organs, pulmonary consumption 46, diarrheal diseases 27, diphtheria and croup 12, whooping-cough three, scarlet and typhoid fever each two, puerperal fever one. The death-rates were, Geneva 27.1; Zurich 33; Basle 23.6; Berne 29.9.

The meteorological record for the week ending April 22d, in Boston, was as follows, according to observations furnished by Sergt. O. B. Cole, of the U. S. Signal Corps:—

| Date.            | Barom-eter. | Thermom-eter. |          |          |            | Relative Humidity. |             |       | Direction of Wind. |            |             | Velocity of Wind. |            |             | State of Weather. <sup>1</sup> |            |             | Rainfall.            |                   |
|------------------|-------------|---------------|----------|----------|------------|--------------------|-------------|-------|--------------------|------------|-------------|-------------------|------------|-------------|--------------------------------|------------|-------------|----------------------|-------------------|
|                  | Mean.       | Mean.         | Maximum. | Minimum. | 7.23 A. M. | 3.23 P. M.         | 11.23 P. M. | Mean. | 7.23 A. M.         | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.        | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.                     | 3.23 P. M. | 11.23 P. M. | Duration Hrs. & Min. | Amount in inches. |
| April, 1882.     |             |               |          |          |            |                    |             |       |                    |            |             |                   |            |             |                                |            |             |                      |                   |
| Sun., 16         | 29.937      | 47            | 59       | 34       | 46         | 17                 | 45          | 36    | NW                 | W          | W           | 11                | 14         | 12          | F                              | C          | C           | —                    | —                 |
| Mon., 17         | 29.926      | 54            | 66       | 39       | 41         | 22                 | 43          | 36    | W                  | W          | W           | 11                | 14         | 12          | C                              | C          | C           | —                    | —                 |
| Tues., 18        | 29.996      | 45            | 60       | 39       | 44         | 68                 | 86          | 66    | NE                 | NE         | N           | 4                 | 16         | 4           | C                              | F          | C           | —                    | —                 |
| Wed., 19         | 29.713      | 51            | 62       | 36       | 78         | 65                 | 100         | 81    | NE                 | SE         | S           | 8                 | 6          | 9           | C                              | O          | R           | —                    | —                 |
| Thurs., 20       | 29.333      | 50            | 63       | 40       | 93         | 56                 | 68          | 72    | W                  | W          | W           | 4                 | 18         | 7           | G                              | O          | C           | —                    | —                 |
| Fri., 21         | 29.525      | 45            | 53       | 41       | 68         | 49                 | 65          | 61    | NW                 | W          | W           | 13                | 20         | 16          | R                              | O          | C           | —                    | —                 |
| Sat., 22         | 29.827      | 42            | 47       | 37       | 53         | 39                 | 64          | 49    | W                  | NW         | W           | 16                | 20         | 8           | C                              | O          | F           | —                    | —                 |
| Means, the week. | 29.751      | 48            | 66       | 34       |            |                    |             | 57    |                    |            |             |                   |            |             |                                |            |             | 14.40                | .51               |

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; X., clearing.

# OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM APRIL 22, 1882, TO APRIL 28, 1882.

MACS, L. M., captain and assistant surgeon. Having reported at these headquarters, will proceed to Fort Lewis, Colo., and report to the commanding officer for duty. S. O. 86, Department of the Missouri, April 24, 1882.

FOSTER, JOSEPH Y., captain and assistant surgeon. His leave of absence for one month, granted him in S. O. 32, Department of the South, March 14, 1882, extended one month, with permission to apply for a further extension of twenty days. S. O. 17, Military Division of the Atlantic, April 25, 1882.

GARDNER, J. DE B. W., captain and assistant surgeon. Telegraphic instructions of this date, assigning him to duty at Fort Huachuca, A. T., confirmed. S. O. 57, Department of Arizona, April 19, 1882.

GARDNER, EDWIN B., captain and assistant surgeon. Having reported at these headquarters, is assigned to temporary duty at Vancouver Barracks, Washington Ter. S. O. 50, Department of the Columbia, April 14, 1882.

SHUTTLER, R. W., captain and assistant surgeon. Granted leave of absence for three months from May 1, 1882. Relieved from duty in the office of the Surgeon-General, to take effect May 1, 1882, and upon expiration of his leave to report by letter to the Surgeon-General. S. O. 92, A. G. O., April 21, 1882.

ROBINSON, S. Q., captain and assistant surgeon. Having reported at these headquarters, is assigned to duty at Fort Spokane, Washington Ter. S. O. 50, C. S., Department of the Columbia.

THE SECTION FOR CLINICAL MEDICINE AND PATHOLOGY OF THE SUFFOLK DISTRICT MEDICAL SOCIETY will meet at 19 Boylston Place, on Saturday, May 6th, at 7.45 o'clock. The following papers will be presented: Dr. S. W. Langmaid, A Case of Intussusception, with Recovery. F. S. Billings, S. V., Plastic Experiments on the Stomach and Intestines. Ernest W. Bowditch, Esq., The Sanitary Aspect of Nalant, Mass. Dr. Morton Prince, Puerperal Apoplexy, with two Cases.

It is important that the meeting should open punctually at the time appointed. ALBRIK N. BLODGETT, Secretary.

OBSTETRIC AND GYNECOLOGICAL SECTION OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.—A meeting will be held at 19 Boylston Place, on Thursday, May 4th, at eight p. m. The following papers will be presented: Two Cases of Puerperal Septicæmia, Dr. Francis Minot. Some Statistics and Observations concerning Laceration of the Cervix Uteri and its Treatment, Dr. F. H. Davenport. J. B. SWIFT, Secretary.

BOOKS AND PAMPHLETS RECEIVED.—Suicide: An Essay on Comparative Moral Statistics. By Henry Morell, M. D., Professor of Psychological Medicine in the Royal University, Turin. The original expressly revised and abridged by the au-

thor for the English version. New York: D. Appleton & Co. 1882. (The International Scientific Series.)

Quarterly Report of Medical Officers, United States Army, with their Stations and Duties, as reported to the Surgeon-General April 1, 1882, or at Date of last Report received at this Office. Washington: Surgeon-General's Office.

The Importance of introducing the Study of Hygiene into the Public and other Schools. Address on the Forty-Eighth Commencement Day, March 29, 1882, of the Medical Department of the University of Louisiana. By Stanford E. Chaille, M. D., Professor of Physiology, etc.

On Ovariotomy. By Thomas Keith, Esq., M. D., F. R. C. S. E. (Reprinted from the American Practitioner.)

Microscopical Examination of Water supplied by the City of Hartford. A Report to the Board of Water Commissioners. By William J. Lewis, M. D. Hartford. 1882.

Proceedings of Meetings held February 1, 1882, at New York and London, to express Sympathy with the Oppressed Jews in Russia. New York. 1882.

A Grave Defect in our Medical Education. By Charles Sedgwick Minot, S. B. S. D. (Reprint.)

Civilization in its Relation to the Decay of the Teeth. An Essay read before the International Medical Congress, August, 1881. By Norman W. Kingsley, M. D., S. D. S. New York: D. Appleton & Co.

Chronic Bronchitis, its Forms and Treatment. By J. Milner Fothergill, M. D. Edin. With Numerous Illustrations. New York: G. P. Putnam's Sons.

A Treatise on the Science and Practice of Medicine, or the Pathology and Therapeutics of Internal Diseases. By Alonzo B. Palmer, M. D., LL. D., Professor of Pathology and Practice of Medicine, and of Clinical Medicine in the University of Michigan, etc. New York: G. P. Putnam's Sons.

A Treatise on Diseases of the Eye. By Henry D. Noyes, A. M., M. D. New York: William Wood & Co. (Wood's Library of Standard Medical Authors.) 1881.

Sixty-Eighth Annual Report of the Trustees of the Massachusetts General Hospital. 1881.

Third Annual Report of the State Board of Health of Illinois, with the Official Register of Physicians and Midwives. 1882.

Transactions of the Rhode Island Medical Society. Vol. II. Part V. 1881.

On the Morbid Conditions of the Urine dependent upon Derangements of Digestion. By Charles Henry Raffe, M. A., M. D., Caius College, Cambridge, London: J. & A. Churchill. 1882.

Intermittent Spinal Paralysis of Malarial Origin. By V. P. Gibney, A. M., M. D., of the Hospital for the Ruptured and Crippled, New York. (Reprinted from the American Journal of Neurology and Psychiatry, Volume I, No. 1, 1882.)

The Incidental Effects of Drugs. A Pharmacological and Clinical Handbook. By Dr. H. Lewin, Assistant at the Pharmacological Institute of the University of Berlin. Translated by W. T. Alexander, M. D. New York: William Wood & Co. 1882.

De la Lithotritie rapide. Par le Dr. Reliquet, Lauréat de l'Institut, Ancien Interne des Hôpitaux de Paris, Vice-Président de la Société de Médecine de Paris, etc. Paris: Adrien Delahaye et Émile Legrosnier, Éditeurs. 1882.

## Original Articles.

A CASE OF ADDISON'S DISEASE WITH  
AUTOPSY.<sup>1</sup>

REPORTED BY HALL CURTIS, M. D.

THE following notes were given me by the patient's son, a medical student:—

Mr. J. B., fifty-four years old, had an attack of plenury about ten years ago and recovered well; with this exception he has been well and strong; weight about one hundred and eighty pounds. First began to complain about May 1, 1881, of exhaustion after rising in the morning and of difficulty in dressing himself, requiring frequent rests. For some little time previously he had not had much appetite and was probably losing flesh, though not marked at the time.

From May 1st till July 1st, he lost flesh rapidly, the greater part being lost during three or four weeks in May. During May had little or no appetite, and remained at home part of the time, although able to go down town occasionally (during March and April he had been very busy and frequently drove down town at 6.30 A. M., not getting back until dinner at six).

Was somewhat nervous and restless at night. The only prominent symptoms, loss of flesh and strength, and peculiar color, once or twice looked very yellow.

May 6th. Urine carefully examined. No albumen. Color normal; specific gravity 1015; sediment slight; reaction acid; uph. + u. n. cl. n. e. p.; ind.—a. p. n.; albumen absent; bile pigments absent; sugar absent; sediment, nothing abnormal; amount about 425 centimetres; no casts, bile, or sugar detected, amount in twenty-four hours about normal. Sometime in May Dr. Ellis saw him; after examination could discover nothing behind the anemia, and prescribed quinia and gentian. About June 1st came to the shore, and there remained at home most of the time, going in town occasionally. Took milk and all the nourishing food possible, and appetite improved somewhat, and also color. About July 5th, saw Dr. C. D. Homans at his office in town. Nothing new outwardly since Dr. Ellis saw him, no pain anywhere, no gastric symptoms, bowels regular, sleeps better than in May. July 25th. Urine examined again with negative result. Color normal; specific gravity 1011; odor normal; sediment slight; reaction acid; albumen very slight trace; bile pigments absent; sugar absent; sediment—very few hyaline casts, considerable number of spermatozoa, and in twenty-four hours 1650 centimetres (a little above normal); total amount of urea 29.37 grains. "Thought by Professor Wood of little moment." No cough, but no better, and able to make less exertion without fatigue. On slight exertion liable to a feeling of "faintness," but never lost consciousness. Dr. Homans prescribed iron, quinia, etc., as much food as possible, and some other suggestions were made.

On July 29th, as Dr. Homans considered him very sick, Dr. Edes saw him in consultation with Dr. Homans at the latter's office.

Thorough examination was made with no result as to diagnosis, though Dr. Edes suggested the possible existence of Addison's disease from the discoloration of the face.

Dr. Edes examined the blood and found, he said, not "an excessive degree of anemia." "I think the number of red globules was about four million to the cubic millimetre. (Normal five million.) There was not any deformity observed in their shape nor was there an excess of the white."

Since then he has not been away from home except a short distance to drive, and on the water. Taken Wyeth's vinum cibi et ferri cum cinchona and Fowler's solution. The latter proved too irritating and was omitted a week ago. Slight looseness of bowels occasionally. Saturday, August 20th, had diarrhea for first time, without pain; taking during day milk and lime water, and a little brandy.

During last two weeks has had less appetite and has again become restless at night, for which has taken bromide of potassium with some apparent relief.

Dr. Graham, at the suggestion of Dr. Homans, had treated him four times with massage. By his kindness I am able to read you extracts from his notes on the case.

August 13th. J. B. since May has lost twenty-five pounds in weight. His face has a grayish, tanned, sallow appearance, and but for the normal redness of his lips and tongue, one would also think he was anemic.

On awaking in the morning there is some stiffness of the legs in the usual easy semi-flexed position, so that it is with difficulty and discomfort that he extends them in bed before getting up, but after walking across the floor a few times this entirely disappears, and does not return during day.

He gets up regularly every morning in spite of the feeling of weakness, which is his most troublesome symptom, and which obliges him to lie down and rest once or twice while dressing himself. This feeling of weakness continues all the forenoon, growing less until he has his lunch about twelve or one o'clock, after which he is at his best, but still greatly below par. There has been no perspiration on his skin since last May.

There is at times slight thickness of speech and difficulty of articulation, but this is scarcely perceptible. . . . At the first application, on the 13th of August, the patient had forty minutes of massage, consisting of upward and circular friction, deep manipulation, and passive motion of the joints, the deep manipulation occupying about half the time of the whole procedure. The friction and passive motion about one fourth of the time. This was between eight and nine A. M. before his usual time of rising.

On the 15th, Dr. Graham learned that when he arose on the morning of the 13th, he had no feeling of stiffness in his legs, and that during the following days he had several times perspired naturally. On the 15th and 17th the patient again had massage applied in a similar manner, with a like result to the first application. Two days intervened before the fourth and last massage on the 20th. The patient quietly remarked that he thought an omission of the massage for two days was rather long, as he had missed the tonic and sedative effect of it.

The influence of massage in this case was marked in improving the capillary circulation and restoring the perspiratory function of the skin, and also in reawakening the muscles, nerves, and spinal cord to their normal function.

The diarrhea continued through Saturday, and on

<sup>1</sup> Read before the Section for Clinical Medicine and Pathology of the Suffolk District Medical Society, April 8, 1882.

Sunday, August 21st, he was seen by me for the first time. During the past thirty-six hours he had been troubled with frequent dejections, thin and yellowish, no blood or mucus, and without much pain (at this time there had been many cases of nausea, vomiting, and diarrhoea along the shore). He complained especially of flatulence and distention of stomach and abdomen, particularly in the course of the colon; the abdomen was retracted, but resonant over large intestine, and not tender. The hands and feet were quite cold. The face was quite dark, almost a copper color, with many purpuric spots and points. On the forehead were large, irregular patches of color of a deeper brown. The eyes were sunken, conjunctivae slightly congested, and with a tinge of yellow; under the eyes the pigment was nearly black. The deep color of face extended half way down the neck, gradually fading in depth of shade. The hands were quite dark, with spots and flecks of a deep chocolate color, ceasing abruptly just above wrists; the inside of the elbows showed a deposit of pigment, which was also very marked on the outer aspect of the joint.

Treatment consisted in a hot rectal douche three times a day, followed by starch and laudanum enema (fifteen drops to half an ounce), Hoffman's anodyne, one drachm three times a day, hot fomentations to abdomen, hot bottle to feet, claret, glass of milk with two teaspoons of lime-water every two hours.

Monday. Pulse 120; patient has had three dejections in past twenty-four hours; slept pretty well; abdominal flatulence relieved; now complains of distress and pain in left side from nipple to edge of ribs, which becomes worse towards morning, caused by the dilated stomach; frequent yawning; hands still cold; tongue clean, except at posterior part, and marked with deep, transverse furrows; nervous at times during night; hyperaesthesia of back, followed by flatulency. Before the flatulence became troublesome was much annoyed by severe itching over shoulders and back; this has not been spoken of since the distention.

Tuesday. Last night was very much disturbed by pain in left side of chest; relieved by Dover's powder and mustard paste; past twenty-four hours one dejection with scybala. R. *Zinci valerianatis*, one grain, every four hours at night; chloroform, one ounce, aqua, four ounces; teaspoonful when flatulence is troublesome. The teeth were prominent; the gums were retracted, unhealthy, with abundant dirty gray deposit of tartar. *A few lines from the junction of the mucous membrane and skin of each lip was a wavy line of black pigment following the lip curves*; pulse 120; temperature 100° F.; has dyspnoea at times in morning after exertion; no palpitation or cardiac distress; no headache; sight at times troublesome, with "black specks floating," always myopic; no cough; chest resonant, and respiration clear throughout; hyper-resonance begins two inches below left nipple, and extends half way to navel (stomachal distention); heart sounds feeble, distant, without souffle, apex beat just below nipple; liver dullness in mammary line normal; spleen not enlarged; abdominal aorta pulsating strongly along left side of umbilicus.

Wednesday, August 24th. Quiet day and night, three dejections after brandy and Apollinaris; one dejection this A. M. more natural; was very restless at three A. M.; was relieved by zinc; the flatulence, distention, and consequent nervousness were relieved by the zinc and chloroform; took food well; was on couch part of day,

also this morning; temperature yesterday evening and to-day 97° F.; pulse 120; hiccough at visit, accompanied by marked succussion in stomach; still complains of pain one inch below nipple; colon much less distended.

Thursday August 25th. Temperature 97.2° F. last night and this morning; pulse very rapid and feeble; patient dull, constantly yawning; mind quite clear; passed urine freely this morning; wandered a little early this morning, possibly from Dover's powder given at two A. M. (?)

Friday, August 26th. Yesterday quite restless, going often from bed to couch; took more milk and broth; no dejection yesterday, one this morning; no distress from abdominal or stomach distention; slight delirium; yesterday and last night not so strong; restlessness relieved by *zinci valerianate*, one grain, at six and eleven o'clock P. M.; last night temperature 98.3° F., to-day, A. M. 98.2° F.; pulse 112; yesterday erythema on nose and right ear, none to-day; now rational, but torpid; eyes often closed; tongue more coated; voice at times inaudible; extremities cold; pulse very feeble and compressible; abdomen generally tympanitic except at left of navel; stomach resonance begins at seventh rib; epigastrium depressed; left hypochondrium full.

Saturday, August 27th. Yesterday was very restless, picking at bedclothes; low, quiet delirium; took food freely; during night was especially restless, constantly sitting up, and wishing to leave bed; no relief from zinc; became quiet at one A. M., after bromide of potassium, twenty grains; one dejection past twenty-four hours; abdomen generally tympanitic and full; this morning the joints of legs were stiff, and he was unable to flex them; pulse feeble; voice weaker; arms cold nearly to elbows; feet and ankles cold; complexion darker; no albumen in urine.

Sunday, August 28th. Yesterday he passed a quiet day, taking nourishment freely, requiring no sedative; now decidedly weaker; pulse 128; respiration 32 to 36; intellect duller; voice very faint; one dejection since yesterday A. M.; mouth half open; tip of tongue dry and glazed; passed urine freely this morning; temperature in axilla last evening 98.3° F. Seven P. M. Has been quiet without complaint; delirium constant but quiet; temperature 99.3° F.; hands and arms abnormally warm; legs cold; pulse 130; respiration 40; eyes closed; pupils respond to light; does not reply to questions; has passed urine twice; unable to drink or unwilling; fed with a spoon.

Monday, August 29th. Had tranquil night; refused food; died this A. M. at 9.40 without a struggle.

An autopsy was made twenty-four hours after death by Dr. Cutler.

*Lungs.* Right entirely adherent from old inflammation. Left adherent at apex. Dependent parts of both lungs posteriorly congested. Bronchi healthy. Right lung more injected than left. A gland softened from old inflammation was found just outside of bronchus.

*Heart* atrophied; color good; consistence normal. Valves healthy with exception of a vegetation, not large enough to give rise to symptoms, on one of the curtains of the aortic.

*Spleen* four by three and one half inches; capsule moderately tense; color good; consistence normal.

*Peritonitis* old and limited on right and left sides of abdomen, also in pelvis.

*Kidneys* not abnormal.



*Liver* simply atrophied.

*Intestines* not abnormal.

*Left* slightly atheromatous.

*Left supra-renal body* was not disorganized; altered in shape from the well-known cocked hat to an irregular, lobulated appearance, the largest lobule size of a Lima bean. On section yellowish gray, homogeneous surface, with caseation, here and there softening; the size of organ but slightly increased.

*Right supra-renal body* presented the same appearances, only more marked; the largest lobule at top of gland size of end of thumb.

## PSEUDO-MEMBRANOUS LARYNGITIS COMPLICATING TYPHOID FEVER AND CAUSING DEATH.<sup>1</sup>

BY E. W. CUSHING, M. D.

WITH PRELIMINARY HISTORY OF THE CASE BY W. B. C. FIFIELD, M. D.

ON February 12, 1880, I was called in consultation by Dr. W. C. B. Fifield, to see a case of œdema of the larynx, as was supposed, of the previous history of which he has kindly written the following account.

"The patient, aged eighteen years, was seen for the first time on February 2, 1880. She had been complaining of fatigue and lassitude, accompanied with obscure abdominal pains for a week previous. The following points were then noticed, namely, tenderness on pressure over abdominal region, moderate distention, gurgling in the right iliac fossa; pulse 110; morning temperature 103° F.; evening 104° F.; slight diarrhœa; February 3d, two or three loose stools during the night; pulse 112; morning temperature 103° F.; evening 104° F. Still some tenderness of abdomen; tendency to diarrhœa. February 4th, pulse 112; temperature, morning 104° F.; evening 102° F.; diarrhœa. February 5th, morning temperature 103° F.; evening 104° F.; pulse 120; diarrhœa. February 6th, morning temperature 103° F.; evening 104° F.; diarrhœa; pulse 120. February 7th, temperature, morning 104° F.; evening 104° F.; pulse 120 per minute. This day rose spots were first noticed on chest and abdomen; diarrhœa. February 8th, Sunday, morning temperature 104° F.; pulse 130. Same condition of bowels, for which lead and opium pills were ordered. Evening, Dr. Stedman saw the case on account of my being too ill to visit her. Temperature 103° F.; pulse 130. Diagnosis of typhoid fever confirmed. February 9th, morning temperature 103.4° F.; pulse 120; less diarrhœa. February 10th, seen again with Dr. Stedman; pulse 120; morning temperature 105° F.; evening temperature 102° F.; pulse 110. Rose spots abundant; no diarrhœa. Complaints of roof of mouth being sore. Nothing to be seen either by Dr. Stedman or self. February 11th, morning temperature 104° F.; at one o'clock had fallen to 102° F. Still complains of roof of mouth. Nothing to be seen. Snoring respiration as if from nasal obstruction. Expectoration of purulent fluid. February 12th, morning temperature 104° F.; pulse 140. Difficult snoring respiration; cheeks purple; labored breathing. Seeing the impending suffocation I thrust my finger into the pharynx and immediately felt the

epiglottis, erect, stiff, and much swollen on the right; the swelling very hard; the whole rim of the glottis also seemed invaded by hard œdema. No membrane or deposit had ever been seen in the pharynx or upon the tonsils. A profuse discharge of muco-purulent matter followed the withdrawal of the finger with partial relief to the patient. Believing that I was in the presence of that very rare complication of typhoid fever, œdema laryngea, I telegraphed Dr. Cushing to come at his earliest convenience and to act independently, as my presence was required at the hospital for a tracheotomy there. At noon, Dr. Cushing not having arrived, I declined to do tracheotomy, on the ground that the young lady would probably not survive the operation, the pulse having risen to 160 per minute, and the labor of respiration not being sufficiently severe to momentarily threaten life. That I did not attempt it I deem fortunate, for at the post mortem the thyroid gland was found to so completely cover the trachea that one must either have cut directly through its substance or have levered it up with the handle of the knife; in either way I think there would have been bleeding enough to have put out the flickering life long before the operation had been completed. Alexander Tweedie, in his Lectures on Fevers, when speaking of œdema laryngea as a complication of typhoid says: "I have proposed tracheotomy in these cases, but never found any surgeon bold enough to perform it under so hazardous circumstances." Yet I imagine that Dr. Tweedie's cases were not parallel with mine. Somebody has spoken of laryngotomy as applicable. I cannot think that it would have advantaged in my case. Dr. Cushing will relate the appearances as he saw them, both in the living and in the dead body. I will only add that death took place very quietly at 9.30 o'clock the evening of February 12th, and that after the funeral on Sunday, the 15th, an older sister, who had been in the house during the last few days, came to me with well marked diphtheritic membranes on both tonsils. (Query. Does the thyroid gland become enlarged in typhoid?)"

On arrival I found the patient very weak, but perfectly sensible, and able to bear a laryngoscopic examination, which was made as she lay in bed by reflecting a clear north light which was increased by a field of snow. No spots were visible in the fauces or on the palate; the epiglottis was distorted to the right, much swollen, very red, and in such a position as to cover the glottis and obstruct the view.

The upper part of the larynx was also red and swollen, looking hard and firm, and clearly it was not a case of simple œdema. There was no membrane anywhere visible, and no record of the expulsion of any. The sputa when examined seemed simply muco-purulent, and although there was an account of paroxysms of dyspnea succeeded by the expulsion of a large amount of secretion, I had no suspicion of the real nature of the case. There was some dyspnea, but no sign of laryngeal obstruction, and therefore no indication for operative interference, even if it had not been contraindicated by the great prostration.

I expressed the opinion that the case might probably be one of perichondritis of the larynx, although a certain diagnosis was impossible. The young lady died the same evening of exhaustion, not of suffocation from any laryngeal obstruction.

At the autopsy there were unmistakable evidences of typhoid fever. The small intestine was studded

<sup>1</sup> Read before the Section for Clinical Medicine and Pathology of the Suffolk District Medical Society, April 8, 1882.

with infiltrated Peyerian glands and solitary follicles, while near the ileocecal valve were a number of ulcerations. Drs. Fifield and E. C. Stedman, who were present at the autopsy, agreed with me that there was no doubt but that the lesions were those of typhoid fever.

There were signs of hypostatic congestion in the lower lobes of the lungs, and some four ounces of dark fluid in the left pleural cavity.

The larynx was removed entire, with a piece of the trachea taken from just above the bifurcation.

When fresh the redness and swelling of the epiglottis and entrance of the larynx was marked, but we were surprised to find a distinct membrane lining the whole larynx and trachea, and extending into the secondary bronchi.

The bronchi and trachea were filled with masses similar to those expectorated and now seen to consist largely of broken down membranes.

The mucous membranes were not ulcerated, except at a small point on the anterior surface of the posterior wall of the larynx. The membranes were not firmly adherent, and were easily removed without leaving ulcerations under them.

There was no sign of perichondritis, or abscess, or necrosis of cartilage.

Such cases must be very rare, and it is difficult to say with certainty what the real nature of this one was.

Was it an accidental coincidence of diphtheria and typhoid?

Was it typhoid complicated by a croupous exudation on the air passages?

Is there any laryngeal and tracheal croup without diphtheria? The case opens up a burning question.

"*Wer darf das Kind beim rechten Namen nennen?*"

Most authors have little or nothing to say about such cases, and several physicians of large experience informed me that they never saw or heard of a case like this.

Many authors speak of necrosis and ulceration of the larynx (*diphtheritische Entzündung-Verschörfung-Verschörfung*) in typhoid, and Griesinger in *Infektionskrankheiten* (p. 169) mentions these, and also, (p. 191) after mentioning the violent catarrhal angina which extends to the air passages, says: "This often goes on to a patchy, pseudo-membranous coating (*Anflug*) and in places to an erosion of the mucous membrane." This process, or even the simple dryness, cause difficult deglutition and some pain in the pharynx. Such difficulties of swallowing may however arise from mere weakness of the muscles; in other cases they depend on disease of the larynx. Only in severe cases of anomalous course occur true croupous and diphtheritic processes in the pharynx, which sometimes spread in a ward by contagion.

"In such cases gray, firmly adherent, pseudo-membranes are found on the red and swollen mucous membrane, and these spread quickly over all parts of the pharynx, and often extend into the air-passages. There are then severe difficulties in swallowing, regurgitation, and in the latter case, aphonia, croupy cough, paroxysms of dyspnea, and generally a considerable increase of the fever and great prostration. This severe complication always occurs at the end of the first or in the second period (of the course of the disease), it is especially common when epidemic diphtheritis is prevalent (as at Paris,<sup>1</sup> 1851), and is usually fatal, more fre-

quently with symptoms of exhaustion than of severe local functional trouble.

"The immense collections of thrush (*Spor-pilzen*) in the mouth, pharynx, and oesophagus which were formerly usually considered as croup are similarly accompanied by a prostration which is generally serious."

Also on page 210 Griesinger says: "In the larynx and trachea there are developed in very rare cases, which are always very severe, simple croupous processes. In these cases the exudation usually begins in the pharynx, spreads over the epiglottis on to the respiratory mucous membrane to a variable distance, sometimes even into the finer bronchial ramifications.

Such processes occur occasionally, at the height of great epidemics, even in the very beginning of the disease, and are then accompanied by croupous exudation on other mucous membranes, especially that of the intestine, which, however, is accompanied by very slight typhus infiltration in the ileum, as appears to be the case also in primitive pneumo-typhus.

The croupous processes may, however, occur later, complicating fully developed ileo-typhus in the third or fourth week, or even after the commencement of convalescence, although nothing definite can be said about their causes. They are of great malignity, but, happily, very rare; they run a rapid course, usually fatal, with violent symptoms and speedy prostration. In the matter of diagnosis, besides the difficulty of breathing, the severe cough, the whispering voice, the lividity of the face, especial attention must be paid to the presence of pharyngeal croup and of coagula and bits of membrane (*Gerinnseln und Flocken*) in the sputa.

In the article on the Larynx, written by Eug. and Jules Boeckel for the *Nouveau Dictionnaire de Médecine et de Chirurgie Pratique*, no mention is made of diphtheritic inflammation of the larynx except as a form of ulceration, using the word in a German sense, not as implying a membranous covering. In other diseases, however, as scarlatina, variola, measles, the membranous laryngitis is described at length.

Under Diphtheria they say: "Secondary diphtheria always assumes the infectious form; this explains its gravity. The onset is generally insidious, and the local symptoms much less marked. If there comes on in a patient suffering from *typhoid fever* a diphtheritic angina the patient will not complain of his throat, and the affection will not be recognized except by direct examination. What usually marks the onset of the secondary diphtheria is a slight aggravation of the fever; it is, however, not marked, and not of long duration." . . .

In severe typhoid fever one can easily let an attack of diphtheria of the throat arise and run its course without suspecting its existence; the patient does not complain of it; he is not even troubled by it. If an enlargement of the submaxillary glands does not attract attention the intercurrent affection may be recognized only at the autopsy.

"Dans la *scarlatine*, la laryngite catarrhale est excessivement rare; elle revêt presque toujours d'emblée la caractéristique diphthérique, et présente alors une gravité qui varie d'épidémie à l'autre. Dans la *variola*, la laryngite se présente, sous une forme particulière, elle emprunte ses caractères anatomiques à l'ensemble de la maladie et constitue plutôt une *éruption pustuleuse laryngée* qu'une laryngite proprement dite. . .

<sup>1</sup> Conf. Culmont, *Revue Médecine-chirurgie*, de Paris, July, 1855.

Il arrive souvent en temps d'épidémie, qu'on observe à la suite de la variole des laryngites diphthériques, qui présentent un caractère de malignité tout particulière. *Laryngite morbillense.* La forme éréthémateuse peut passer à la forme diphthérique après une période de calme de quelques jours comme le prouvent deux observations de Coigne."

In Ziemssen's Cyclopaedia, under Typhoid (i. page 165), it is stated: "Under some circumstances diffuse diphtheritic and croupous processes may extend into the larynx, and there produce deeper ulcerations and disturbances. The mucous membrane of the trachea is, however, rarely invaded."

Von Ziemssen says laryngeal catarrh is a frequent complication of typhus and typhoid fevers. In the latter it is not uncommonly followed by more or less deep ulcerations, and by perichondritis with laryngeal oedema. He does not speak of membranes.

Steiner speaks of secondary croup in measles, scarlatina, small-pox, whooping-cough, epithelioma laryngis, *typhoid fever*, pneumonia, and cholera, but he gives no cases.

Sostier just mentions three cases of pseudo-membranous laryngitis in typhoid.<sup>1</sup>

Türk in his rich collection of clinical cases has recorded one similar to this. Under the heading Secondary Croup, he says: This frequently occurs in the course, or among the sequela, of exanthematic processes of typhus, of cholera, of typhoid, of pyæmia, and in fact often combined with other exudative diseases, for instance, pneumonia, pleuritis, pericarditis, meningitis. In secondary croup the membranes are frequently thinner than in primary, so that they often only appear as a membranous coating (Anflug) although thicker, more solid membranes do occur. Then follow clinical cases, among them one of croup in typhoid, as follows:—

"A baker's wife, apparently about thirty years old, was, according to the report of her physician, between the third and fourth week of an attack of typhus. Already in the course of the illness she had complained frequently of choking (Würgen) and collection of tenacious mucus in the fauces. These difficulties had increased for the last two or three days, during which the pulse rose simultaneously to 108. At the examination held by me on January 29, 1862, I found on the posterior and lateral walls of the pharynx, especially on the right, a white, thick, consistent, adherent, croup membrane, which extended also to the posterior surface of the soft palate, and so far forward that it bordered the edges of the arches of the palate and the uvula. The whole free border of the epiglottis and the right ary-epiglottic fold, in part, as well as the mucous membrane covering the right Wrisbergian and arytenoid cartilages, was covered with a similar membrane. The cords were normal. I have no information concerning the further course of the malady."

Türk apparently has not found this complication of typhoid so fatal as Griesinger would imply, for he says: "Larynx croup occurs both in exanthematic and in non-exanthematic typhus, in an early and in a late stadium, but it is almost always of inferior importance" (untergeordneter Bedeutung).

Mandl, regretting what he considers a useless division of the Germans of croup and diphtheria, according to the local symptoms, and declaring that we will not find pathology in tow of a globule, whose fantastic

voyages through meshes and pores defy the rich imagination of the poet, declares that "croup and diphtheria constitute a single great family, and croup is only diphtheria localized in the larynx; nevertheless pseudo-membranous affections of the larynx which are unconnected with diphtheria are also called croup. These are pseudo-membranous laryngitides which have neither the course, nor the reaction, nor the contagious specificity of diphtheria, and which cannot be considered as a stage of diphtheria not fully developed." Then he quotes Rokitsansky and the Germans as giving the name of secondary croup to these pseudo-membranous exudations in measles, scarlatina, typhoid, etc., etc., and says that their diphtheritic character is not yet proved.

He goes on to say, "The membranes are generally thinner than in diphtheria; they may occupy only the larynx, or this and its vicinity, taking their rise from some point of the pharyngo-laryngeal passages. They sometimes determine an acute and fatal oedema. I have noticed analogous exudations, grayish white, isolated, circumscribed, in syphilitic and tuberculous laryngitis and, as has been stated, in some cases of chronic parenchymatous laryngitis."

Further quotations would be tedious. The complication of typhoid fever by secondary croup, although rare, is well recognized, but not in the works in the hands of most general practitioners.

Published cases are hard to find, anatomical specimens must be very rare. I have therefore brought this case and specimen before you, hoping that it may not only be interesting in itself, but as a means of eliciting an expression of opinion concerning the real nature of such cases, which are connected directly with the question of the relation between, or identity of, croup and diphtheria.

## THE THERAPEUTICS OF VENESECTION.<sup>2</sup>

BY WM. A. DUNN, M. D.

It is difficult to recall a subject which so strikingly suggests the revolution which has taken place in therapeutics within the past quarter of a century, or which convinces an observer so earnestly that there is not that stability in the rules governing the application of medical means for ends which the practitioner would desire, or the symptoms of an illness demand. A practice which dates from the days of the father of medicine, and was so universally practiced in the ages following, winning for its adherents authorities like Galen, Sydenham, and Hunter, and in our day, Fordyce Barker, Graefe, Brown-Séquard, and Bowditch, could not have been so devoid of merit as the apathy and denunciation of these later times would seem to warrant. And yet if we reflect on the history of venesection we shall find that its course has not been much dissimilar from that of mercury, the alkaline treatment, and the various methods which have existed in our day, and which have won enthusiasts until time has tested their claims to merits, and placed them in their proper sphere. In their turn scoffers may deride the unlimited confidence we give carbolic acid, iodoform, and the salicylates, the abuse of which would operate as many evils as the abuse of venesection. Modern physiology and pathology have removed the ignorance which permitted the

<sup>1</sup> Traité de l'Angine Épidémique. Paris, 1852.

<sup>2</sup> Read at the meeting of the Section for Clinical Medicine and Pathology of the Suffolk District Medical Society, April 8, 1882.

many gross errors which prevailed in the days of wholesale venesection, a practice which was alike the function of the barber and leecher as well as the resource of the court physician. As we read of the many cases reported in which venesection was performed, apparently with the only aim in view to exhaust the patient as speedily and effectually as possible, we cannot help deploring the abuse of venesection, and wondering why the patient of a former generation was so difficult to be killed. The refinement of modern therapeutics as well as the barbaric precepts of the ancient bleeders have been the main factors which have brought venesection into disrepute. The advocates of blood-letting would seem to have cast odium upon their practices by the precepts which they taught. For instance, Dr. Elliotson, in speaking of enteritis, says: "The first thing one has to do is to bleed the patient well. You must set him upright as he can be, and bleed him from a large orifice without mercy." An authority no less distinguished than Robert Jackson, formerly surgeon-general of the British army, frequently removed four pounds at one time, which was considered a moderate bleeding. Six pounds have been taken on several occasions, and a hundred and twelve ounces at a single bleeding in some. This practice, so formidable in appearance, implied no danger. He declares the practice is reasonable in theory, and is proved by experience to be founded on truth. Certainly the results reported by Jackson were extraordinary, for he says that fainting did not always occur, and the patient in most cases returned to his military duty within eight days in the full vigor of health. Galen is quoted as having bled largely during the plague, and he is the first to record the quantity taken. He says that he has taken from the patient in one bleeding six pounds of blood, which immediately extinguished the fever, nor was there any loss of strength in consequence. In these days of pilocarpine, aconitine, atropine, and the subcutaneous syringe, we can reflect on the therapeutics of only a few years ago. If we are to credit the wonderful reports of cases of recovery after extraordinary losses of blood, we are warranted in relieving the popular mind of the terrors which it entertains concerning hemorrhages.

John Hunter is quoted as having seen several quarts of blood ejected from the stomach even by emaciated subjects, and improvement speedily followed the evacuation. Laevis relates the case of a man of seventy who suddenly lost in a threatened attack of apoplexy eleven pounds of blood from his nose, and four more in fifteen days afterwards, without any visible failure of strength. Boerhaave and Haller have both reported remarkable ha-morrhages which have not seemed to have been followed by any evil result.

Notwithstanding the many abuses to which venesection has been subjected, the fundamental principle presents claims for our attention and deserves application in special and well selected cases, and if we analyze the therapeutics of venesection we shall find sufficient cause for commendation and eager following.

There is no doubt that venesection was formerly used too indiscriminately and often employed too largely, but Dr. Flint says that with the natural tendency to pass from one extreme to the other it may be that the utility of blood-letting in certain cases at the present time is not sufficiently appreciated. The rules which governed the advocates of venesection in former times were in accordance with the lights which they possessed, and the methods which permitted the physi-

cian of a former time to continue his venesection until the coagulation ceased or until complete syncope declared itself, are a commentary on their limited knowledge of physiology and pathology. We now know without doubt that by a venesection we do not really diminish the amount of blood in the circulation, but we devitalize the blood of its most important factors, by robbing it of much of its fibrin and red globules, which are not readily reproduced. In accordance with fixed laws of endosmosis the blood becomes thinner and decidedly anæmic by its absorption of the fluids from other parts of the body, and in this manner the vital functions are impaired. It will be likely to effect harm, therefore, whenever it is important to economize the powers of life, and it may contribute to a fatal result in diseases which involve danger to life by asthenia.

Flint says that blood-letting is never indicated by the fact that acute inflammation exists; it is a measure directed not to the disease *per se*, but to circumstances associated with the disease. It is admissible, if with the development of inflammation there exist high symptomatic fever, the pulse denoting augmented power of the heart's action, the patient being robust, and the disease not involving danger to life by asthenia. Venesection is admissible under the conditions just stated whenever the promptness with which its effects are obtained renders it desirable to adopt it in preference to other measures producing the same effect with more or less delay. If we are to be consistent, we should be guided by the motto, *Naturâ duce*, of our Society, and we should receive many a suggestion from the natural operations continually presented to us in the natural course of a disease. Every one is familiar with the relief which comes to headache by an epistaxis — to the congested uterus by a menstrual flow, or to dyspnea by a slight hæmoptysis. I have at present a patient who has received within a few hours immense relief to a severe bronchitis by the appearance of her menses, when the ordinary remedies seemed to have failed. It is a well known fact that the temperature declines to an appreciable extent after an epistaxis, which, in most cases, is disproportionate to the amount of blood lost. Wunderlich says that after a moderate venesection the temperature rises a few tenths and gradually returns to the normal after a day or two, and may even at a later period sink below the normal.

Frese<sup>1</sup> says immediately after a moderate bleeding a fall of temperature of about 1° C. or 1.8 F. ensued, but after a few hours the temperature began to rise, and generally exceeded the temperature before the bleeding. Wunderlich says that general blood-letting in suitable cases of disease and in a less degree local abstraction of blood have a similar effect, and it not seldom happens that the temperature, which just before was considerably elevated, becomes normal, or very nearly so, soon after. In most cases the temperature soon rises again to its previous height or even exceeds it. The temperature will remain reduced just in proportion to the actual improvement which has taken place in the patient's condition, at or after the bleeding, and the most decided influence on the course of the fever is brought about by a sufficiently copious blood-letting or a spontaneous hæmorrhage (as in epistaxis or in menstruation). Granting that there are special indications for blood-letting, it is important to know when and how we are to avail ourselves of this agent and when to cease. Generally, a condition

<sup>1</sup> Virchow's Archiv.

of plethora with inflammatory symptoms would indicate it, especially if there is a full, bounding pulse. In limiting the amount of blood to be drawn we should not be guided by the condition of the pulse alone so much as by the improvement in the general condition of the patient. We are justified in supposing that many of the reported cases are grossly exaggerated, but it is an undoubted fact that venesection was much abused before the methods of the cold-water pack and the febrifuge effects of quinine were thoroughly appreciated. I have had an opportunity of testing the efficacy of venesection under the following circumstances.

Several months ago a patient whom I had never treated before presented himself at my office complaining of a headache, which was bilateral and at times very intense. His digestion was in good condition; he was not losing an appreciable amount of strength, and he was able to attend to his work, but with less vigor than formerly. As he was a great smoker and a hard worker I attributed his symptoms to an excessive use of tobacco and hard work. I advised him to rest, to moderate his use of tobacco, and to take tonics. There was no vomiting nor œdema, nor were there any symptoms which would attract my attention to his kidneys if I might except a slight dimness of vision, which, considered in connection with his headache and slight debility, caused me to request him to allow me to examine the urine, which he neglected to do. His age was forty-two. As he was an ordinary office patient he passed from my attention until late one evening I was called to attend him by a messenger who told me that the patient was suddenly seized with convulsions. I learned that the patient had continued to complain of his head and of amaurosis, but apart from those symptoms he had been apparently well until a few days before the convulsions appeared, and in fact he had continued working, although he was growing more feeble, and other symptoms which evidently indicated nephritis had supervened, such as œdema of the feet, hands, and face, with vomiting, and pain in the lumbar region, together with a diminution in the amount of urine passed. When I arrived at his house I found the patient in a profound coma, with convulsions. His pupils were dilated. His skin was dry and hot, and the frontal veins and face were moderately although not remarkably swollen. The œdema was slight. There was a full, bounding pulse, and the apex beat was abnormally labored, full, bounding, and slow. The temperature was 102° F., and the small quantity of urine which I was able to obtain was quickly coagulated by heat during the necessary delay prior to the application of the measures for relief, and relief was demanded at once. There was no time for the application of diaphoretics, diuretics, nor other derivatives. Death was imminent, and I believe would have speedily followed had not immediate action been taken.

I remembered that when I was a student in the office of Dr. H. I. Bowditch he had advocated venesection under proper conditions, and although I could not remember that I had heard any direct teaching given on the subject, I determined to bleed in the present case, and to follow the advice given by Dr. B. W. Richardson, and quoted by Dr. Bowditch, who claimed for venesection a first place in the treatment of uramic convulsions. I allowed ten ounces of blood to flow from the median cephalic vein, from which the blood came in a dark and steady stream. The relief which appeared after the venesection was not long delayed, and was most satisfactory. The convulsions ceased, the

face assumed a more natural hue, the pulse lost its labored character, the breathing became easier, and consciousness after a short interval returned. He was then wrapped in hot and moist blankets, and was given an eighth of a grain of elaterium. Perspiration was excited, and he rested easily. Under diuretics and jaborandi and milk at first, and afterwards Bashau's mixture, the patient made a slow and gradual recovery, with a single intermission on the fourth day, when it was necessary to remove five ounces of blood.

The urine at first contained abundant epithelial and granular casts; it was of low specific gravity, 1008, and contained a large quantity of albumen. After three months the albumen and casts had wholly disappeared from the urine, the œdema had disappeared, and, except a diminution of general vigor, the patient was really well.

I consider the case one of acute nephritis occasioned by exposure to cold in a patient considerably debilitated by hard work and general disregard of hygienic laws. Nephritis sometimes approaches so insidiously, and with symptoms so slightly emphasized, that a diagnosis is oftentimes difficult unless an examination of the urine is made. In this connection it may not be irrelevant to the subject to state that as obscure renal diseases are sometimes suspected by the single symptom of vomiting, to which Dr. Ellis attracted attention, so in like manner a headache, especially if bilateral, intense, and accompanied by amaurosis, may attract attention to a nephritis of which it may be at first the only symptom of dangerous conditions. The cry of venesection may be imagined to be, "Save me from my friends."

From the consideration of this subject we are justified in drawing the following conclusions:—

(1.) That although the errors of former days, without doubt, allowed a very great abuse of venesection, it has sufficient merit as a therapeutic agent to demand our earnest consideration.

(2.) If we are sincere in following the motto of our Society, *Naturā duce*, we shall take the suggestions which nature gives and bleed in carefully selected cases.

(3.) That in febrile attacks a loss of blood will lower the temperature, and this decrease in temperature is known to be disproportionate to the amount of blood lost.

(4.) That by venesection we do not actually diminish the volume of blood, but we cause the blood to become more watery, the free passage of the blood through the pulmonary circuit seems to be promoted, and the functional labor which the lungs have to perform is diminished by the abstraction of a certain number of the more solid particles.

(5.) It is fallacious to depend upon the condition of the pulse alone as the criterion of the amount of blood to be removed, or the benefit which the patient derives by a venesection. After a venesection the pulse sometimes appears to indicate increased power of the heart's action. The artery seems to strike against the finger with more force than before the abstraction of blood. Formerly practitioners were misled by this effect upon the pulse, and blood-letting was employed as a means of increasing the power of the heart's action. The sensation which the finger receives is delusive, and is caused by the quickness of the movements of the artery. This has been shown by the sphygmograph to depend on the diminished tension of the arteries following the abstraction of blood. It is to be borne in mind, says Flint, in estimating the power of the heart's ac-

tion by the sensible characters of the pulse, that the sense of resistance which is felt and the amount of pressure required to impress the artery are the evidences of strength. I cannot do better than to make use of the statements quoted in Dr. Bowditch's monograph on venesection which he read at the annual meeting of the Massachusetts Medical Society, in 1871.

"Dr. Richardson says: 'If blood letting were in this day an unknown remedy, and were some man to discover it, we should receive that man as the greatest amongst us, and send him to posterity as one of the lights of the age.' And again he says: 'The confidence of the ancients in the practice of blood-letting, their fearlessness of any immediate danger from it, was, I believe, as well founded in truth, as the cowardice and assertion, without observation, of the present day is founded on error.' He sums up as follows: 'I would recall that blood-letting as a point of scientific practice is still open to us in some stages (early stages) of typhoid fever, in cases where there is a sudden tension of blood, of which sunstroke is an example; in cases of chronic congestion of the brain; in cases of acute pain from (inflamed) serous membrane; in some cases of spasmodic pain (gall-stones, etc.); in others of sudden arrest of circulation from concussion; in congestion of the right heart, and it may be in some cases of extreme hæmorrhage. Above all I claim for it a first place in the treatment of simple uræmic poisoning.'

"Dr. Sutton<sup>2</sup> gives cases in which bleeding was resorted to to relieve distention of heart and passive congestion of the lungs. He ordered it, not to relieve inflammation, but to cure obstructions.

"Fordyce Barker, M. D.:<sup>3</sup> 'I am gradually getting to bleed more frequently. My conviction that this resource in practice has been too much neglected by myself and others has been progressively growing for some years.' Dr. Barker would bleed to prevent abortion in some cases.<sup>4</sup> So in renal congestions of the brain with coma, and when the skin is hot there is nothing so sure. He would bleed a woman in convulsions thirty ounces, and give claterium also. 'We must not,' he also declares, 'avoid bleeding in some cases even if the patient is feeble. In puerperal mania, at least in some very rare cases, venesection is of the greatest benefit.

## REPORT ON GENERAL PHYSIOLOGY.

BY CHARLES SEDGWICK MINOT, M. D.

AMONG recent investigations we select especially several important researches upon the nervous system and the function of respiration.

Professor Goltz, of Strassburg, has published a fourth paper<sup>5</sup> on the functions of the cerebrum, and has also gathered his memoirs on this subject into a volume that appears as a separate publication.<sup>6</sup> The numer-

ous experiments, which have been made during the last few years, on the localization of the functions in the brain by attempts to find specific centres in the *cortex cerebri*, seem to have accomplished little more than to show that electrical irritation of a limited area produces in each case a definite result, but it has not been proven that the constancy of the result extends always beyond one individual. On the contrary, one observer recognizes in a certain spot the centre for one action which another places elsewhere, while a third assigns to the spot another function. Until, therefore, the observers are agreed as to the functions and positions of the centres, the theory of circumscribed centres in the cortex cannot be definitely adopted.

Goltz's experiments put an even greater difficulty in the way of this theory. He has removed large portions of the brain in dogs by various methods, and has succeeded in keeping the animals alive for long periods after the operations were performed on them. He has found that the operation causes certain temporary disturbances, but that the permanent effect is a general diminution of the mental power, roughly proportional to the amount of brain substances removed. The extirpation of a circumscribed area never produces any definite, limited, permanent disturbance.

In his earlier experiments a canula was pushed into the substance of the brain, and a stream of water forced through it, thus washing off the nervous substance, but injuring the blood-vessels so little that there was no great bleeding. In the later experiments he used a bunch of fine needles soldered on to a plate (fourteen to a square centimetre), which he plunged into the part to be destroyed. Finally he used a White's dental engine to cut off pieces of the cortex. He divides the cerebrum into four quadrants by considering each half to be separated into an anterior and a posterior quadrant. The first dog, whose condition Goltz describes, underwent four operations at considerable intervals; each time nearly the whole of a quadrant was removed, yet the animal lived perfectly healthy for a year and eleven days after the last operation. It was then intentionally killed, and the brain showed not only the loss of substance actually removed, but had also undergone a very considerable atrophy. Now, this dog was extremely dull, stupid, and indifferent (*blödsinnig*), but still accomplished his cerebral functions, although imperfectly. He could see well enough to get assistance from his eyes in avoiding objects. When his eyelids were closed by sticking plaster he tried very awkwardly to remove the plaster, and when he moved bumped constantly against objects which he avoided with open eyes. He paid no apparent attention to anything around. Gave no heed to strange cats or dogs. He was not deaf, because he could be aroused from sleep by loud calls. He preserved his other senses likewise with greatly diminished acuteness. He was unable to manage his body in a way well adapted to the end in his view. Many ingenious and often amusing devices were employed to test his mental capacity. He might be characterized most briefly as a dull idiot, never making any expression of pleasure, although he could be put into a violent rage. Such were the permanent results of the injuries; the temporary effects were not less remarkable. After the first operation (removal of the left anterior quadrant) the characteristic disturbances appeared. When the dog attempted to walk the right legs yielded, and he

<sup>1</sup> Address Introductory to the Ninety-fifth Session of the Medical Society of London, on Blood-letting as a Point of Scientific Interest, by R. W. Richardson, M. D., F. R. S., President, Practitioner, No. 5, November, 1868.

<sup>2</sup> Medical Times and Gazette, December 18, 1869.

<sup>3</sup> New York Medical Journal, January, 1871.

<sup>4</sup> "In former days abortion, even that had gone so far as to cause bloody discharges from uterus, I have seen checked by venesection."

<sup>5</sup> Friedrich Goltz, 'Über die Verrichtungen des Grosshirns,' Vierte Abhandlung, (Unter Mitwirkung von Dr. J. von Mering und Dr. R. Ewald), Pfüger's Arch., xxvi. (1881) 1-49, Taf. i. iii.

<sup>6</sup> Friedrich Goltz, 'Über die Verrichtungen des Grosshirns. Gesammelte Abhandlungen,' Bonn, 1881, Pages 173.

fell over. The spine was bent towards the left. Both eyes showed a tendency to turn towards the left. He did not perceive meat held before his right eye, which he recognized very well with his left. The sensibility of the skin was greatly depressed on the right side. He let his right paw be put in any position, etc., etc. *These phenomena nearly all disappeared within three months.* The surprisingly rapid reestablishment of the lost functions, thus demonstrated, is explained by the advocates of the localization theory by the supposition that the function of the destroyed centres is after a while assumed by the remaining centres. Each author assigns the new centres to a different position. Many a one boldly let "brain centres regrow like lizard's tails." After the last operation the dog had to be fed, but after several weeks he ate again alone. "The destroyed eating centre had grown again!" According to Goltz, the restoration of lost functions does not depend on new-formed centres, but on such as were already present, only with their activity inhibited.

A second dog lost both the posterior quadrants, and was kept in good health for several months. The whole of Munk's *Schspähre* (sight centre) was wanting. The animal was moderately dull (*in mässigen Grade blödsinnig*); he ate skillfully, moved about readily, had a subdued sexual instinct, saw quite well with both eyes, recognized no one, often ran to the wrong person when called, had little choice in selecting his food, etc.

A third dog lost both the anterior quadrants. His general intelligence and higher senses were less impaired than in the previous case; his tactile sensibility, on the other hand, was more diminished.

A fourth dog was deprived of both the left quadrants. Hardly any permanent effects could be noticed. His intelligence seemed fully preserved, his disposition unaltered, and his control over his body was very slightly, if at all, interfered with.

Without entering into further details, suffice it to say that, roughly speaking, the greater the amount of the cortex removed, the greater the diminution of the acuteness of the intelligence and of the senses. The operated dogs retained control over all the muscles of their bodies. No centre for any group of muscles was therefore wanting, nor was the use of any sense organ lost, but the stimuli produced a diminished effect. There is no evidence of any centres of temperament nor of any of the passions. The sexual instinct is lost in the same measure as the intelligence. None of the most important functions of the cerebrum can be assigned to circumscribed areas of the hemispheres. We can only say that the anterior quadrants have a more intimate relation with the movements of the body, and the sensibility of the skin. It is impossible, by any limited injury of the cortex, permanently to paralyze any muscle or even withdraw it from the influence of the will. Goltz adds several criticisms upon the views of the defenders of localization. Munk<sup>1</sup> has been especially unjust towards Goltz. The latter's reply uses very moderate language, but is effective.

Heidenhain and Bubnoff<sup>2</sup> have made an important discovery concerning the processes of irritation and inhibition in the brain. Heidenhain was led to this research by his studies on hypnotism. Since Fritsch

and Hitzig showed that electrical irritation of limited areas of the *cortex cerebri* called forth movements in definite corresponding groups of muscles, numerous experiments on these phenomena have been made. Herman<sup>3</sup> controverted the view deduced from these investigations that these results were due to the irritability of the gray substance, and emphasized the fact that similar motor effects could be produced by the irritation of the white fibres after the removal of the gray matter from the surface. The electrical currents might reach these fibres by spreading through the brain substance. If, however, it should be shown that it takes longer to produce the action in the muscle, if the cortex is irritated, than when the white substance is irritated, that would be an argument to show that the cortex is irritable, because in the latter case a certain time would be required to propagate the irritation; in the former case the same amount of time would be needed plus the time requisite to excite the cortex. François-Franck and Pitres<sup>4</sup> have shown that at least under the conditions of their experiments this difference exists. Their observations are in favor of the irritability of the cortex.

Heidenhain and Bubnoff chose the centre for the fore-leg, the position of which had already been determined. The muscle whose contraction they followed was the extensor digitorum communis longus. We cannot enter here into the details of the experiments by which the moment of irritation of the brain, and the moment of beginning, as well as the duration of the contraction in the muscle, was recorded with precision. The period from the influx of the irritation to the commencement of the muscular contraction is termed the reaction time. Our authors' first effort was to determine this time, and to analyze the causes which influence its duration. In the course of this investigation they were led to the important discovery to which we referred above.

They obtained the following results. The length of the reaction time varies within certain limits inversely as the irritation. When the strength of the irritation increases, the height of the contraction of the muscle increases, but the reaction time diminishes. This was overlooked by Franck and Pitres. There may be a summation of the irritations, which occurs the more readily the shorter the interval between them. The gray matter is directly irritable; the contraction does not depend on *Spronschleifen* striking the deep lying, white substance. In the gray matter the irritation arises (longer reaction time) and falls (slower fading out of the contraction) more slowly than in the white matter. The experiments were made on dogs dosed with morphia, the effects of which are not always sure, since in some cases the irritability of the animal is exaggerated and the reaction time greatly abbreviated; in other cases the reaction is excessively delayed. Their researches prove, the authors think, that the elements of the cortex are directly irritable. In further demonstration of this view they advance the observation that the epileptic attacks, which are sometimes caused by the cortical irritations, are produced by the action of the cortex; the subcortical motor apparatus can be set in epileptical irritation only by the action of the cortex. (For the demonstration of this see B. & H. pp. 170-174).

<sup>1</sup> Hermann Munk. Ueber die Funktionen der Grosshirnwinde. Berlin. 1881.

<sup>2</sup> Bubnoff und Heidenhain. Ueber Erregungs- und Hemmungsvorgänge innerhalb der motorischen Hirnzentren. Pflüger's Arch., xxvi., 137-200. Taf. iv.-vi.

<sup>3</sup> Herman. Pflüger's Arch., x. (1877), page 77.

<sup>4</sup> François-Franck et Pitres. Marcy's Travaux. Année 1873-79 (1880), page 441.

Entirely outside the range of previous experiences are the observations on the influence exerted by very slight tactile stimulation of the skin upon the irritability of the motor centres. If in that stage of morphia narcosis in which the animal is in deep sleep, but the irritability is not extinguished, the cortex is stimulated by a shock just too feeble to produce an effect (sub-minimal irritation), there occurs no muscular contraction; but a powerful contraction may be called forth if there is a gentle tactile excitation of certain parts of the skin just before the central shock is given. But the opposite effect, an inhibition of an active excitation, can be produced. Under certain circumstances the muscle makes a contraction and remains shortened for some time (*Contractur* of Tiegel). A gentle sensory impulse from the skin of the paw while the muscle is in the state of "*contracture*" immediately terminates the excitation and the muscle lengthens out. A similar irritation produces in one case an increase, in the other a diminution of the motor impulses. Various other gentle sensory excitations have the same inhibitory effect. The paradoxical experiment was made of producing a *contracture* of the extensor by reflex action from a strong pressure on the paw, and destroying it by a gentle tactile irritation of the skin of the paw. The question now arises whether instead of the sensory impulse a weak electrical irritation of the cortex would not produce the same result. Experiments gave an affirmative answer. If a *contracture* is produced either by reflex action or by a strong direct electrical irritation of the cortex, it can be ended immediately by a weak irritation of the same or any other spot of the *cortex cerebri*. Sometimes several successive weak irritations were necessary to produce complete obliteration. We thus learn that inhibition may result from a positive irritation, a discovery of the utmost importance, which reveals unsuspected complications in the central processes of innervation. Every irritation produces conditions which cause it quickly to end as soon as the stimulus ceases. Every irritation must be conceived to be accompanied by an opposite inhibitory process in the central organs. The effects of a stimulus may increase one or the other process, and in each case that process is most favored which is least developed at the moment of stimulation. A weak irritation during a period of rest favors a positive action, the development of efferent power; during activity it favors the development of inhibitory processes. It no longer remains necessary to assume the existence of distinct inhibitory centres. After a dose of morphia the energy of all the central activities sinks, but the inhibitory more rapidly than the excitatory processes, — hence the muscular actions assume a tonic character. In falling asleep, naturally similar changes occur; various little twitching movements occur, which in the waking state are inhibited. The imaginations are very vivid, because the inner excitations gain in duration and intensity from the suppression of the inhibition, until deep sleep puts an end to all activities. So likewise in the hypnotic condition a diminution of the inhibitory power causes an excessive effect to result from a stimulus, whether sensory or inner. If sensory excitations are induced in a hypnotic by arousing certain ideas or feelings, they become unduly powerful and lasting; there is a hallucination. Excessive hypnotic action in the brain (mind) or body may be terminated by a sudden draught of air upon the skin, just as the *contracture* could be brought to an end by a slight sensory irritation.

We have thus seen that inhibition is produced by a positive irritation, and that the same stimulus may cause excitation or inhibition according as it occurs respectively in a period of repose or activity in the excitation of the central organs. This important discovery has been verified by Luchsinger's<sup>1</sup> observations on snakes. He made the following experiment: Dehead an adder just below the level of the medulla, and suspend the body by a thread tied loosely around the neck. Presently the body begins to make a snake-like bend, which increasing in curvature lasts for about a minute, when the body suddenly drops and hangs limp. In about three minutes the movement begins again. These phases of contraction and rest continue rhythmically. A strong pressure during the period of repose causes the contraction to begin. A gentle touch upon any part of the skin during the movement causes it immediately to cease. Luchsinger points out that this experiment confirms Heidenhain's theory, but cannot be reconciled with Munk's<sup>2</sup> hypothesis of inhibitory action, namely, that it is not due to the relief of the central excitation, but to the action of antagonistic muscles, which mechanically counteract those already in contraction. Munk has also endeavored to help out his views by accounting for some of Bubnoff and Heidenhain's results through the assumption of exhaustion of the central organs by the second inhibitory excitation. To Munk's criticisms Heidenhain has made an effective reply.<sup>3</sup> In this essay, page 550, he shows that the difference between the strong excitatory and the weak inhibitory irritation is not due to the spreading of the currents to different depths in the two cases, because the contraction may be caused by a continuous irritation and inhibited by a brief irritation of the same strength, — in both cases the spreading of the electric current must have extended through the same parts of the cortex. This confirms the idea that we must attribute to the same central elements the functions both of excitation and inhibition.

The discovery that the condition of the parts at the time when the stimulus is conveyed to them affects the result produced by the stimulus opens the field to a very extensive series of investigations. This new line of research is begun by Wedenski,<sup>4</sup> whose experiments on the irritation of the vagus were made in Heidenhain's laboratory at Breslau. The latter points out in his last cited article the general bearing of Wedenski's work: especially that the same elements may be the instruments of both excitation and inhibition.

Wedenski experimented on rabbits. Both *vagi* were cut. The central end of the nerve of the right side was irritated by the induction current, either by a single closing and opening shock or by a brief tetanic irritation. The results by the two methods differed quantitatively only. *First*, irritation by a single (double) shock at the beginning of inspiration. The weakest current, that is effective, diminishes the depth of the inspiration just commencing and of the next following; the expirations are unaltered. A passing tetanic stim-

<sup>1</sup> B. Luchsinger. Ueber Erregungen und Hemmungen. *Pflüger's Arch.* xxvii. (1882), 190-193.

<sup>2</sup> H. Munk. Ueber Erregungen und Hemmungen. *Arch. f. Anat. u. Physiol.*, 1881, 553-559.

<sup>3</sup> R. Heidenhain. Ueber Erregungen und Hemmungen. Bemerkungen zu einem Vortrage des Herrn. H. Munks. *Pflüger's Arch.*, xxvi., 1881, 516-557.

<sup>4</sup> N. Wedenski. Ueber den Einfluss electrischer Vagusreizung auf die Athembewegungen bei Säugthieren. *Pflüger's Arch.*, xxvii. 1882, 1-21. *Taf. i.*



ulation produces a similar result, but the after effect is prolonged; with stronger irritations the effects are intensified and involve a diminution of expiration also. *Second*, irritation at the beginning of expiration. The minimum current that will produce an effect is stronger than in the case of inspiratory stimulation. The first effect is diminution of the expiration, with which is connected always a diminution of the next inspiration. This is natural, since the effect on the inspiration begins, as just said, with a weaker current. In the production of these effects it makes no difference whether the irritation is given above or below the *ramus largus recurrens*. The same irritation, according to the phase of the respiration in which it is induced, can favor or lessen the inspiratory powers. The lessening is shown by the diminution of the depth of the inspiration; the favoring is shown by the slowing and diminution of the expiration, which may be even converted into an inspiration. It will thus be seen that the irritation in each case tends to bring out that action, which at the moment of irritation is least developed: the same conclusion as was drawn from Bubnoff and Heidenhain's researches on the brain.

Continued tetanic irritation of the central vagus stem produces the following effects: (1.) Diminution of the depth of the inspiration without alteration of the frequency of the breathing; (2.) Diminution of the inspiration and expiration, with or without alteration of the frequency; (3.) Cessation of the breathing in either the inspiratory or expiratory phase. These results are closely analogous to the effects of brief irritations, in that with a weak current only the inspiration, with stronger currents the expiration also is impeded. Here, also, irritation during inspiration retards the same; during expiration favors the inspiration. For further details, especially as to the cessation of the respiration, we refer to the original.

The attempt to explain inhibition solely through the antagonism of muscles was made by Schliöser<sup>1</sup> and Munk, but has already many antagonists. In fact the theory does not hold water. There are many phenomena it cannot explain; thus the inhibitory action of the pneumogastric on the heart cannot be accounted for by antagonism, as there are no antagonistic muscles. Moreover, Rossbach<sup>2</sup> has shown that with the heart also a positive irritation during the systole produces inhibition — a mechanical irritation of the contracting frog's heart causes a local dilatation of the fibres of the region struck. It appears to be unaware of the relation of his observations to those of Heidenhain and others on the nervous system. Atropin destroys the inhibitory power of the vagus and the mechanical irritations over the systole. The beating of the heart continues, with normal diastole — hence we must regard the diastolic expansion as different from the inhibitory dilatation, since the former remains and the latter disappears in atropin poisoning. The diastole is to be considered as merely the cessation of the active contraction, — the inhibition as a positive active condition. Rossbach calls this a "*bis jetzt nicht gekannter Zustand*," a thing before undreamed of. But the general conception of inhibition here involved was advanced many years ago by Wundt,<sup>3</sup> and seems now definitely estab-

lished by several investigations, as this report is intended to show. It seems probable that the contractions and dilatations of the vessels follow the same general laws as the heart, — but future experiments will have to decide this.

Wegele<sup>4</sup> has shown that the Munk-Schliöser antagonism theory is not sufficient to explain the reflex inhibition of respiration after irritation of the trigeminus. The article contains a number of useful references to the older theories of inhibition. The experiments were made under Gad's supervision and upon rabbits. The respiratory movements were recorded graphically upon moving paper either by Gad's "*Aeroplethysmograph*" or by an elastic air bag pushed into the œsophagus (Rosenthal's method). If, when the breathing is quiet and normal, the nose is irritated, for instance, by ammonia, the result is a standstill in expiration, as Schill and others have reported. Now, if Munk's theory is correct, the prevention of inspirations is due to the excitation of the expiratory muscles, and therefore if the reflex centre of these muscle is severed from all connection with the trigeminus, then the irritation of the latter must no longer produce expiratory standstill. This separation was actually effected by cutting through the spinal cord at the level of the lower cervical vertebra; the expiratory centre lies below this, the trigeminus of course above. Irritation of the trigeminal nerve by ammonia still produced an expiratory standstill. The effect is therefore due to a direct inhibition of the inspiration. Other experiments of similar character gave a like result. In section four of his paper Wegele compiles various observations we may make on ourselves, all of which confirm the idea that inhibition is an active process, which may result from positive irritation. This conclusion must now be adopted, since it is the consequence of a considerable number of independent experiments by several authors. It is an important induction, and opens a very extended series of investigations.

Rosenthal<sup>5</sup> has published a useful summary of our present knowledge of the mechanism of respiration. He discusses particularly whether the cause of the movements is reflex action or, as Rosenthal has before maintained, the stimulation of the respiratory centre in the medulla by the blood. We call attention to this essay because it is a convenient and useful review, but, as it is not the result of a new original research, we give no abstract of it.

Aubert<sup>6</sup> has investigated the excretion of carbonic acid by frogs in an atmosphere containing no oxygen, having been led thereto by Pfliiger's experiments. Aubert found that, in ordinary air, from 1.5° to 27° C. the amount of CO<sub>2</sub> given off increases, though not in constant proportion to the temperature, as Moleschott and Hugo Schulz also found in their experiments. Aubert determined experimentally that the irregularity in the amount of CO<sub>2</sub> depends on the quantity of movement the animal makes. Air was deprived of its oxygen and introduced into a receiver of mercury. The frog was then passed through the mercury into the glass and allowed to remain for a long time, the whole

<sup>4</sup> C. Wegele. Ueber die centrale Natur reflectorischer Athmungs hemmung. Verh. Würzburg. Phys.-med. Gesellschaft, xvii, 1882, pages 1-18. Taf. 1.

<sup>5</sup> J. Rosenthal. Altes und Neues ueber Athembewegungen. Biology. Centralbl. I. (1881-82), pages 88, 115, 185, and 241.

<sup>6</sup> Hermann Aubert. Ueber den Einfluss der Temperatur auf die Kohlensäureausscheidung und die Lebensfähigkeit der Frösche in sauerstoffloser Luft. Pflüger's Arch., xxvi, (1881), 293-329. Taf. vii.

<sup>1</sup> W. Schliöser. Untersuchungen ueber die Hemmungen von Reflexen. Arch. f. Anat. u. Physiol., 1880, pages 303-322.

<sup>2</sup> M. J. Rossbach. Die Erschlaffung des Herzmuskels durch nervöse und durch directe Reizung. Pflüger's Arch., xxvii, 1882, pages 197-202.

<sup>3</sup> Cf. Wundt's Psychologische Physiologie, 1880, page 234.

apparatus being kept at a given temperature. The animal was then withdrawn, and the carbonic acid left in the receiver determined quantitatively. *The excretion was just as great in the atmosphere without as in that with oxygen.* The fact that there was no ventilation of the receiver, but a gradual accumulation of  $\text{CO}_2$  in the air chamber, and the fact that the amount rises with the temperature,—the experiment lasting usually four hours,—show that we have to do not merely with the excretion of  $\text{CO}_2$  ready formed, but with actual production of carbonic acid. In other words, *the production of carbonic acid in the living organism proceeds independently of the absorption of oxygen.* Constant was the establishment of complete motionlessness in the frog after a certain time in air without oxygen, though the heart continues to beat. The time when this condition is established depends on the temperature: the frogs remain capable of motion at  $2^\circ \text{C}$ . for several days; at  $6^\circ$  to  $10^\circ \text{C}$ ., over five hours; at  $10^\circ$  to  $20^\circ \text{C}$ ., over two hours; at  $25^\circ \text{C}$ . and higher, only half an hour or less. There is an evident relation between the motility and the excretion of  $\text{CO}_2$ . Hence the general conclusion: The oxygen which enters in the combinations of the organism suffices for the maintenance of the decompositions necessary to keep up the animal function; the oxygen lasts for a time dependent on the temperature; likewise there is normally a definite stock of combinations present in the organism, which can be used to meet the expenditure of the animal functions. If this stock is exhausted there follows, in cold-blooded animals, apparent or false death (*Scheintod*). The heart keeps up its activity for a considerably longer period. A frog in "*Scheintod*" will recover in a few days if placed at first on ice. These interesting investigations teach us that between the absorption of oxygen and the formation of carbonic acid are many intermediate steps, and probably some of the intermediate compounds kept in store are broken up when the animal is placed in air without oxygen.

The theory of continual electric currents in muscle with all its complicated society of puzzling hypotheses, which was brought forward by Du Bois-Reymond, and has been for years so generally inculcated, seems now definitely set aside principally through Hermann's able investigations. The question has been actively discussed. Hermann's last article<sup>1</sup> is a reply to Du Bois' criticisms. The former seems to win by his arguments, and as he gives incidentally (page 488) the most concise presentation of his views we have met, we take advantage of the opportunity to offer a translation of Hermann's own summary: "The first fact which I have demonstrated, and others have confirmed, is that uninjured resting muscles and nerves are absolutely without (electrical) currents, and that to render them so neither cold nor other influences are requisite, as Herr du Bois-Reymond asserted. The second fact, or series of facts, is that the currents which appear in uninjured active muscles or nerves depend simply on the difference in time or in magnitude of the irritation at the points whence the currents are taken, and there are no currents when neither of these conditions is fulfilled. In proving these facts I had to correct errors and inaccurate statements of fact of Herr du Bois-Reymond. His statement was found to be incorrect

that the current during activity (*Actionsstrom*) of currentless muscles is situated on the supposed paraelectric ends of the fibres; incorrect his statement, etc." Hermann's theory is that when animal or vegetable protoplasm (or muscles or nerves) is altered at any point either by injury or by irritation, the altered spot becomes electrically negative with regard to the unaltered portions. There are no inherent currents in uninjured resting tissues, so that a great part of the cumbersome and perplexing fabric of "animal electricity" falls away.

## Reports of Societies.

### SUFFOLK DISTRICT MEDICAL SOCIETY.

#### SECTION FOR CLINICAL MEDICINE AND PATHOLOGY.

ALBERT N. BLODGETT, M. D., SECRETARY.

APRIL 8, 1882. Meeting called to order at eight p. m. The chairman, DR. GEORGE B. SHATTUCK, presiding.

A communication was received from the secretary of the Pathological Society of Philadelphia asking for an exchange of the Proceedings of the two Societies.

DR. HALL CURTIS then presented a paper on

A CASE OF ADDISON'S DISEASE, WITH AUTOPSY,

which is published at page 433 of the JOURNAL.

DR. FORDYCE BARKER, of New York, asked if Addison's disease were not a form of pernicious anaemia, and if the conditions observed in the supra-renal capsules might not be due to the phenomena attending pernicious anaemia.

DR. E. G. CUTLER, in answer to the question of Dr. Barker, said that the view of the identity of this disease with progressive pernicious anaemia was entertained and had been supported by good authority. In view of the striking differences in their clinical history, however, it seemed to him that there was an affinity rather than an identity of the two diseases. The pathology of the blood in Addison's disease had not been thoroughly studied. The enumeration of the corpuscles by Dr. Eies showed the existence of an anaemia not so profound as that usually seen in pernicious anaemia. Tubercle is frequently mentioned as a complication in these cases of Addison's disease, and in by far the greater number of the cases some disease of the lung is met with. Here, as is frequently the case, it was of some past time, and represented a cure. The changes frequently observed in the glands of the intestine were absent in this case, as was also any enlargement of the retroperitoneal glands. The caseous bronchial gland mentioned in the report of the autopsy was of interest. The clinical history would seem to direct attention to the nervous system and the blood in such cases, and these would seem to be the structures capable of explaining the changes observed in the tissues. The pigmentation of the ganglion cells described by some observers in this disease is not of sufficient rarity to give it great pathological importance, and the sclerosis of certain nervous filaments supplying the supra-renal bodies might well be a secondary phenomenon dependent on the primary change in the supra-renal capsule. The old peritonitis is of interest in view of the theories of some of the more recent observers.

DR. G. B. SHATTUCK referred to the paper by Dr.

<sup>1</sup> Hermann. Neue vermuthliche Argumente fur die Moleculartheorie des Muskel- und Nervenstroms. Pflüger's Arch., XXVI, 1851, 1852-1853.

E. H. Greenhow, by which the discussion of Addison's disease was preceded at the late International Medical Congress. Dr. Greenhow's researches had led him to the opinion, in which he was supported by Professor Semmola, of Naples, Dr. Guenau de Mussy, of Paris, and others taking part in the discussion, that morbid pressure upon or irritation of the abdominal nervous centres and terminations of the sympathetic, especially of the solar plexus and semi-lunar ganglion, the pneumogastric and phrenic nerves being thus indirectly affected, were most probably in many cases the proximate cause of the symptoms observed in this disease. In all the later cases examined by him, as well as by other observers, these conditions have been found. Dr. Greenhow cited a case of Professor Paget's of Cambridge, of lymphadenoma presenting the characteristic pigmentation and debility of Addison's disease. An autopsy showed that the semilunar ganglion and solar plexus were entirely involved in a mass of enlarged retroperitoneal glands lying in front of the spine; the supra-renal capsules were normal. The destruction of the supra-renal bodies by cancerous deposits and abscesses though unassociated with pigmentation, debility, and sub-normal temperature were cited on the one hand, and the pigmentation not uncommon in pregnancy and abdominal tuberculosis was mentioned on the other. Sir W. Gull had expressed the opinion during the discussion, in opposition to Dr. Greenhow, that probably all cases do not have a fatal course.

Dr. E. W. CUSHING read a paper entitled

PSEUDO-MEMBRANOUS LARYNGITIS COMPLICATING  
TYPHOID FEVER AND CAUSING DEATH.

which is published on page 435 of the JOURNAL.

Dr. Cushing asked, at the close of his paper, if it were probable that any disease may be complicated by diphtheria.

Dr. H. O. MARCY asked if the thyroid gland would have offered any obstruction to the performance of tracheotomy.

Dr. CUSHING replied that during life it was not detected, but at the autopsy was observed to be in a position to have greatly impeded the operation, and possibly to have terminated life from the consequent hæmorrhage in the feeble state of the patient during the latter hours of life.

Dr. SHATTUCK inquired the grounds upon which tracheotomy was deemed inadvisable.

Dr. CUSHING answered that the symptoms were too unfavorable, the pulse was small and thready, and there was fear that an immediate fatal result would attend the operation.

Dr. LYMAN asked the point in the history of the fever at which the laryngeal symptoms appeared.

Dr. CUSHING answered that the patient was taken sick on the 2d of February, and died on the 12th. On this last day the examination of the throat was made by the finger. There is no record of cough. On the 8th the throat was irritable. The patient had then been sick a week with the fever.

Dr. A. N. BLODGETT asked the condition of the mucous membrane in the throat at the time of the autopsy; if the false membrane adhered loosely to the surface of the mucous membrane, or if it was formed in its substance and implicated the tissues of the mucous membrane.

Dr. CUSHING replied that the false membrane was everywhere located upon the surface of the mucous

membrane, from which it could be easily lifted, and that the mucous membrane was everywhere perfectly normal beneath the exudation. There was no firm contact between the two; there was no ulceration or loss of substance in the mucous membrane.

Dr. W. A. DUNN read a paper entitled

THE THERAPEUTICS OF VENESECTION.

which is published on page 437 of the JOURNAL.

Dr. H. I. BOWDITCH was called upon for some remarks, and said that the paper contained many valuable suggestions for the present time. No doubt blood-letting was carried out in a heroic and irrational manner by our fathers, but that certainly was no reason why for twenty years past this useful procedure should have been virtually discarded from the practice of medicine. It is a fact that a great majority of the younger physicians of our day do not know how to perform a venesection. It is not taught among the other operations of minor surgery at Harvard University. If this total abandonment of what in certain severe acute cases is an important measure for combating disease is not a *reductio ad absurdum* it would be hard to define the term.

Many years ago, when in general practice, he found that abortion may be prevented by bleeding. In more than one case of threatened abortion the pains have been observed to cease, and in one instance, especially remembered, the hæmorrhage as well as the pains subsided after a moderate quantity of blood had been extracted from the arm. The loss of six or eight ounces of blood is scarcely noticeable in an adult. This is obvious from surgical operations and in labor. Bleeding should be employed in acute diseases of the brain, which are always or at least generally accompanied by congestion, though in these modern times we are told that there is no such condition possible as congestion of the brain. Often in delirium, with a hot and a flushed face, or in some cases of coma, bleeding is judicious treatment. In regard to the lungs, it is perhaps not wise to say that a pneumonia can be cut short, but doubtless some cases would be relieved of pain in the chest, dyspnoea, and in the end vastly benefited by the loss of a certain amount of blood by venesection. In pleurisy there was formerly no more common treatment than one or more bleedings. In our day nobody thinks of bleeding for a stitch in the side. Dr. Bowditch was conversing with a member of our Society, now unfortunately absent from illness, who advanced the idea that, if, in severe cases of pleuritic pains, with all the signs of acute pleurisy, we should bleed the patient when sitting up and until he felt a little faint, there would be fewer cases of large effusion and less tapping than we now have. This question was well worth consideration by practitioners. Dr. Bowditch was inclined to believe that there are a greater number of large effusions now than were found thirty or forty years ago. But whether if we bled whenever we met with a sharp pleuritic pain in acute cases, effusions would be less, he could not say, as he had no precise data on which to rest an opinion. But the question, he repeated, is worth the serious thought, not the supercilious contempt, of the profession.

In diseases of the heart bleeding is often of the greatest service. Even in chronic cases, when sudden dyspnoea comes on, congestion of the lungs, accompanied by rales throughout them, without effusion into the pleura, the results of venesection are often singu-

larly beneficial. In some cases it seems as if the heart were obstructed, and could no longer carry on the pulmonary circulation, and the withdrawal of blood is the means of prompt relief. One case of this character was thus treated, and fourteen ounces of blood removed, with the effect of complete relief of all actual distress, and the patient was comparatively well for a long time afterward. In some cases in which the pulse is hardly perceptible, and the heart, so to speak, swollen from the amount of blood contained in it, the relief from blood letting is very great. The pulse rises, and the heart's action becomes freer and easier, followed by great relief to the patient.<sup>1</sup>

Dr. FORDYCE BARKER, in response to a call from the chair, expressed his pleasure at being present, although he had not expected to take part in the discussion.

He said: Forty-two years ago I was a student of medicine in this city, with Drs. Bowditch, Shattuck, Perry, and Stedman as instructors. The room for study was 13 School Street, which had over the street door the sign "Lung Infirmary," and we had the opportunity of studying with our teachers auscultation and percussion on the patients who came in. I remember well that one chilly day in June a brick-layer came in his shirt sleeves, suffering from intense pain in his side; every breath was cut short by a groan. Dr. Bowditch examined him carefully with us, and finding no physical signs in his chest directed me to bleed him, and told me how to do it. With great anxiety I was successful in stabbing the vein, and a full stream of blood flowed. Very soon the man was perfectly relieved from pain, and Dr. Bowditch showed me how to close the vein. Our text-book on Practical Medicine was Marshall Hall, edited by the late Dr. Jacob Bigelow and Dr. Oliver Wendell Holmes, a book which I now often take down from my shelves with pleasure and profit, and I well remember my unexpressed surprise that Dr. Bowditch did not follow the rule of Marshall Hall, to bleed *ad deliquium*, but directed the vein to be closed as soon as the patient could breathe without pain. I went to see the patient the next morning, and found that he had gone to his work. This was my first lesson and experience in venesection. Although I have never given this up as a therapeutic resource, I believe that I have sometimes neglected it where I might have benefited my patient, but I do not think that I have ever carried the practice to excess.

Some ten or twelve years ago, on the afternoon of my landing from a steamer from Europe, I was called to see a patient in whom I thought venesection was indicated. As this was the first patient that I was

called to see I had no lancet in my pocket, and went to the only surgical instrument shop quite near to procure one, but found that there was none in the shop. It seemed to me an amusing illustration of the change of medical practice, that forty years ago every country store that sold sugar and tea and calico and clay pipes kept also lancets for sale, and that now in the centre of the population of a great city one would be compelled to go two miles and a half to buy one!

Soon after I wrote an essay on "Bloodletting as a Therapeutic Resource in Obstetrics," to which the author of the paper just read has referred. It is some years since I have looked at this paper, and I do not now intend to take up your time in recalling points which have already appeared in print. I do not remember that I have changed my views in any respect since that paper was published, but I think that I have had some additional confirmatory experience.

I understood the author of the very interesting paper to which we have just listened to express the opinion, and to quote Dr. Flint, whose authority carries the greatest weight with us all, that venesection should never be resorted to in asthenia.

It seems to me there are some important exceptions to this law.

I remember once being called suddenly to a lady who seemed to be dying from asphyxia. She was near the end of her first pregnancy, sitting in a chair, breathing with the greatest difficulty, or rather only making a great but unsuccessful effort to breathe, as I could hear no respiratory murmur. The action of the heart was labored and tumultuous, but the pulse at the wrist was hardly perceptible. Her emaciated face was livid and covered with large drops of perspiration. The danger of death was so imminent that I did not stop for further examination, but at once opened a vein in her arm. The pulmonary oedema and accumulation of the blood in the right cavities of the heart were due to the pressure of a gravid uterus greatly overdistended by an excess of liquor amni. Two days after she discharged an enormous quantity of this fluid, and was delivered, without much pain, of a dead hydrocephalic fetus. She recovered favorably, and has since had living children.

Some months since I was asked by a friend, a distinguished teacher of obstetrics, to see with him a primipara at about the seventh month of pregnancy, to consider the question of the propriety of inducing premature labor. She was suffering from excessive oedema of the trunk, the genitalia, and the lower extremities, and the urine was albuminous, coagulating almost solid.

She had no other grave symptoms. I recommended a variety of measures, particularly venesection, but opposed the induction of premature labor unless other symptoms should appear. But the case was a very important one, socially, and my friend had so much fear of pulmonary oedema that he brought on labor. The mother did well, but the child was lost. Six weeks after this, as often happens to us all, I was asked to see another case of precisely a similar character, and to consult as regards the same procedure. I should mention that in both cases incisions had been made in the labia, and in the latter case also in the legs, from which serum was drained in very considerable quantities. In the last case also vision was very much impaired, so that she could not read, although she could distinguish persons. This patient was first bled about twenty ounces. She was then given two drachms of

<sup>1</sup> Since the meeting Dr. Bowditch had, when called in consultation, advised venesection in the following case:—

It was that of a strong man, aged twenty-two years, who had been attacked six or seven days previously by all the rational and physical signs of double pneumonia: high fever, pain in chest, rusty sputa, dyspnoea, dullness on percussion, with bronchial respiration, bronchophony, and crackling rales in both backs, at lowest part. The pulse was quick, full, and strong. He naturally was considered as in a very hazardous condition, and on the question of venesection being raised, it was decided affirmatively. About twelve ounces were taken with great comfort to the patient. The oppression of breathing became much less, and the whole natural language of the patient was that of relief. It is true that about the same time the window of the room was opened, and the close, ill-ventilated atmosphere in which he had been lying for days was purified. This plan of having the window opened about an inch was continued afterwards day and night, care being taken by curtains, that the air should not fall directly on the patient, while the room was kept by a stove-heat sufficiently warm. Quinine and a tonic course was otherwise used. The disease was not cut short, but apparently the treatment moderated its severity, and helped towards the perfect cure which took place.

compound powder of jalap. After a free action of the hydragogue she was put on a rigid milk diet, and the tincture of the chloride of iron and digitalis. The œdema and all other unpleasant symptoms disappeared before labor came on. She had a living child, still alive, and her convalescence was only interrupted by a mild and short malarial attack.

Without taking up the time of the Society by an elaborate description of this point, I wish simply to express the belief, illustrated by the narratives that I have just given, that there are cases of extreme and dangerous serous plethora in the anæmic and the a-thenic which can be best and most effectively relieved by venesection.

I will mention a case of a different type from any referred to either by the author of the paper of the evening, or by Dr. Bowditch or myself.

Early in March I was called by a brother practitioner to see a lady forty-nine years of age, married thirty years. She had never been ill for a day since her marriage, except in 1854, when she had a rather severe attack of cholera. Her life had been a very happy one, having a devoted, loving husband, with abundant means to gratify every taste. She had no children, but had menstruated easily and regularly every month since her marriage. Some things that I learned led me to suspect that her sterility was not owing to any defect in her own system. She had menstruated early in August; September and October passed without any disturbing symptoms. Early in November she began to complain of insomnia, loss of appetite, wandering neuralgic pains, and for the first time in her life she became despondent, morose, and irritable. She lost a great deal of flesh, and became very taciturn, going on from bad to worse, until her appearance was that of a person in settled melancholia. Her physician, a man highly esteemed in the profession, was a classmate and old friend of her husband, and had always been like a brother with her, but for a few weeks she had not hesitated to show a great aversion to him. After a careful study of the case I proposed venesection, which was at first very coldly received by her physician; but it was soon apparent that the objection was mainly personal, as the doctor remarked that he had never bled any one. To our surprise, she expressed a warm approval of the proposal. As I opened a vein she watched the flow of blood with a most contented expression, and strenuously objected when I attempted to close the vein, after taking about sixteen ounces, and I therefore allowed four ounces more to flow. She then turned to her doctor and said, "If you had not been a fool, you would have done this weeks ago," and then, for the first time in many weeks, laughed heartily at her own remark. Her improvement from this time was in every respect wonderful. I was asked to see her again early in this month, and by her urgent request again took away about four ounces. It is sufficient for me to speak of the therapeutic results, and leave others to say whether we had to deal with cerebral congestion, subacute meningitis, or what the pathological condition was that was so happily removed by the venesection.

I will venture to relate another case in which I have felt a great interest, and which, it seems to me, brings out some other points bearing on this discussion, which, so far as I have seen, have not been brought out by writers on this topic.

In September, 1880, a lady from Massachusetts called on me with a letter from a Boston physician. She

was forty years of age, had been married twelve years. She had been delivered of one dead child, and had been subsequently pregnant seven times, and miscarried between the tenth and the eighteenth week with each, in spite of every precaution and of medical treatment to prevent such an accident. Her sentiment of maternity was very strong, and she was extremely anxious to have a living child, but she had very little hope. She was on a pleasure trip to West Point, Niagara, etc., but having passed one menstrual period she suspected herself to be again pregnant. On a careful examination I could not find the slightest evidence of disease in any pelvic organ to explain her repeated miscarriages. But the uterus was somewhat heavier than normal, low down in the pelvic cavity, and as she felt a necessity for much more frequent micturition than usual, I expressed the belief that she was about seven weeks pregnant.

She wished to return at once to her home if this was the fact. On inquiring I learned that always soon after pregnancy commenced her appetite became remarkably good, she gained rapidly in flesh, and between the eighth and tenth week she began to suffer from difficulty in breathing, palpitation of the heart, frequent attacks of vertigo, and sometimes severe but evanescent headache, which symptoms went on increasing until the fetus was thrown off. She took the greatest care of herself, seldom going out, but passing the most of her time on the sofa in her room. She was a woman of remarkable intelligence and kind feeling, and I explained to her my views in full. I told her that a healthy uterus in a healthy maternal system did not easily get rid of a healthy fetus until the proper time, that she seemed to have no disease of the organs connected with childbirth, and there was no reason from her statements to suspect that her abortions were the result of disease of the ovum. I therefore believed them to be due to a perverted condition of her general system resulting from pregnancy, and urged her to continue her pleasure trip, and during her pregnancy to take exercise and be out in the open air as much as possible. I recommended her to confine herself strictly to a milk and farinaceous diet, and two or three days previous to the time when menstruation would have occurred if she were not pregnant to be bled, the first time about sixteen ounces, decreasing the amount at each succeeding period. I wrote to my friend who had sent the patient to me, telling him what my advice to his patient had been, giving him as my theory of the case substantially the following opinion: Conception in this lady seems to stimulate very actively the nutritive and assimilative functions of the maternal system instead of those nervous activities which should nourish and develop the growth of the ovum.

My friend replied, in rather a derisive tone, with that want of respect of youth for their elders characteristic of the present age, that he "thought the theory creditable to my imagination and genius." He evidently had no faith in it, although he honestly began by carrying out the plan of treatment proposed. He first bled her, and I suspect she was the first patient whom he had ever bled, and that he performed this little operation with more trepidation than he usually feels in his great surgical operations in gynecology.

The patient was under the care of her family physician, a very able man in the city where she lived, and the plan of treatment suggested by me was faithfully carried out.

On the 14th of April, 1881, I received a letter in-

forming me of her happy accouchement with a boy still living. For a few days she appeared to do well; her physician frequently examined her urine, but found no albumen except a small trace a few days before her confinement. Three or four days after labor the urine became highly albuminous, the action of the heart feeble, and her general condition bad.

I visited her April 23d, and at that time, in addition to the symptoms I have mentioned, there were marked signs of threatening phlegmasia dolens. For a few days she apparently improved, but suddenly symptoms of heart failure came on again, and she died rather unexpectedly, I think, two weeks after confinement.

DR. BOWDITCH mentioned a case which he had recently seen in consultation in which venesection was advised, and the operation was attempted, but it was impossible to carry it out on account of the opposition of the patient, who was delirious. Leeches were applied with the effect of abstracting several ounces of blood; great improvement in all the serious symptoms observable in less than twenty-four hours.

DR. HARLOW observed that the case spoken of by Dr. Bowditch had occurred in his practice. The urine had been tested, and became solid from the amount of albumen it contained. The relief from the loss of this small amount of blood was surprising.

DR. BOWDITCH asked Dr. Barker the ultimate condition of the case last mentioned by him.

DR. BARKER replied that the patient died from uremic poisoning. Dr. Barker had maintained a frequent correspondence with the lady's physician in Boston, and had kept himself fully informed concerning the case. There had been no albuminuria until a few days before confinement. Within a few days after delivery albuminuria developed to an intense degree accompanied by phlebitis. Ten days after confinement the urine was rendered almost solid by nitric acid or heat; the heart's action was very feeble. The frequent bleeding was not thought to have induced the cardiac weakness, but to have been conservative in saving the heart's energy and prolonging life beyond what would have been possible without its aid.

Adjourned at 10.15 P. M.

## MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

### CALCIUM SULPHIDE AS AN ANTISUPPURATIVE.

DR. SMITH stated that reports of fifty-one cases in which the sulphide of calcium had been used had been received by the committee on restoratives, but before proceeding to a consideration of these he gave a short sketch of the history and properties of the drug, which had been prepared by Dr. John C. Peters. The first reports of cases were those made by Dr. W. T. Alexander, nineteen in number. In seven of these, however, the patients were not long enough under observation to afford any basis for a judgment on the effects of the remedy. In the twelve remaining cases the patients were treated for various periods ranging from five days to several weeks. Fifteen of the cases were of acne, two of furuncles, one of anthrax, and one of chancreoid with suppurating bubo. In most of the cases of acne, which were for the most part of the pustular variety, the results were very favorable.

<sup>1</sup> Concluded from page 421.

One case which was given with considerable detail was that of a patient suffering from papular and pustular acne, who came under treatment on the 11th of May. In accordance with Dr. Alexander's usual practice, a pill containing one fourth of a grain of sulphide of calcium was ordered four times a day. By the 26th there was some slight improvement, and the quantity was increased to five pills a day. By the 15th of June, however, it was found that the patient was worse than before, and the quantity was then increased to six pills. By the 28th of June there was very marked improvement, and on the 15th of July, the last date recorded, the improvement still continued. The case of anthrax was a very severe one, occurring in an Irishman. The carbuncle, which was as large as a man's fist, was situated on the top of the right shoulder, and was accompanied by moderate febrile movement. The treatment commenced on the 7th of June, the patient taking a pill containing one quarter of a grain of the sulphide four times a day, and by the 10th there was the most marked improvement, the pain having to a great extent disappeared, and the flow of pus entirely ceased. In regard to the use of the agent in acne, Dr. Alexander wrote that he employed it only in the pustular variety, and that in the papular form it was of no service.

Dr. Bayles, of Orange, New Jersey, wrote that he had used it in only two cases, but in both of them with the result of a speedy cure. The first case was one of suppurating bubo following non-indurated chancre, and the patient was quite well in a fortnight, in the meanwhile receiving no other treatment. The drug was given in the form of a trituration, containing one part of the sulphide to nine of sugar of milk, and the quantity of the former taken was half a grain three times a day. The second case was one of purulent ophthalmia, occurring in a strumous girl of eight years. Her general health had improved under the use of cod-liver oil, iron, and other tonics, but all means had failed to relieve the ophthalmia. It had lasted sixteen months without improvement when she began taking the sulphide of calcium, yet within ten days all suppuration had ceased. The dose was one eighth of a grain repeated every six hours, and it was given in a trituration of sugar of milk, as in the other case.

Dr. H. T. Hanks reported good results from its use in a number of cases of otorrhea, one of which was of twenty years' standing. It was given in quarter-grain pills every two, three, or four hours. In quinsy, and threatened quinsy in those subject to the affection, he had given it in four cases. In two of them the attack was completely aborted, while in one the course of the disease was apparently not at all affected. In the latter instance one grain was given, in pill, every two hours. In a case of suppurative endometritis the remedy, in the same doses, proved of no appreciable benefit. In another patient an attack of axillary abscess, to which she was subject, was entirely averted by the use of the sulphide. In three cases of threatened mammary abscess, however, it had no effect, and long and profuse suppuration followed. The conclusions which Dr. Robert Campbell arrived at after using the remedy in fifteen cases, the greater number of which were of acne, were, first, that it diminishes suppuration, and, second, that it at first improves the digestion, but after having been taken for some time tends to impair it. Dr. Flint had employed it in three cases of furuncles, and thought that the non-recurrence of the trouble

in any of them seemed to show its utility. Dr. V. P. Gibney reported its use in a case of bone disease with multiple abscess about the knee. For a considerable time the discharge was less profuse, and the ulcers seemed to be healing under the influence of the remedy, but a point was at length reached beyond which there seemed to be no further benefit. In another case an attack of recurring phlegmonous arthritis was recovered from in twelve days under the sulphide, given in one tenth grain doses every two hours. In a preceding attack, when syrup of the iodide of iron was employed, the patient recovered in a slightly longer period. Dr. Robert Amory, of Brookline, Mass., wrote that in two cases of furunculous pustules the remedy produced no benefit whatever. In one of them one tenth of a grain was given every two hours, and in the other one quarter of a grain was used three or four times a day, and the treatment maintained for a fortnight. In a third patient, however, an outbreak of multiple furuncles was immediately arrested by the sulphide. Dr. A. H. Smith reported a variety of cases treated by the remedy. The first was one of threatened abscess of the neck in a lady thirty-eight years of age. Iodide of lead ointment had been used without effect, and suppuration seemed imminent when the use of the sulphide was commenced, yet complete resolution ensued under its administration in doses of one eighth of a grain every two hours. In an infant sixteen months old a phlegmon of the neck, following pneumonia, was cured without suppuration, and in a case of hordeola the sty was promptly dissipated under its use. In a case of chronic abscess of the breast abscess of the axillary glands was averted by the sulphide, but in the case of a patient suffering from furuncles new boils continued to appear while he was taking the remedy. When the dose was doubled, however, the trouble entirely disappeared. Dr. E. C. Seguin wrote that he had used sulphide of calcium in doses of from half a grain to one grain, three to six times a day, in bromic acne occurring in cases of epilepsy, and that he believed its effect to be as good as that of arsenic. In two cases, indeed, it was even better. Dr. Brigham, of Burlington, Vt., wrote that he had employed it quite extensively in nearly all pustular diseases of the skin, and that he had obtained the best results in acute cases. The remedy was most successful in his hands in hordeola and small boils, but in a large carbuncle he had also obtained good results. Other cases were reported by Drs. G. H. Swazey and T. Hamilton Birch, of New York.

From this limited number of cases, Dr. Smith went on to say there seemed to be ample justification for the use of sulphide of calcium in suppurative affections, while at the same time there remained much to be learned in regard to the effects of the remedy and the position which it was entitled to hold among therapeutic agents. The fact that it was a drug which was more or less liable to irritate the stomach would seem to indicate the use of small doses repeated, and he thought that the best results could probably be obtained from it in doses of one tenth of a grain given every two hours. Even in small doses it sometimes caused headache, and in almost all cases it was apt to give rise to eructations of sulphureted hydrogen.

Dr. Smith's report now being open to discussion, Dr. WEBSTER remarked that since Dr. Sexton had read his paper before the Academy of Medicine, he had employed this agent in two cases of suppurative

disease of the ear with the most marked benefit, and then proceeded to relate them in detail. In the other cases in which he had resorted to its use, however, he had not seen any special effect from it.

Dr. SEXTON said he was glad to see that Dr. Webster was willing to acknowledge a good result from the use of the remedy in even two cases. Personally he had employed it for the past six or seven years, and he did not hesitate to say that the value of the drug was constantly increasing, in his eyes, as he became better and better acquainted with its effects. He had given it to infants only one or two months old; and in a child of three months which he had recently seen at the Eye and Ear Infirmary, suffering from a large subcutaneous abscess behind each ear, over the mastoid process, he had ordered from one fifteenth to one twentieth of a grain, in the form of a triturate, with sugar of milk, every two hours. The child was first seen on a Monday, and by the following Thursday the process of suppuration in one of the abscesses had been greatly hastened, so that he was enabled to make a free incision, while in the other the most prompt improvement had followed the use of the remedy, and its evacuation was uncalled for. Dr. Sexton also related other cases illustrating its good effects in ear disease and in quinsy, and then went on to say that he thought the drug had been unreasonably denounced by some. It was of great importance that it should be given with judgment, and that every case should be watched with the greatest care, so that the dose might be increased or diminished according to circumstances. In his experience better results had been obtained with it in subacute than in acute cases, and he had sometimes continued its use for several weeks consecutively.

Dr. PIFFARD remarked that there was always more or less uncertainty about any specimen of the drug, and that probably in no case was there pure calcium sulphide. If it was used in the form of *lepar's sulphur*, which was manufactured from oyster shells and brimstone, this was never free from impurities, while the sulphide of calcium itself would constantly become converted into the sulphate from exposure to air. A committee of the British Pharmacopoeia had investigated this subject, and ascertained that there was no pure sulphide of calcium, and hence they recommended the name *calcæ sulphurata*. The facts just mentioned, therefore, probably explained the reason for the failure of the drug in some, at least, of the cases in which it had been employed. Thus he had seen it given in two or three grain doses, and yet prove perfectly inert so far as any appreciable effect could be ascertained. In the latter part of the last century, Dr. Piffard continued, this remedy was much used as an antidote for mercury. Ten or twelve years ago Ringer recommended it in furuncles, and later Kane, of London, in acne. Dr. Sexton was the first to employ it in suppuration of the ear, and he believed that he himself was the first to resort to it in suppurative buho. He had used it in his venereal service at Charity Hospital, and had been surprised at the results which he obtained. Dr. Otis, whose term of service at the hospital succeeded his, had also obtained excellent results, which he had published. From his own observations he had no doubt that the remedy had a marked effect over acute suppurative processes. His experience with it in furuncles and acne had varied, but at the same time all the samples of the drug that he had used had

varied. Lately he had been experimenting with sulphide of potassium and hydro-sulphide of ammonium as substitutes for sulphide of calcium, as he suspected that in all such remedies it was the sulphur in an active, soluble form that was the efficient agent. As to the physiological effects of calcium sulphide, there was but little known beyond the account which Hahnemann had given of it, which was mixed up with other matter, and altogether unsatisfactory. Dr. Alexander had stated in his paper, however, that the drug gave rise to furuncles when administered to the healthy subject.

Dr. O. B. DOUGLAS said that he had treated two cases with the remedy. One was a case of submaxillary abscess, following scarlet fever, which had been treated without success by various methods for a week. Sulphide of calcium was given in the form of a triturate, and in three or four days the trouble was cured. The other case was one in which vaccination was followed by bad effects, pustules appearing in various parts of the body. In this instance, however, no benefit was obtained from the remedy. Dr. Douglas then read a letter of regret from Dr. Amory, of Brookline, Mass., who had expected to be present on this occasion. Dr. Amory also sent an interesting communication from Professor Jackson, of Harvard, in regard to the bad effects, in the form of suppurative disease, which were produced in a number of individuals by the leakage into his laboratory of carbonic disulphide in gaseous form.

### Recent Literature.

*The Sympathetic Diseases of the Eye.* By LUDWIG MAUTHNER, M. D., Royal Professor in the University of Vienna. Translated from the German by WARREN WEBSTER, M. D., Surgeon United States Army, and JAMES A. SPALDING, M. D., Member of the American Ophthalmological Society, etc. New York: Wm. Wood & Co. 1881.

The monograph before us is the first of a series in which the author proposes to embrace the whole domain of ophthalmology. Of the few already published it is, without doubt, the one possessing the most general interest, and we are glad to welcome it in an English dress. The affection discussed is one concerning which every physician may be called upon for advice, and outside of the larger cities it will not always be possible for him to refer the patient to a specialist, while the importance of a correct appreciation of the dangers involved, and of the prompt application of the remedy, cannot be estimated too highly.

It was the object of the author in these monographs to popularize, in the best sense of the word, the subjects of which he treats, and we know of no writer on ophthalmology to whom such a task could better have been intrusted. The book reads almost as flowingly as a novel, and this attraction is obtained without any sacrifice of clearness to effect, nor is its professedly popular character made an excuse for lack of thoroughness. The trained oculist, as well as the general practitioner, will be repaid for the time given to its careful perusal.

The work is, in our opinion, a very valuable one, and if the personal opinions of the author are now and again strongly emphasized, this can hardly be regarded as a defect in consideration of the fact that he does not

conceal that there is a difference of opinion on some points. The views on which we should be most disposed to take issue with him are those of the inherent benignity of sympathetic iritis serosa and the harmfulness of enucleation in the presence of that disease, but how simple the practice of medicine would be if all physicians held precisely the same views on all subjects.

The author regards both the optic and ciliary nerves, either alone or together, as paths for the transmission of the sympathetic affection, the optic nerves conveying irritative and inflammatory conditions from the optic nerve and retina, while inflammations of the uveal tract are carried by the ciliary nerves.

The idea now gaining adherents, that inflammation is propagated from one eye to the other through the lymph spaces of the optic nerve, with or without the mediation of microbia, is one which has found its advocates only since this monograph was written.

In general we have only commendation for the work of the translators, but we have noted a few slips; for instance, on pages 122 and 123, where the author is speaking of the form of inflammation which travels along a nerve discontinuously, skipping from one point to another at some distance, *discontinuirlich* is translated as "step by step," and *springweise* as "gradually." We shall hope to see these and like errors corrected in a second edition. Meanwhile we thank the translators for having placed the book before a wider circle of readers.

*Cyclopædia of the Practice of Medicine.* Edited by DR. H. VON ZIEGLER. Volume XX. General Index. New York: William Wood & Co. 1881. 499 pages.

The stores of knowledge contained in the original volumes are made readily accessible by this important addition. The usefulness of a single volume is greatly enhanced by a well-made index; by what proportion to the number of volumes the value of an index increases, it is not possible to state, but every owner of the Cyclopædia will certainly find that the twentieth volume adds very greatly to the value of the original nineteen. The volume bears evidence of great care in its compilation, and will prove a great economizer of time and labor.

—At the annual meeting of the Essex North District Medical Society, held at the Essex House, Lawrence, on Wednesday, May 3, 1882, the following officers were elected for the ensuing year: President, Dr. C. N. Chamberlin, Lawrence; Vice-President, S. K. Towle, Haverhill; Secretary and Treasurer, George W. Snow, Newburyport; Corresponding Secretary, E. P. Hurd, Newburyport; Commissioner on Trials, F. A. Howe, Newburyport; Nominating Councilor, C. G. Carleton, Lawrence; Councilors, Drs. H. J. Cushing, Merrimac, C. G. Carleton, Lawrence, O. D. Cheney, Haverhill, A. B. Dearborn, Newburyport, O. H. Johnson, Haverhill, M. Roberts, Lawrence, C. C. Talbot, Lawrence, O. Warren, West Newbury; Censors, Drs. John Crowell, Haverhill, F. B. Flanders, Lawrence, C. D. Hunking, Haverhill, R. C. Huse, Georgetown, J. F. Young, Newburyport.



# Medical and Surgical Journal.

THURSDAY, MAY 11, 1882.

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## EXPERT TESTIMONY IN CASES WHERE THERE IS A QUESTION OF INSANITY.

In a recent address before the New York Medical-Legal Society by Dr. E. C. Spitzka there are some excellent criticisms upon expert testimony in cases where there is a question of insanity, although we cannot entirely agree with the author as to the best remedy for the evils in the case. The difficulties to which attention is called are twofold: first due to the incompetence or want of truth and fairness on the part of the expert witness, and second from the readiness with which experts assume the position of medical counsel in defense of their side of the controversy. The evils are acknowledged, and many men could bring forward illustrations of the way in which justice is defeated as striking as any which might be cited by Dr. Spitzka, whose sharp condemnation of testimony in some of his allusions seem to us to arise from his having not fully got at the real meaning of the witnesses whom he criticizes.

In objecting to some of the extraordinary statements made on the witness-stand, Dr. Spitzka well says,—

"In epileptic insanity, sometimes comprising eight per cent. of asylum admissions, no morbid appearances can be found in a large number of recent cases, and those found, such as asymmetry of the brain and skull, indicate rather the frequent hereditary and congenital origin of the disease than explain the exact basis of the insanity. Even in advanced cases of epileptic insanity, it is not the exception to find but very slight and doubtful indications of the disease post mortem. With chronic mania, dementia, and other terminal deteriorations, the brain is more constantly diseased, it is diminished in weight, the convolutions appear shrunken, the cells of the brain-rind wasted, the blood-vessels show the vicious influence of long-continued disturbances of the blood supply, but even here there are cases where the post-mortem evidence is not conclusive. With imbecility and idiosyncrasy anatomical evidences of imperfect brain development are common: in a case of this kind the murderer, Redemeier, executed at St. Louis, a portion of whose brain I exhibited at a meeting of this body, evidences of an arrest of development as well as associated peculiarities of the skull were found. Finally, in progressive paresis of the insane, the disease familiar in some of its prominent features to those who attended the meeting devoted to a discussion of the Gossling case, the post-mortem record is more satisfactory. It is safe to say that if in a case

where this disease is claimed to have lasted longer than a year, certain changes in the nerve centres are not found, the opinion is seriously impaired.

"Summarizing the teachings of the master minds in pathology, of reliable observers generally, and my own experience, I consider myself justified in saying that positive and indisputable evidence of insanity cannot be found in more than thirty per cent. [?] of the insane, that in another thirty per cent. [?] slight changes are found, not differing in character, though perhaps in extent, from what we observe in some sane subjects, while in the remainder there is no visible deviation from the normal standard of any kind."

These facts ought to be so well known that it should hardly be worth while to call attention to them, but, unfortunately, they are frequently ignored. Dr. Spitzka's sole remedy for the ignorant expert's testimony weighing with the jury as strongly as that of the best informed lies wholly in the lawyer's right to cross-question to the last degree. But experience has shown again and again that the witnesses most ready in standing cross-examination are by no means always those whose evidence is most valuable, and the judge cannot often know enough of the matter of the evidence to be able to say, as one of our justices of the supreme court once said, that he knew the expert was lying. The remedy, so far as there is any, lies in the hands of the medical profession, so long as the lawyers do not wish any change, and the laws will not enforce any. Physicians can refuse to give *ex parte* testimony, and insist upon their right to answer every question fully and fairly, no matter whether in so doing they are injuring "their side" or not. Already Massachusetts has taken a long step in advance by the counsel for the government and the defense, in criminal cases, referring the question of insanity to a competent commission, and abiding by their decision, as is now not infrequently done.

## JAMES R. WOOD, M. D.

DR. JAMES R. WOOD, one of the most distinguished of American surgeons, died at his residence on Irving Place, New York, on the 4th of May, from an attack of double pneumonia, which lasted only four days. On Sunday, the 30th of April, while on the way to his country seat at Oyster Bay, Long Island, he was taken with a severe chill, and on his return to his town house in the evening was found to be very ill. Professors Austin Flint and Alonzo Clark were called in consultation, but the disease steadily progressed, and for twenty-four hours before his death he was in an unconscious state. The funeral services were held at All Souls' Unitarian Church, of which the late Dr. Bellows was pastor, on Sunday, the 11th, and were attended by representatives of all the medical societies of which he was a member, and an immense number of the profession at large.

Dr. Wood was born in the lower part of New York City, September 14, 1816, of Quaker parents, and received his preliminary education at the Friends' Seminary. He studied medicine with Dr. D. L. Rogers

and attended two courses of medical lectures, the first at the College of Physicians and Surgeons, New York, and the second at the medical college at Castleton, Vermont, where he received his degree of M. D., and where he was immediately afterwards appointed demonstrator of anatomy on account of the distinction that he had won in that department while an undergraduate. He commenced practice in New York in 1837, and was soon assigned to a position in the out-door department of Bellevue Hospital. From the first he exhibited the warmest possible interest in that institution, and through his agency constant reforms were made in its administration, and its efficiency and usefulness were constantly increased. In the cause of medical education he also found a most congenial field for the exercise of his talents and energies, and no student could help feeling the influence of his glowing enthusiasm. He was the first to introduce bedside teaching at Bellevue Hospital, early recognizing, as he did, the desirability of combining clinical with didactic instruction, and about the year 1850 he held his first regular clinic.

It was one of the desires of his life to see a great medical school established at Bellevue, where there was such an abundance of material for clinical study, and the first step towards this was the organization of what was known as the Pathological School, which he established in 1856 in a small building obtained from the Commissioners of Charities and Correction. Later he was one of the founders of the Bellevue Hospital Medical College, which grew out of the latter, and he was at once appointed professor of operative surgery and surgical pathology, a position which he retained till 1868, when he was elected emeritus professor of surgery. Up to the time of his death he maintained his weekly clinic on Saturday afternoons at Bellevue Hospital, which was probably the most popular ever held by any teacher in New York, and was always attended by from seven hundred to a thousand students and practitioners, while his offices were continually crowded with private pupils. In accordance with his general plan of providing as many facilities as possible for the intelligent study of medical and surgical science, he took a prominent part in securing the passage of the bill which provided that the bodies of unclaimed vagrants should be given to medical schools for dissection, and many years ago he began making the collection which is known as the Wood Museum of Bellevue Hospital, and which now contains four thousand specimens, many of which are very rare and some altogether unique. This museum was always his special pride, and at the hospital it is said that scarcely a day has passed for a generation in which he has not visited it, and added something to its value.

Of Dr. Wood's remarkable skill and attainments in operative surgery it is scarcely necessary to speak. He was the first to perform, in 1810, tenotomy of both masseter muscles for false ankylosis of the inferior maxilla, and his successful treatment of congenital deformities of the lower extremities by the aid of the knife early won him great distinction. His widest

renown, however, was achieved by his brilliant resections in various parts of the body, in which he met with unparalleled success in the preservation of the periosteum for the formation of new bone. His most famous case was that of a young girl suffering from phosphorous-necrosis of the jaw acquired by working in a match factory, in whom he removed the entire inferior maxilla. The periosteum was left intact, and as it retained its vitality, a new and complete jawbone was formed from it. The patient died some years afterwards, and her skull is to-day one of the most valuable specimens in the Wood Museum. It is related that when a photograph of this was sent to Berlin, Langenbech told his class that he did not believe that a skull corresponding to it existed; and Dr. Wood hearing of this at once sent the skull to Europe to convince him of the fact. A man in whom he performed the same operation with the same admirable result is still living. Dr. Wood tied the subclavian artery not less than five times, with success in each instance, and the external iliac in eight cases, only one of which he lost. He was equally successful in the ligation of the carotid, femoral, and other large arteries.

The Wood bi-sector, for the removal of stone, which he invented, was received with great favor both in Europe and America, and he himself used the instrument in more than one hundred successful operations. He was the author of numerous pamphlets on surgical subjects, and it is believed that he has left in manuscript for publication some more or less extended records on the subject of clinical surgery. He was a member of all the principal medical societies, and was twice elected president of the Pathological Society, of which he was one of the original founders in 1844. At the time of his death he was visiting or consulting surgeon to more than twenty hospitals and dispensaries.

Dr. Wood's decease is universally recognized as a very signal loss to the medical profession and to the city in which he spent his useful life, and the flags of the various medical colleges as well as of the St. Nicholas and other clubs have since been displayed at half-mast in token of respect for him. The career of such a man reflects the highest honor upon American surgery: while his character was such as to win the respect and affection of all who knew him, and his memory will long be honored by the whole country, as well as the community in which he was more especially known. Dr. Wood was married in 1853, and his wife and three children survive him. Of the latter the eldest daughter is the wife of a grandson of Valentine Mott.

— A very simple dropper may be made by bending a piece of glass tube at a right angle, and drawing one end out to a point. On inserting the other end into the bottle, and gently inclining the latter, some of the liquid will ascend along the tube, even before the liquid in the bottle has reached the mouth, and may be dropped at will.

## AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

SOME of our readers may be interested in the announcement of the thirty-first meeting of the Association, which is to be held at Montreal on the 23d of August, 1882, under the presidency of Principal Dawson of McGill University. Its sections on Biology, Histology and Microscopy, and Anthropology justify us in calling special attention of the medical profession to its coming meeting.

A large Local Committee has been formed and through its several sub-committees is actively engaged in perfecting the local arrangements for the meeting, which will soon be announced by special circular. It is only necessary to state here that the committee, of which T. Sterry Hunt is chairman, are desirous of doing everything in their power to promote the objects of the Association, and that their circular will contain information relating to the local arrangements, hotels, and the special rates of transportation, as well as the general programme for the week. The headquarters of the Association will be at McGill University.

Special invitations have been sent by the Local Committee to distinguished scientists abroad, and it is believed that several will be present.

The offices of the Local Committee and of the Permanent Secretary will be at the University. The General Sessions and the meetings of the Sections and Committees will also be held in the University buildings.

Members expecting to attend the meeting are particularly requested to notify the Local Secretaries, Messrs. S. C. Stevenson and Frank W. Hicks, at the earliest moment possible.

All members and Fellows must forward to the Permanent Secretary, as early as possible, and when practicable before the convening of the Association, full titles of all the papers which they propose to present during the meeting, with a statement of the time that each will occupy in delivery, and also such abstracts of their contents as will give a general idea of their nature; as no paper can be read in any Section or Subsection until it has been received from the Standing Committee and placed on the programme of the day by the Sectional Committee.

The receipt of a *Title of a Paper* simply is not sufficient to secure its being placed on the printed list of papers received, and it is particularly requested that the abstracts be prepared *ready for printing* in the volume of Proceedings. Blank forms for giving the titles and abstracts of papers will be furnished by the Permanent Secretary on application. The Standing Committee particularly request, in order to facilitate the arrangement of the programme, that the titles and abstracts should be forwarded so as to reach the Permanent Secretary *before August twentieth*.

At the last meeting of the Standing Committee it was determined to adopt the plan of *printing abstracts of all the papers read* before the Sections in the Proceedings, beginning with the Montreal meeting, unless by a special vote, on recommendation of a Sectional

Committee, it should be decided to print the paper by title only, or, in exceptional cases, in full.

The custom of placing upon its Standing Committee the names of its past Presidents is one which insures the wisest counsels in its management and which might be copied by other associations with profit.

## WHAT LUNATICS THINK CONCERNING THE RESPONSIBILITY OF THE INSANE.

AT the debating society in the Lunatic Hospital at Hanwell, England, there has been a discussion among the patients on the question of the responsibility of the insane for murder. The conclusion was strong and decided that the outside public was mad on the subject; that lunacy ought not to be a defense, because, as a rule, insanity is never so complete as to extinguish all perception of all sense of responsibility. To test this matter it was proposed to offer the insane criminal a red-hot poker, see whether he would grasp it, and upon the result of that ingenious experiment settle his responsibility, — an ordeal of fire less destructive than that of the Middle Ages. It must be said, however, that one of the men who shot at the Queen of England admitted that if his predecessor in the same crime had been executed rather than let off on the score of insanity, his own crime would not have been attempted.

## MEDICAL NOTES.

— The ninety-first annual convention of the Connecticut Medical Society will be held at New Haven May 24th and 25th.

— A new respirator, for use in impure air, has been introduced in Germany, the peculiarity in its construction being that separate air-passages are provided for inhalation and for exhalation. A light mask of gutta percha, covering the nose and neighboring parts, has before the point of the nose a prolongation containing wadding — pure, or saturated with some suitable substance — between two pieces of wire gauze, and having an aperture below, covered by a hard rubber valve which opens outward. The inspired air must pass through the wadding, while the expired air preferably passes out through the aperture, and thus no precipitation of the products of expiration takes place in the wadding.

— Professor E. S. Morse, of the Essex Institute, has devised an ingenious arrangement for utilizing the heat in the sun's rays in warming our houses. His invention consists of a surface of blackened slate under glass fixed to the sunny side or sides of a house, with vents in the walls so arranged that the cold air of a room is let out at the bottom of the slate and forced in again at the top by the ascending heated column between the slate and the glass. The out-door air can be admitted, also, if desirable. The thing is so simple and apparently self-evident that one only wonders that it has not always been in use. Its en-

tire practicalness is demonstrated in the heating of the professor's study in his cottage at Salem. The value of the improvement for daily warming buildings like churches and school-houses, which, when allowed to get cold between using, consume immense quantities of heat before they are fairly warmed again, is evident. Of course some other means of heating must be available when the sun does not shine. But in the colder regions, say in the far Northwest, the sun shines a greater part of the time, and hence the saving of artificial heat would be very large if the sun-heat could be "turned on" for eight or ten hours out of the twenty-four. — *Sanitary Engineer.*

— Dr. J. W. Collins, of Toronto, Ohio, states, in a recent number of the *New York Medical Record*, that he vaccinated X, of that place, in January, 1882; and that, although she had had a severe attack of confluent small-pox in 1873, she had all the symptoms of a perfect vaccination.

— "Doctor" Richard C. Flower, who paid a fine of \$200 in the Court of General Sessions of New York, recently, for practicing medicine without a license, has delivered a lecture in Boston on The Little Lords of Creation, or the Allopathic Czars.

## Miscellany.

### TENEMENT BLOCKS.

WE find the following on tenement blocks in the number of the *Lowell Bulletin* for April:—

Lowell has had boarding-houses of all kinds from its first settlement, but no tenement blocks, strictly, till within a few years. As such blocks in other cities have been found most prolific sources and causes of disease, it is the dictate of wisdom and prudence that their character be well understood, especially as the erection of these buildings seems on the increase in the city. It is singular that the first experience Lowell had in this direction was on so large a scale as "Little Canada" presents. It is thus described by an Agent of the State Board of Health and published in the Report for 1880: "Its area is less than two acres; its population, according to the census just taken, is 1,076 souls, who live in twenty-four tenement-houses. In addition to these, are one unfinished tenement-house, five stables, eight carriage and wood sheds, one bake house, and sixteen privies, or slop-hoppers, the two latter having 115 divisions. The one tenement-house yet unfinished, is, in construction, of the worst pattern, the ground-floor of one entire end of the building being occupied by privies, built into the house, and having sleeping-rooms overhead. The buildings are most of them three stories or less in height, and are so close together that it is difficult to pass between them. There are others (and with windows, too) so near on the side next to the neighboring building, that a person cannot pass between, where the eaves overlap, and the rooms are dark at three p. m. One of the newest buildings in Little Canada, a huge, three-story, flat-roofed caravansary, 206 by 41 feet, has a population of 336 persons. Every tenement in this building (four rooms usually, except the end ones) has two dark rooms, lighted by small, high windows into the kitchen only; and totally dark, unventilated rooms are not infrequent through the entire district."

The average cubic feet of air provided for the breathing of each occupant will not much exceed 200 feet, whereas the lowest estimate for good health is from 500 to 600 feet. When these tenements are fully occupied, it makes the densest population in the United States except a district in Ward Four, New York.

No fact in the history of sickness or reports of mortality is better established than that such tenements and districts are the hot-beds of disease, especially in summer. Infants die by the score with cholera infantum and bowel complaints. Should scarlet or typhoid fever or diphtheria break out in a malignant form, they would spread like a pestilence. Such tenements as the above cannot now be built in New York or Boston, as the law provides for ventilation, regulates the privies, requires a certain distance between tenements, and allows only a little more than half of the land to be covered with the building. It is unfortunate that Lowell has not such a law, as several tenement blocks are being built in the city.

### PROLONGED GESTATION.

IN the May number of the *New York Medical Journal and Obstetrical Review* Dr. Louis A. Rodenstein, of New York, reports four cases of prolonged gestation, and remarks that the number of cases cited upon undoubted authority by every writer on obstetrics, and the cases constantly reported as occurring under the personal observation of general practitioners, go to show that prolonged gestation is not a myth, and especially that it should not be explained away by questioning the virtue of the mother. How long the duration of the period of gestation can extend beyond the normal time is not yet determined, perhaps can not be determined, but that it may extend over two months is apparently settled. The same principle is involved, whether the uterus tolerates the presence of the child three days or one hundred and forty-five days (Professor Meigs's "Report") after the natural term of gestation has expired. He believes that, after the uterus has performed its physiological function of gestation for the natural term, it rests from the work of gestation proper. Why does it not, then, exercise the function of expulsion? That question he does not attempt to answer, but believes that after gestation has performed its proper and peculiar work the growth of the child is complete, and it thereafter lies dormant in the womb. Otherwise the child would grow to huge size, and its delivery in the natural way would be impossible; whereas in the cases cited the size of the child at the expiration of the period of prolonged gestation was normal.

### MONTHLY BULLETIN OF THE MORTALITY AND SANITARY CONDITION OF LOWELL.

THE Lowell Board of Health in proposing to issue a monthly bulletin, the first four numbers of which have come to hand, says,—

"The primary object of all boards of health is the prevention of disease. The modes of doing this are various. Among them the removal of filth, the building of sewers, the introduction of pure water, etc., are the most important. These agencies must be carried on by legislation and municipal authority. In this way

the causes of disease on a large scale are reached, and, to a certain extent, may be removed. But in order to support these agencies and carry them out in detail, information on the subject must be generally diffused among the people. In no other way can this knowledge be so well communicated as by boards of health. It is everywhere made the duty of these boards to report once a year or oftener to the public on health matters, giving the "vital statistics" and such advice as the public may seem to require. In many instances

these reports are largely made up of figures and tables, which may interest a few persons, but are not instructive to all classes. Both these objects are important, and should be secured as far as possible. We propose to issue, the coming year, a monthly bulletin, giving the mortality each month, together with such facts and comments as may exhibit the sanitary condition of the city. These bulletins will be printed in a form convenient for preservation, so that at the end of the year, when bound together, they will become valuable.

## REPORTED MORTALITY FOR THE WEEK ENDING APRIL 29, 1882.

| Cities.                            | Population by Census of 1880. | Reported Deaths in each. | Deaths under Five Years. | Percentage of Deaths from         |                |                       |                |            |
|------------------------------------|-------------------------------|--------------------------|--------------------------|-----------------------------------|----------------|-----------------------|----------------|------------|
|                                    |                               |                          |                          | The Principal "Zymotic" Diseases. | Lung Diseases. | Diphtheria and Croup. | Scarlet Fever. | Small-Pox. |
| New York.....                      | 1,206,590                     | 787                      | 334                      | 25.65                             | 17.92          | 6.86                  | 8.27           | .76        |
| Philadelphia.....                  | 846,984                       | 381                      | 110                      | 15.48                             | 10.23          | 4.19                  | 2.36           | .79        |
| Brooklyn.....                      | 566,689                       | 292                      | 126                      | 30.47                             | 15.75          | 12.33                 | 10.27          | —          |
| Chicago.....                       | 503,304                       | 219                      | 108                      | 31.51                             | 18.26          | 6.85                  | .46            | 5.94       |
| Boston.....                        | 362,385                       | 203                      | 59                       | 12.81                             | 17.24          | 3.45                  | .99            | —          |
| St. Louis.....                     | 350,522                       | —                        | —                        | —                                 | —              | —                     | —              | —          |
| Baltimore.....                     | 332,190                       | 130                      | 37                       | 23.08                             | 3.95           | 9.23                  | 5.38           | 3.08       |
| Cincinnati.....                    | 255,708                       | 145                      | 58                       | 53.10                             | 7.59           | 4.14                  | 4.83           | 37.93      |
| New Orleans.....                   | 216,140                       | 130                      | 42                       | —                                 | —              | —                     | —              | —          |
| District of Columbia.....          | 177,638                       | 78                       | 19                       | 12.82                             | 15.36          | 2.56                  | 1.28           | —          |
| Cleveland.....                     | 160,140                       | —                        | —                        | —                                 | —              | —                     | —              | —          |
| Pittsburgh.....                    | 156,381                       | 51                       | 21                       | 27.45                             | 13.73          | 3.92                  | 5.88           | 1.96       |
| Buffalo.....                       | 155,137                       | 67                       | 26                       | —                                 | —              | —                     | —              | —          |
| Milwaukee.....                     | 115,578                       | 36                       | 20                       | 16.66                             | 11.11          | 5.55                  | —              | —          |
| Providence.....                    | 104,857                       | 33                       | 12                       | 15.15                             | 15.15          | 9.09                  | 3.03           | —          |
| New Haven.....                     | 62,882                        | 35                       | 11                       | 14.28                             | 14.28          | 7.14                  | 3.57           | —          |
| Charleston.....                    | 49,999                        | 35                       | 19                       | 14.29                             | 2.86           | 2.86                  | —              | —          |
| Nashville.....                     | 43,461                        | 16                       | 4                        | 18.75                             | —              | —                     | 12.50          | —          |
| Lowell.....                        | 59,485                        | 20                       | 5                        | —                                 | 10.00          | —                     | —              | —          |
| Worcester.....                     | 58,205                        | 16                       | 12                       | 37.50                             | 25.00          | 12.50                 | 6.25           | —          |
| Cambridge.....                     | 52,740                        | 18                       | 4                        | 22.22                             | 22.22          | 11.11                 | —              | —          |
| Fall River.....                    | 49,006                        | 33                       | 10                       | 21.21                             | 9.09           | 6.06                  | —              | 6.06       |
| Lawrence.....                      | 39,178                        | —                        | —                        | —                                 | —              | —                     | —              | —          |
| Lynn.....                          | 38,284                        | 15                       | 6                        | 20.00                             | 20.00          | 6.66                  | 6.66           | —          |
| Springfield.....                   | 33,340                        | 12                       | 3                        | 8.33                              | —              | 8.33                  | —              | —          |
| Salem.....                         | 27,598                        | 11                       | 1                        | 9.09                              | —              | 9.09                  | —              | —          |
| New Bedford.....                   | 26,875                        | 16                       | 3                        | 12.50                             | —              | 12.50                 | —              | —          |
| Somerville.....                    | 24,985                        | 4                        | 2                        | —                                 | —              | —                     | —              | —          |
| Holyoke.....                       | 21,851                        | 9                        | 1                        | 11.11                             | 22.22          | —                     | —              | —          |
| Chelsea.....                       | 21,785                        | 7                        | 2                        | —                                 | 14.29          | —                     | —              | —          |
| Taunton.....                       | 21,213                        | —                        | —                        | —                                 | —              | —                     | —              | —          |
| Gloucester.....                    | 19,329                        | 7                        | 1                        | —                                 | —              | —                     | —              | —          |
| Haverhill.....                     | 18,475                        | 5                        | 1                        | 20.00                             | 40.00          | —                     | —              | —          |
| Newton.....                        | 16,995                        | 7                        | 4                        | —                                 | 14.29          | —                     | —              | —          |
| Brocton.....                       | 13,608                        | 4                        | 0                        | —                                 | 25.00          | —                     | —              | —          |
| Newburyport.....                   | 13,537                        | 6                        | 2                        | 16.66                             | 16.66          | 16.66                 | —              | —          |
| Fitchburg.....                     | 12,405                        | 3                        | 0                        | 33.33                             | —              | —                     | 33.33          | —          |
| Malden.....                        | 12,017                        | 3                        | 1                        | —                                 | —              | —                     | —              | —          |
| Seventeen Massachusetts towns..... | 135,087                       | 37                       | 5                        | 10.81                             | 5.40           | 2.70                  | —              | 5.40       |

Deaths reported 2864 (no reports from St. Louis and Cleveland): 1069 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and fevers) 631, consumption 384, lung diseases 376, diphtheria and croup 170, scarlet fever 131, small-pox 85, typhoid fever 50, measles 45, diarrheal diseases 35, cerebro-spinal meningitis 29, whooping-cough 29, malarial fevers 22, puerperal fever 17, erysipelas 16, typhus fever one. From *typhoid fever*, Philadelphia 19, New York six, Chicago, Boston, and Cincinnati four each, Brooklyn and Baltimore three each, District of Columbia and Cambridge two each, Milwaukee, Holyoke, and Haverhill one each. From *measles*, New York 24, Chicago 11, Philadelphia six, Brooklyn and Pittsburgh two each. From *diarrheal diseases*, New York 15, Chicago seven, Boston five, Cincinnati and District of Columbia two each, Brooklyn, Baltimore, Pittsburgh, and Milwaukee one each. From *cerebro-spinal meningitis*, Chicago 10, Worcester three, New York, Philadelphia, and District of Columbia two each, Boston, Baltimore, Cincinnati, Pittsburgh, Milwaukee, New Haven, Charleston, Fall River, Fitchburg, and

Woburn one each. From *whooping-cough*, New York 12, Chicago four, Brooklyn and Charleston three each, Boston and Pittsburgh two each, Philadelphia, Cincinnati, and District of Columbia one each. From *malarial fevers*, New York 11, Brooklyn nine, Baltimore and Nashville one each. From *puerperal fever*, Brooklyn four, New York, Chicago, and Boston three each, Cincinnati, Pittsburgh, Milwaukee, and Quincy one each. From *erysipelas*, New York and Philadelphia three each, Boston and Cambridge two each, Brooklyn, Chicago, Baltimore, Pittsburgh, Providence, and Lynn one each. From *typhus fever*, New York one.

One hundred and nineteen cases of small-pox were reported in Cincinnati, Baltimore 24, Pittsburgh 15, Milwaukee seven, Holyoke five; diphtheria 11 cases, typhoid fever four, scarlet fever two in Boston; scarlet fever 17, and diphtheria three, in Milwaukee.

In 36 cities and towns of Massachusetts, with a population of 1,018,232 (population of the State 1,783,086), the total death-rate for the week was 22.27 against 21.36 and 22.26 for the preceding two weeks.

For the week ending April 8th, in 173 German cities and towns, with an estimated population of 8,398,933, the death-rate was 27.5. Deaths reported 4435; under five 2070; pulmonary consumption 714, acute diseases of the respiratory organs 483, diphtheria and croup 203, diarrheal diseases 138, scarlet fever 83, whooping-cough 77, typhoid fever 41, measles and rubella 33, puerperal fever 21, small-pox (Essen three, Benthien, Darmstadt, Königsberg, and Strassburg one each) seven, typhus fever two. The death-rates ranged from 17 in Mannheim to 48.2 in Nuremberg; Königsberg 27.3; Breslau 29.5; Munich 40.8; Dresden 28.4; Berlin 24.5; Leipzig 23; Hamburg 23.5; Hanover 25.1; Bremen 27.6; Cologne 28; Frankfurt a. M. 24.8.

In the 28 English towns, with an estimated population of 8,457,514, for the week ending April 15th, the death-rate was 24.4. Deaths reported 3956; acute diseases of the respiratory

organs (London) 392, whooping-cough 221, measles 162, scarlet fever 74, fever 58, diarrhoea 43, diphtheria, 35, small-pox (London eight) 13. The death-rates ranged from 16.9 in Derby to 34.6 in Sunderland; Sheffield 18.9; Birmingham 24.4; Bristol 25.6; London 23.1; Leeds 22.1; Liverpool 26.7; Manchester 34.5. In Edinburgh 21.3; Glasgow 27.5; Dublin 28.3.

For the week ending April 15th in the Swiss towns, population 494,390, there were 57 deaths from acute diseases of the respiratory organs, pulmonary consumption 41, diarrheal diseases 24, diphtheria and croup two, typhoid fever five, scarlet fever and whooping-cough two each, puerperal fever one. The death-rates were, at Geneva 19.6; Zurich 24.3; Basle 32.6; Berne 18.4.

The meteorological record for the week ending April 29th in Boston, was as follows, according to observations furnished by Sergt. O. B. Cole, of the U. S. Signal Corps:—

| Date.            | Barometer. | Thermometer. |          |          |            | Relative Humidity. |             |       |            | Direction of Wind. |             |            | Velocity of Wind. |             |            | State of Weather. <sup>1</sup> |             |                       | Rainfall.         |  |
|------------------|------------|--------------|----------|----------|------------|--------------------|-------------|-------|------------|--------------------|-------------|------------|-------------------|-------------|------------|--------------------------------|-------------|-----------------------|-------------------|--|
| April, 1882.     | Mean.      | Mean.        | Maximum. | Minimum. | 7.23 A. M. | 3.23 P. M.         | 11.23 P. M. | Mean. | 7.23 A. M. | 3.23 P. M.         | 11.23 P. M. | 7.23 A. M. | 3.23 P. M.        | 11.23 P. M. | 7.23 A. M. | 3.23 P. M.                     | 11.23 P. M. | Duration, Hrs. & Min. | Amount in inches. |  |
| Sun., 23         | 29.851     | 38           | 47       | 31       | 46         | 37                 | 60          | 48    | NW         | N                  | NW          | 19         | 12                | 16          | F          | O                              | C           | —                     | —                 |  |
| Mon., 24         | 30.071     | 39           | 48       | 28       | 53         | 28                 | 60          | 47    | NW         | NW                 | NW          | 14         | 16                | 12          | C          | C                              | C           | —                     | —                 |  |
| Tues., 25        | 30.205     | 44           | 56       | 31       | 51         | 29                 | 37          | 39    | NW         | W                  | SW          | 8          | 8                 | 12          | C          | O                              | C           | —                     | —                 |  |
| Wed., 26         | 30.205     | 45           | 60       | 35       | 65         | 43                 | 73          | 60    | SW         | S                  | SE          | 8          | 10                | 7           | C          | O                              | O           | —                     | —                 |  |
| Thurs., 27       | 30.008     | 36           | 41       | 33       | 89         | 94                 | 100         | 94    | E          | NE                 | N           | 20         | 28                | 16          | R          | Sleet.                         | Sleet.      | —                     | —                 |  |
| Fri., 28         | 30.021     | 40           | 45       | 32       | 82         | 73                 | 82          | 79    | NW         | SE                 | S           | 14         | 6                 | 12          | O          | O                              | O           | —                     | —                 |  |
| Sat., 29         | 30.007     | 56           | 67       | 39       | 75         | 26                 | 56          | 52    | W          | W                  | SE          | 10         | 14                | 3           | F          | F                              | O           | —                     | —                 |  |
| Means, the week. | 30.052     | 42           | 67       | 38       |            |                    | 60          |       |            |                    |             |            |                   |             |            |                                |             | 21.45                 | 1.73              |  |

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; X., clearing.

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM APRIL 29, 1882, TO MAY 5, 1882.

WILLIAMS, JOHN W., major and surgeon. Granted leave of absence for six months. S. O. 101, A. G. O., May 2, 1882.

JAQUETT, G. P., major and surgeon. Granted leave of absence for six months on surgeon's certificate of disability. G. O. 97, A. G. O., April 27, 1882.

FOSTER, JOSEPH V., captain and assistant surgeon. The extension of his leave of absence granted him in S. O. 17, C. S., Military Division of the Atlantic, is further extended twenty days. S. O. 99, A. G. O., April 29, 1882.

BOSTON SOCIETY FOR MEDICAL OBSERVATION.—A regular meeting of the Society will be held on Monday, May 15, 1882, at the hall, 19 Boylston Place, at eight o'clock, p. m. Reader, Dr. J. J. Putnam. Subject, Present Aspect of the Question of Cerebral Congestion. Action on proposed Amendment to By-Laws. C. M. JONES, Secretary.

BOOKS AND PAMPHLETS RECEIVED.—Monthly Bulletin of the Morbidity and Sanitary Condition of Lowell, Mass., for the Month of January, 1882.

The New England Family of Nathan Allen, M. D. (Reprinted from the New Englander for March, 1882.)

Twenty-eight Registration Report of Rhode Island.

Fermeuse Infant Food. By George B. Fowler, M. D., late Instructor in Physiology, College of Physicians and Surgeons, New York. (Reprint.)

Fifteenth Report of the Medical Staff of St. John's Hospital (Lowell, Mass.). Submitted at the Annual Meeting, April 3, 1882.

The Evidences of Insanity discoverable in the Brains of Criminals and others whose Mental State has been questioned; with some Remarks on Expert Testimony and the Grapapote Case. By Edward C. Spitzka, M. D., President of the New York Neu-

rological Society, etc. Read before the New York Medico-Legal Society, May 3, 1882.

The Case of Guiteau. A Psychological Study. By George M. Beard, M. D., New York. (Reprinted from the Journal of Nervous and Mental Diseases, Vol. IX, No. 1, January, 1882.)

Current Fallacies about Vaccination. A Letter to Dr. W. B. Carpenter, C. B., etc. By P. A. Taylor, M. P. Second edition of 100,000. London: E. W. Allen, 4 Ave Maria Lane, E. C. 1881.

Electricity in Surgery. By John Butler, M. D. New York and Philadelphia: Boericke & Taft.

Observations on Surgery in Children. By Edward Borek, M. D., St. Louis, Missouri. Read before the St. Louis Medical Society, April 1, 1882. (Reprint.)

Twenty-second Annual Report of the Superintendent of the State Asylum for Insane Criminals, Auburn, N. Y. For the Year ending September 30, 1881.

Atti della Reale Accademia di Medicina di Torino. Vol. VI. Fasc. 1. Sulla Struttura del Midollo Spinale per Dott. G. B. Laura. Torino, 1882. Tipografia Colaninzi & Comp.

Circulars of Information of the Bureau of Education. No. 1. 1882. The Inception, Organization, and Management of Training Schools for Nurses.

Hygiene in Relation to the Eye. By C. J. Lundy, M. D., Professor of Diseases of the Eye, Ear, and Throat in the Michigan College of Medicine. Detroit.

Gonorrheal Ophthalmia, its Complications and Results; Iridectomy for Artificial Pupil. A Clinical Lecture by C. J. Lundy, M. D.

A Contribution to the Study of the Bacterial Organisms commonly found upon the Exposed Mucous Surfaces and in the Alimentary Canal of Healthy Individuals. Illustrated by Photomicrographs. By George M. Sternberg, Surgeon U. S. Army. Experiments with Disinfectants. By George M. Sternberg, Surgeon U. S. Army.

Thirty-Sixth Annual Announcement of Starling Medical College, together with Catalogue and Order of College and Hospital Exercises for the Year 1882-83. Columbus, Ohio.

Bacillus Anthracis. By George M. Sternberg, Surgeon U. S. Army. With Plate. (Reprinted, with Additions, from the American Monthly Microscopical Journal, August, 1881.) New York: Thompson & Moreau, Printers. 1881.

## Lectures.

### CLINICAL LECTURE ON A CASE OF IDIOPATHIC ANÆMIA.

BY ROBERT T. EDES, M. D.

THE patient, John D., was questioned by a member of the class, and the following history obtained:—

He was twenty-five years of age, born in New York, living in Cambridge, where he was employed as a grocer. He had never had rheumatism, diphtheria, typhoid, or intermittent fever. His appetite, until the present illness, had been good, and his diet substantial and varied. He had considered himself a strong man, and was in the habit of lifting barrels of sugar into a wagon. There had been no hæmorrhage from lungs, stomach, bowels, or urinary organs, and but a very slight epistaxis on one occasion. No suggestion was made by him of any previous debilitating or depressing influence, physical or moral.

Some six weeks ago he first noticed a loss of color in his face. Appetite poor. For four weeks before entrance there had been dizziness and occasional headache, with noises in the ears. For two weeks pain in the chest and cough, without expectoration. The bowels were regular. There was nocturnal micturition once or twice. There were no nervous symptoms of consequence, except more or less "cramp in legs for three months."

On inspection the patient was seen to be a muscular young man, not emaciated, but exceedingly pale, his skin being almost yellow and the mucous membranes nearly white. He expressed himself as feeling strong, and was not sure that he could not at that time lift a barrel of sugar out of a wagon, although half an hour before he had nearly fainted in walking from the ward to the lecture-room.

Upon the surface of the thorax were seen a few dark-red purpuric spots, not much larger than a pin's head, and also a few bluish bruise-like spots, which he said were where "the doctors had pounded him." The legs were similarly but much more profusely marked with the red spots.

There was no sponginess of the gums, except at one very small point. Physical exploration of the thoracic organs revealed nothing abnormal except a soft systolic murmur, loudest along the left edge of the sternum. At the base of the neck on the left side a hum was heard with each sound of the heart, and on the right side a short systolic souffle.

The anterior border and part of the upper and lower edges of the spleen could be made out, showing it not to be enlarged. Nothing abnormal was detected in the abdomen. No enlarged glands were found anywhere.

A drop of blood drawn from the finger was evidently exceedingly pale and watery. A hasty microscopic examination showed that the red corpuscles were very scanty, but the white were not increased.

A more careful examination on the next day gave as an average of several counts, all less than 800,000, 670,000 red corpuscles to the cubic millimetre. (The normal is about 5,000,000.)

The corpuscles were not so much deformed as they are sometimes found, although some of them were very deeply cupped, a change which is probably the result simply of a swelling of the interior of the corpuscle

out of proportion to the envelope. They were not markedly larger than normal, but were not measured. The tailed and divided corpuscles which have been figured were not seen, nor was there any large proportion of microcytes.

There was nothing marked at this time about the pulse or temperature, nor, although the latter was not recorded from day to day, was there any indication of a febrile movement during the progress of the case. The urine had been examined and found to be pale, acid, of specific gravity 1014, containing no albumen, and no abnormal sediment.

A previous ophthalmoscopic examination had shown numerous retinal hæmorrhages in both eyes, chiefly situated near the outer edge of the disk, extending out into the neighboring retina, and arranged in a somewhat radiating manner, following the course of the vessels.

The treatment for the three days of his hospital residence had been tincture of the chloride of iron, with such food as he could take. The gentleman who examined the case considered it one of "progressive pernicious anæmia," for which the instructor proposed to substitute Dr. Addison's original name of "idiopathic anæmia," because although the first mentioned might represent correctly the usual course of the disease, and in this case a very probable prognosis, yet there are fortunately some cases presenting these symptoms which are not progressive or fatal.

It was remarked that this disease, although not difficult to distinguish, has quite intimate relationships with several interesting blood diseases.

From all forms of leucocythæmia it is at once distinctly separable by the absence of any excess of white corpuscles.

From two forms of pseudo-leucæmia, those connected respectively with enlarged spleen and enlarged lymphatic glands (Hodgkin's diseases), the normal condition of those organs easily distinguishes it, unless in cases where glands not accessible to inspection are the ones at fault.

A case was mentioned of a middle-aged man who, without obvious cause, became feverish and had night sweats. He lost appetite and flesh, and became anæmic (2,500,000). There was no excess of white corpuscles; microcytes not noted. After death the only lesion found was a great hypertrophy of the retroperitoneal glands, with a little suppuration at one point.

Dr. Pepper's theory, however, that idiopathic anæmia represents that form of pseudo-leucæmia connected with disease of the osseous marrow is not so easily disposed of, and it is to be accepted or rejected chiefly upon data to be obtained after death.

Scurvy is usually to be recognized by its origin under peculiar hygienic conditions, and by the sponginess of the gums.

The present case, however, bore a very strong resemblance to ordinary purpura, and in the absence of history might easily have been mistaken for it, as, indeed, it actually was for a day or two, owing to a lack of attention to the order in which the symptoms developed.

In the case before us there had been absolutely no hæmorrhages of any consequence. Those which have been mentioned were important only as symptoms, and could not all together have accounted for a fraction of the loss necessary to reduce the patient to his bloodless condition.

The altered condition of the blood was evidently the

cause and not the consequence of the hemorrhages. No positive symptoms, except the evident facts of extreme anæmia and the preservation of the adipose tissue, threw much light upon the diagnosis. The deformity of blood corpuscles was no more than has been found in other forms of anæmia. The retinal hemorrhages have, to be sure, been considered highly characteristic, but there seems no reason why they should not occur in any disease with a hemorrhagic tendency as well as in the present.

A condition of anæmia almost exactly resembling in external appearance that found in the case under discussion was to be noticed in a young man upon the other side of the ward, who had had a long-continued and profuse hæmaturia.

Singularly enough, however, this last patient, though almost as pale, both as to skin and mucous membrane, as the one before us, who had less than one million red corpuscles to the cubic millimetre, had a globular richness of over four million; a fact which certainly suggests that changes in the composition as well as the number of the red corpuscles must exist in some cases of anæmia.

The further progress of the case may be very briefly related. The patient steadily and rapidly lost strength. He was fed upon pancretized milk for a day or two by the rectum to avoid the vomiting which had taken place, and, after this symptom disappeared, again by the stomach.

Dialyzed iron and Fowler's solution were given, but it could not be said that any treatment had the slightest effect. He became very weak, so that he could hardly move in bed without danger of fainting. Delirium, diarrhoea, great dyspnoea upon any exertion, preceded the fatal termination, which took place nine days after his entry, and about seven weeks after he first considered himself sick.

In regard to the treatment it might very naturally be asked why transfusion was not resorted to. In the first place its value might well be doubted on theoretical grounds, since we are evidently dealing with a disturbance of the blood-forming function, wherever that may be carried on, and not with a mere deficiency of blood, which could be rapidly supplied; and, secondly, experience has shown that transfusion is in these cases not only inefficacious, but in some absolutely injurious.

With but very few exceptions those cases of idiopathic anæmia which have recovered have done so under the use of arsenic.

A very careful autopsy was made by Dr. Gannett.

The body was that of a well-built, muscular young man, with a sufficient amount of subcutaneous fat. The surface very pale, with cutaneous ecchymoses.

The brain was anæmic, the sulci being wider and convolutions smaller than usual. On the surface of the pia were several ecchymoses, and others into the substance of the brain, especially in the basal ganglia. About five centimetres of clear fluid in each ventricle.

The pericardium contained fifty centimetres of brownish, opaque fluid, and upon the surface were a few spots of limited opaque thickening, as well as ecchymoses, which were also found beneath the endocardium.

The heart contained a thin, pale, red fluid, which coagulated to a jelly. It weighed five hundred and twenty grammes (seventeen ounces), the muscular structure being yellow, mottled, and flaccid.

The valves were normal except a relative insufficiency of the mitral and bicuspid.

There were ecchymoses in the lungs.

The spleen was small, dense, with but little pulp, and contained several ecchymoses (seventy grammes).

The kidneys weighed five hundred grammes (fifteen and three fourths ounces), and were exceedingly pale and flaccid.

The liver weighed nineteen hundred and twenty grammes (sixty ounces), and contained small nodules of pale, grayish-yellow color, about size of pin's head, or larger.

In the stomach were numerous small ecchymoses, and also patches of an opaque, yellow appearance, somewhat elevated.

The large intestine contained numerous ecchymoses and a few hæmatomata, the size of peas. Over an area of two or three centimetres in sigmoid flexure the mucous membrane was elevated, reddened, and velvety, showing numerous black streaks in which the upper layer of mucous membrane was eroded.

The aorta was of somewhat smaller calibre than usual, very elastic, its wall of about half the usual thickness. The distribution of the intercostals was irregular. There were numerous superficial yellow patches.

By the microscope was found a diffuse, fatty degeneration of the muscular substance of the heart.

In the cortical substance of the kidney was much granular and some fatty degeneration. The vessels of the kidney contained remarkably little blood.

The liver cells in all portions of the acini contained much reddish-yellow pigment and a few small fat drops.

The "nodules" above mentioned are simply anæmic areas.

The marrow of the femur was in places red and jelly-like; it contained, in addition to the usual constituents, a few nucleated red blood corpuscles.

The marrow of the sternum was of a reddish-yellow color, but was not examined microscopically.

## Original Articles.

### SOME NEGATIVE RESULTS IN SPHYGMOGRAPHY AMONG THE INSANE.

BY F. M. TURNBULL, PH. B., M. D.,

Second Assistant Physician *McLean Asylum, Somerville, Mass.*

MY excuse for publishing results which do not add to positive knowledge is, first, the feeling that in the laudable desire to discover infallible indications in sphygmographic tracings some of the negative evidence and fallacies have been overlooked, and, second, that certain standard works give tracings with statements concerning them which I have not been able to verify.

Tracings No. 1 and No. 2 were taken from Mrs. H., a case of melancholia with hallucinations of sight and hearing and delusions; anæmia; constipation; temperature normal.

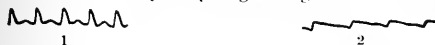
Tracing No. 1 was taken January 19th, the pulse being about 120. There was complaint of pain in the abdomen, and laxative medicines were given, but with no effect. She was sleeping two or three hours a night with potass. bromidi, gr. xx., tr. hyosiamini, one drachm, M., given at bedtime regularly. On the 19th she was given chloral hydrat., gr. x., potass. bromidi, gr. xx., M., and at 1.15 the next morning she was given chloral hydrat., gr. xv., potass. bromidi, gr. xx., M.

The above sedatives had very little effect. On the night of January 19th there was a slight movement of



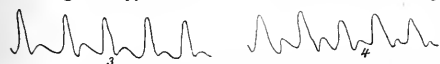
the bowels. Until January 21st the pulse continued rapid, about 120 per minute. On the afternoon of January 20th she was given ext. senna, one fluid drachm, ol. ricini, one fluid ounce, M., and that night had a thorough evacuation of the bowels, passing a large quantity of hardened feces. The following morning, January 21st, there was a general improvement, less restlessness, relief from pain, and the pulse was 80 to the minute. Tracing No. 2 was then taken, and a marked difference found. In tracing No. 1 it will be seen that the shock wave or first event, the diastolic wave or third event (subsidence), and the dirotic wave or fourth event, are the only details apparent. There is indicated the excited and rapid action of the heart, as shown in the frequency and comparative height of the shock wave and sudden subsidence, the lack of tension and incomplete filling of the arteries as shown by the sudden subsidence and dirotism. The prime cause of the peculiar character of tracing No. 2 is evidently the general irritation and disturbance from the presence of impacted feces.

It will be seen by comparing tracing No. 2 with No.



1 that the shock wave is about one half as high, the subsidence slower, and the tension indicated greater in proportion to the height of the shock wave. The immediate cause of the difference seems to be mainly the change in the action of the heart, both as to frequency and force of impulse.

In comparing these tracings, however, what I wish to call particular attention to is the marked change brought about by a dose of castor oil and senna, and the almost exact resemblance of tracing No. 1, from a case without fever, to tracing No. 6, which is copied from one in Bucknill and Tuke's Manual of Psychological Medicine, and given there as "a dirotic pulse (110 beats) in a case of fever." (Page 194, Fig. 8.) A similar tracing is given in an article by Dr. George Thompson (The Sphygmograph in Lunatic Asylum Practice) in Volume I. of the West Riding Lunatic Asylum Medical Reports, as "taken from a person suffering from pyrexia." Nos. 3, 4, and 5 are tracings

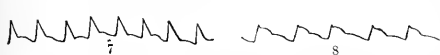


from Bucknill and Tuke's Manual (page 299), and are given as typical tracings in acute mania. Nos. 3 and



4 were taken by Dr. Savage, and No. 5 by Dr. Wolf. Dr. Savage is quoted (page 298) as follows: "They bear a strong resemblance to those found in fever and acute diseases, but in maniacal tracings the rate is less and the heart beat more forcible. . . . I have never seen a similar tracing in melancholia."

Now as to "rate" or frequency, Nos. 8 and 9 were taken from a case of acute mania, and the pulse varied from 110 to 140, and I think that a frequent pulse is often found in acute mania.

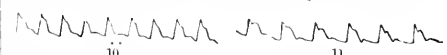


In the case of Mrs. P. (Nos. 7 and 8) the patient had been without food for a day or so before admission

to the asylum, and was anemic and weak. She drank a considerable quantity of milk after admission. She had chloral hydrate and bromide of potassium in moderate doses as sedatives, and had whiskey, half an ounce three times a day, which seemed to increase the excitement. The time of day when the tracings were taken was not noted at the time, so that the effect of the sedatives or stimulants cannot be determined. No. 7 resembles the "maniacal tracings," but the shock wave is not so high and is more frequent. The shock wave is not much higher than in tracing No. 1, and here I may say I have found the shock wave to vary in the same person, within a few minutes, from slight causes, and also sometimes a difference caused by varying the pressure, and with a new adjustment of the instrument.

No. 8 does not resemble the "maniacal tracings," as may be seen on inspection, but as it may have been modified by the sedatives given, it only shows that we do not always get the typical tracing, owing, perhaps, to some modifying circumstances.

Tracing No. 10 was taken from a typical case of acute mania, in which it was necessary to use restraint.



It differs from the "maniacal tracings" (Nos. 3 and 4) in showing the systolic wave and in its lack of dirotism. The pulse, moreover, was quite rapid, as high as 140 beats to the minute near the time when the tracings were taken, and later in the course of the attack as high as 156. There was also some fever, the fever running latterly up to 102° F.

Tracing No. 11 is from another case of acute mania in which the pulse was slower than in No. 10. In No. 11, June 9th, the systolic wave and also the wave of recoil were quite apparent. The shock wave is not particularly prominent. The difference between this tracing and the maniacal tracings is obvious, there being no dirotism, a lower shock wave, and the systolic and recoil waves being present in the former. June 8th, at noon, potass. bromidi, gr. xxx., tr. hyosci-ami, two drachms, M., was given by enema. This was repeated at bedtime, and again at eleven A. M. on the day when the tracing No. 11 was taken. The tracing was taken at 12.45 P. M. The sedatives did not change the essential character of the tracing, as can be seen on inspection.

In thus comparing tracings Nos. 7 to 11 inclusive, with the so-called maniacal tracings, I think it can be seen that the latter are at least not constant in acute mania, and I think we have in these tracings Nos. 1 and 2, and Nos. 7 to 11 inclusive, partial evidence that we do not have in sphygmographic tracings a reliable means for distinguishing serious affections or organic disease from a slight functional disturbance of the brain and nervous system,<sup>1</sup> but only indications or manifestations of the condition and action of the heart and blood-vessels, which action we all know varies under the influence of every emotion and with every condition of the body or its surroundings as the weather vane moves in the shifting breezes. As farther evidence I shall call attention to the total absence in all these tracings of oscillation, of which Dr. Edgar Holden says, in The Sphygmograph (pages 72 and 73), "Its significance as a feature of a tracing may be thus

<sup>1</sup> By functional disturbance I mean such as may occur in the sane and ordinarily healthy individual.

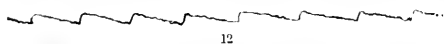
summed up: Aneurism; severe disorders of the cerebro-spinal system; compression of the artery between the point of observation and the heart; compression by the instrument itself; blood-poisoning, as in Bright's disease or from medicines.

"It may be the measure of tension, and is the measure of pressure as an index of tension. It may be due to a detached valve or other movable body in the large arteries. It may be simply apparent and due to muscular or tendinous tremor."

The italics are mine. From the form of Dr. Holden's sphygmograph and its mode of adjustment to the arm, as shown by the figure in his book, it would seem peculiarly liable to register any muscular or tendinous tremor that might occur, and if his instrument does not eliminate oscillation which may be simply apparent and due to muscular or tendinous tremor, how can he or any one else know that the oscillation is not due to that in cases where there is cerebro-spinal disorder? It is, perhaps, hardly necessary to remind the reader that tremor is a common symptom in cerebro-spinal disorder.

Another way in which the tremor may be imparted to the instruments, and that is from the hands of the operator, unless the wrist support and a firm support for the instrument are used. In using Dr. Holden's sphygmograph the instrument is held in position by the hand of the operator.

In Volume I. of the West Riding Lunatic Asylum Medical Reports, Dr. George Thompson says, on page 63 of his article (The Sphygmograph in Lunatic Asylum Practice), "Let us then notice briefly the pulse tracing which is obtained from general paralytics. By reference to No. 3, taken as a typical example out of a large number of tracings, it will be seen that the line of ascent is slanting and short, while that of descent is gradual and prolonged, and does not display the usual aortic notch, but, instead, presents a number of wavelets which, if counted carefully, will be found to have eight distinct rises and depressions;" and in a footnote adds that eight is only the number of wavelets in the case referred to, and that he has found the number to vary from six to ten. In Bucknill and Tuke (page 320) Dr. Thompson is quoted, and a fac-simile of the tracing given as a typical tracing. I have copied this with tracing paper rather imperfectly. (See No. 12.)



To see if this could be verified, and thinking that perhaps this oscillation had other causes than those to which it was ascribed, the following tracings have been taken with great care and every precaution against muscular tremor, the instrument being supported by the rest for the wrist, which was on a table, the elbow of the patient also resting on the table. No. 13,



from an undoubted case of general paralysis, with extravagant delusions, difficulty in articulation, unsteady gait, lack of coordination, tremor, progressive dementia, etc., was taken June 18th, after the patient had been walking slowly in the gallery. The aortic notch does not show.

In this tracing there is no oscillation, and none of the character which is described as typical by Dr.

Thompson. Other tracings have been taken, but this was selected as the best.

No. 14 is from a case of general paralysis, there having been extravagant delusions at one time, and now a general sense of well being, although the delusions have disappeared; failure of memory, difficulty in articulation, "thickness of speech," irregular, tremulous handwriting, inequality of pupils, good appetite, and is stout. Is taking no medicine. Tracing No. 14 was taken June 18th, after the patient had been sitting in a chair reading; face a little flushed and hands seemed hot, pulse full and strong to the touch. The amplitude of the tracing shows a forcible impulse of the heart. There is the aortic notch, systolic wave, and the wave of recoil. There is no oscillation. Other tracings have been taken.

No. 15 is from a case of general paralysis, taken



after remaining quiet for an hour. At first there were extravagant delusions, impairment of memory, incoherent and illegible letters were written. The patient was emotional.

Later there was much improvement, and the delusions disappeared, but the mind remained weak. There was inequality of the pupils.

July 25th. Signs of incipient catarrhal pneumonia appeared.

December 10th. Symptoms of lung trouble for the most part disappeared; no improvement in physical signs. Coughs less and sleeps better.

July 26th. Has little trouble with cough; general health improved.

January 31, 1881. Little change in physical condition. Mentally weak and emotional; considerable tremor of the lips in conversation; inequality of pupils.

April 13th. Sudden vertigo; anomalous sensations in abdomen; numbness in knee and calves; afraid of falling.

No satisfactory result obtained by examination with aesthesiometer or Paradism; nothing abnormal ascertained: has sensation as of a cord about the knees.

May 6th. Improving; feels well, but avoids going up or down stairs; seems weak in the legs.

The tracing No. 15 shows each event quite marked, namely, the shock wave, systolic wave (aortic notch), and the recoil wave; the shock wave is plainly shown. This may be due to excitement of the heart's action from the patient's attention being directed to it. There is no oscillation.

Tracing No. 16, of Mrs. B., is a typical case of general paralysis, with extravagant delusions of immense wealth, etc.; difficulty in articulation ("thickness of speech"); progressive dementia; tremor of the limbs on motion, and of the lips in speaking; emotional; appetite and body nutrition good; when occupied in reading she does not notice the prick of a pin; has inequality of the pupils.



This tracing is one of quite a number that have been taken in this case. It has the aortic notch, and is free from oscillation as all the others have been. She has taken since, chloral, gr. x., potass. bromidi, gr. xx.,

tr. hyosciami, two drachms, M., sig., h. s. regularly, but this does not seem to have affected the tracing much, at any rate so far as oscillation or the aortic notch is concerned, as other tracings were taken when she had no medicine which showed the notch, and had no wavelets. The tracing No. 16 was selected as one of the best.

To sum up, (1.) we have in a case of melancholia without fever a tracing identical with that of pyrexia, which in its turn "bears a strong resemblance," with some exceptions, to that which is called a maniacal tracing, although Dr. Thompson says, "I have never seen a similar tracing in melancholia."

(2.) We have tracings in acute mania which differ considerably from the so-called maniacal tracings.

(3.) We have tracings of general paralysis in which there is a total absence of wavelets or oscillation, given by Dr. Thompson and by Bucknill and Tuke, as typical and diagnostic, and these tracings generally have the aortic notch.

(4.) We have seen a number of tracings from cases in which there was severe cerebral or cerebro-spinal disorder with no oscillation.

#### Conclusions:—

(1.) That no typical tracing has yet been found in general paralysis, and that the tracings called "maniacal" are instant in acute mania.

(2.) That the tracing of pyrexia, so called, may be produced by other causes than fever.

(3.) That oscillation is at least a very inconstant element in the tracings of cerebral or cerebro-spinal disorder, and that when present it is probably due to muscular or tendinous tremor when no cause can be found other than nervous or mental.

(4.) That the sphygmograph is of little or no use as an aid to the differential diagnosis between the types of insanity, and that its indications may be the same in a temporary functional disturbance of the circulation as they are in serious organic disease of the brain and nervous system.

I am aware that in the portion of this paper which treats of the tracings found in general paralysis I am going over ground that has already been discussed at a meeting of the Medico-Psychological Association, when Dr. Savage said, in a discussion which followed Dr. Thompson's paper, he had not been able to get any tracing that was characteristic of general paralysis.<sup>1</sup> I do not know, however, that he published any of his tracings.

I am also aware that Dr. Thompson's paper was reviewed in the *British and Foreign Medico-Chirurgical Review*, January, 1872, page 23, but although the theory of persistent vascular spasm in general paralysis was dissented from, it was said "we may accept the diagnostic value of the pulse form in early general paralysis."

In a recent article in the *Journal of Mental Science* (No. 117, vol. xxvii.), Teachings of the Sphygmograph in General Paralysis of the Insane, by W. Bevan Lewis, L. R. C. P. Lond., senior assistant medical officer West Riding Asylum, two groups of tracings are given. The first, and smaller group by far, if we can judge from the example given, is almost identical with the so-called tracing of pyrexia, and thus would seem to provide farther evidence besides what I have obtained that other causes than fever may produce this tracing. In the second group, and larger by far, "the most

noticeable features are the sustained tidal wave and extremely shallow percussion element, the latter having as one of its most important factors a feebly contracting ventricle, or at least one whose energy is inadequate to the demands encountered, whilst the former bespeaks the obstruction to the circulation ahead, and the tardy labored force *a tergo*."

These tracings of the second series are compared to the tracings of chronic Bright's disease, "a miniature representation of the same curves," the cardiac hypertrophy being absent in general paralysis. A low pressure was required in obtaining these tracings, and an occlusion pressure below four hundred grammes. Also Garrod's law was departed from, the systolic periods being too short.

He has obtained tracings in epilepsy, chronic mania, acute dementia, as well as in a patient suffering from hydrothorax, representing features almost identical with those he obtained in general paralysis. He invariably obtained a similar tracing in acute dementia. He also has given a tracing "to show the effect of sclerotic tremor upon the pulse curve, possibly explanatory of those minute secondary undulations which often occur in general paralysis."

In all these tracings of general paralysis and those identical with them he considers the factors to be venous engorgement and a feebly acting heart.

It will be seen that Dr. Lewis's observations confirm my second, third, and fourth conclusions, and also my conclusion that no typical tracing has yet been found in general paralysis.

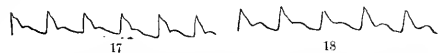
As yet, however, I have not been able to verify Dr. Lewis's results so far as the indications of tension are concerned, and although a feebly acting heart must finally be one of the results of general paralysis, I have not been able to see that the tracing shows it in all cases or even in a majority of the cases, and should think at least that it might not be sufficiently marked during the early stages to be noticeable.

The element of pressure I have found to vary according to the fatness of the wrist or its muscular and tendinous development, — in a stout, muscular person greater pressure being required to obtain a tracing, the pressure being on the tendons and adjacent tissue instead of exclusively on the artery, as one might suppose from seeing records of the pressure used in sphygmography. For this reason, therefore, I have not recorded the pressure used in taking my tracings.

In tracing No. 13, from a marked case of general paralysis, there is indicated a somewhat feebly acting heart to be sure, but the tension indicated is moderate.

In tracing No. 14, from a case of general paralysis, there is indicated a vigorous contraction of the heart, and the tension indicated is slight in proportion to the amplitude. Neither can the tracing be put in Dr. Lewis's first series because there is no diroticism, although there is a wave of recoil which, at first glance, might be mistaken for diroticism.

No. 15, from a case of general paralysis, does not indicate tension and there is a moderate cardiac impulse.



In No. 16, from a typical case of general paralysis, a feeble heart is indicated, but otherwise the tracing could not be put in either of Dr. Lewis's groups.

<sup>1</sup> *Journal of Mental Science*, April, 1875, page 149.

The above tracings, No. 17 and 18, have been appended for comparison, No. 17 being from a case of general paralysis, and No. 18 from a perfectly healthy individual.

## RECENT PROGRESS IN PATHOLOGY AND PATHOLOGICAL ANATOMY.

BY WILLIAM F. WHITNEY, M. D.

### THE INOCULABILITY OF TUBERCULOSIS.

SINCE last year<sup>1</sup> the accounts of several series of experiments bearing upon this subject have been published.

Baumgarten<sup>2</sup> has succeeded in producing an eruption of miliary tubercles in the eye, followed by general tuberculosis, after the injection into the anterior chamber of the eye of a few drops of blood from an animal suffering from tuberculosis. If clean sharp instruments were used, and a solution of atropine was dropped into the eye directly after the operation and for several subsequent days, no appearance of a traumatic inflammation could be seen. The cornea, aqueous humor, and lens retained their accustomed clearness for eight to fourteen days, during which time the blood that had fallen to the bottom of the chamber was entirely absorbed. The eye could not be distinguished from normal. In the third or fourth week tubercles appeared in the iris, in the lower segment of the membrane next to which the blood had lain. The following appearances were similar to those observed by Conheim. This local affection was constantly followed by a general tuberculosis, as had been the case when material from the fresh "pearls" of a tuberculous cow had been used.

Where blood from a healthy animal was injected it was simply absorbed without producing any effect. If the animals were suffering from septicæmia, or otherwise diseased, the blood was harmless, or else caused a greater or less degree of inflammation, often associated with total destruction of the globe and subsequent acute or chronic sepsis or pyæmia. Never, however, with tuberculosis.

The author concludes that these experiments prove the contagiousness of the blood of tuberculous animals, and they refute the view held by many that the reabsorption of the necro-biotic products of an inflammation, resulting from the operation itself, furnish the necessary material for the production of "inoculated tuberculosis."

Toussaint<sup>3</sup> also contributes some positive experiments from which he concludes that the tuberculosis of swine is analogous to the acute tuberculosis of man, while the "pearly distemper" of cattle is always chronic in character.

In both of these classes of animals tuberculosis is easily produced by feeding with tuberculous masses, through inheritance or suckling, or by inoculation with tuberculous particles or blood, and finally from simply living together. He is also convinced of the organized nature of the virus by means of cultivation experiments, and believes he has observed an increase in the virulence.

The question of the nature of the tuberculous virus is also entered into by Deutschmann.<sup>4</sup> He allowed

pure pus from tuberculous individuals to stand for two or three days in well cleaned glasses closed by cotton wool. This separated into two layers, a superficial one of clear yellow serum and a deeper layer of thick rosy pus. These could thus be separately used for experiments.

Microscopic examination of the serum showed it to be entirely free from cells; but on the other hand it contained a considerable number of very small and mobile elements which had the appearance of the so-called monas tuberculosum (the smallest kind of micrococci associated together in twos and sometimes in threes) described by Klebs and Schuller as characteristic of tuberculosis.

Serum was injected into the anterior chambers of three rabbits, which came from pus from three individuals that had been standing two, four, and eight days respectively. At the same time some of the sediment was introduced into the eyes of other rabbits. In every case the inoculation with serum was without effect, while the pus caused an iris-tuberculosis after the ordinary period of incubation. This result was unexpected, but was so constant that no doubt as to it could be entertained.

He further experimented by inoculating the humor aquos from the eye of a rabbit in which iris-tuberculosis had just appeared into the anterior chamber of a sound animal. This fluid contained the monas tuberculosum and pus cells, but no granular detritus from the intact tubercles. This was absorbed without effect. If the disease had existed longer there was found in the aspirated liquid, besides the above mentioned components, numerous cheesy particles. The introduction of this fluid was always followed by an outbreak of the disease.

The inoculation of the humor aquos of a child that was supposed to have iris-tuberculosis, and in which the monas was considered to be present, was without effect.

The author considers that there are three ways of explaining the relation of the organisms found in the serum to the production of the disease. (1.) The micrococci have no connection whatsoever with the tubercular virus. (2.) The micrococci are the carriers and disseminators of the poison, when they develop in a proper soil (the sediment of pus). (3.) The micrococci possess specific action, but that they occur in these experiments under such unfavorable conditions of life and reproduction that they are overpowered by the organism into which they are introduced and produce no harmful working. And it is only when there is injected with them a proper food for their support that they can gain sufficient footing to produce their specific action.

Tappeiner<sup>5</sup> was unable to produce tuberculosis in dogs by feeding them on the sputa from tuberculous cavities, and concludes, therefore, that the gastric juice of the dog is in a condition to destroy the virus. He holds that it is probably the same with man, and that the air passages are the principal way by which the poison obtains access to the system. Portions of phthisical sputa being dried, mixed with the dust of the air, and then inhaled.

Orth<sup>6</sup> takes up the question of the relation of phthisis and tuberculosis. In the tuberculosis of animals

<sup>1</sup> Vide Boston Medical and Surgical Journal, vol. cv., p. 75.

<sup>2</sup> Centralblatt f. d. Med. Wissen., 1881, No. 15.

<sup>3</sup> Centralblatt f. d. Med. Wissen., 1882, No. 8.

<sup>4</sup> Centralblatt f. d. Med. Wissen., 1881, No. 18.

<sup>5</sup> Deutsches Arch. f. klin. Med. xxix, s. 595. Centralblatt, 1882, No. 6.

<sup>6</sup> Berl. klin. Wochen., 1881, No. 40. Centralblatt, 1882, No. 9.

produced either by feeding, inoculation, or inhalation, there occurs a diffuse cheesy affection especially in the lungs, which corresponds to certain forms of phthisis, especially in children. Since in men the military eruption in more than half of the cases is accompanied by phthisis of the lungs, and an outbreak of tubercles in the peritoneum and pleura is a marked consequence of phthisis, therefore the author is disposed to regard phthisis and tuberculosis as an aetiological unity. The separation of the inflammatory phthisis from the tuberculous phthisis, as urged by Virchow, is still to be preserved in its descriptive anatomical meaning; the aetiology of the process is, however, always the same. The author wishes to have the word "tuberculosis" laid one side, and the term, "scropholosis" employed in its stead. The nodules developed in the course of the disease are to be distinguished by the name of "scrophuloma."

#### CONTRIBUTIONS TO THE ANATOMY OF MILIARY TUBERCLE.

Arnold has made a series of studies upon the anatomy of tubercle occurring in the various organs commencing with the liver.<sup>1</sup> In this there are to be distinguished the miliary and larger conglomerated form. The latter have been considered for a long time as especially associated with the gall ducts. This was not only confirmed, but it was also shown that in most of the miliary tubercles as well, numerous and apparently new formed ducts were to be met with. The number of these canals varied greatly, in some tubercles there were but one or two, while in others they were very numerous, lying close together, tortuous in their course and sometimes branched. The epithelial character of the cells lining their walls, as well as their relations to the larger ducts into which they could at times be followed, left no doubt as to their nature. Besides these there were found liver cells either isolated or in rows lying amongst the lymphoid tissue in the periphery of the nodule.

The author is inclined to distinguish three varieties of miliary tubercle in the liver: First, those composed entirely of lymphoid tissue and having their seat in the sheaths of the small arteries and veins; second, those composed of the same tissue and situated in the walls of the gall ducts, while the peculiarity of the third variety consists in the presence of these newly formed canals. All three varieties may be found in the same case, so that their distinction is chiefly of anatomical interest. The third variety is also found in the liver in cases where there is simple cheesy degeneration or other degenerative processes in other organs, as well as in cases of general tuberculosis. The tendency to undergo a cheesy degeneration helps to distinguish these new ducts from those formed in the course of chronic interstitial inflammation.

Another change which these canals undergo ends in the production of giant cells. In some places the epithelium becomes loosened, forms an opaque mass, which finally disappears leaving only the fine connective tissue sheath. The ducts then assume an irregular form, the walls are unsymmetrically distended, or the canal unequally dilated and elongated in various directions. The whole process is closely allied to the cystic enlargement occurring in other glands. In other places the epithelium retains its polygonal form, or is flattened and elongated, becoming even spindle

shaped. The relation of these cells to the wall is peculiar. Here they clothe the surface equally, there they are heaped together at one point or pressed into the middle, while the contents of the tube forms a yellow, glistening, finely granular mass of gelatinous consistency. Thus appearances are produced similar to those seen in giant cells, and many of them are undoubtedly formed in this way.

Incidentally attention is called to the normal existence of small masses of lymphatic tissue in the connective tissue about the gall ducts. The author shows that the occurrence of lymphomata found in the liver after scarlatina, typhoid fever, measles, and various acute infectious processes must be dependent upon the existence of this, while the part which it takes in the tuberculous processes is probably of still greater importance.

*Tuberculosis of the Kidney.* — In his second article<sup>2</sup> Arnold takes up this subject. Tubercle occurs in the kidney in the miliary, submiliary, and larger forms, or occurs as an extended infiltration. It appears as an accompaniment of general acute tuberculosis, or it may be secondary to chronic affection of other organs, or as a direct continuance of the so-called local genito-urinary tuberculosis. The largest tubercles are found when the lung, or intestine, or genital tract is the primary seat of the disease.

In the miliary form, and in the periphery of the larger cheesy nodules, there is to be met with a new formation of tubes, singly or arranged in groups, looking like the urinary tubules, yet differing considerably from them.

They are narrower, have no lumen, and have several rows of cells, the nuclei of which take coloring matter strongly. They forcibly suggest the tubules found in an adenoma of the kidney, and their analogy with the new formed bile ducts, already described for the liver, is a very close one.

They also undergo a similar change. The cells at the periphery become flatter and elongated, and the lumen of the canal is filled with a finely granular, gelatinous material. The tubes may become dilated here and there, and assume irregular shapes, which, upon section, correspond to the appearance presented by many of the giant cells. The malpighian bodies, often found in the tubercles, also undergo a cheesy degeneration. The capillary loops first become indistinct, and finally disappear as do the cells lining the capsule, which are converted into a granular mass. These may also present the look of a giant cell. Finally the lymphatic tissue surrounding the capsule takes part in the metamorphosis, and the nodule becomes a uniform cheesy mass, with only a few lymphoid cells left in the periphery.

Some of the tubercles undergo a fibrous change. This begins in the lymphoid cells surrounding the tubules, which assume a spindle shape, with their long axes radiating from the opening of the tube, and separated from each other by a varying quantity of light, slightly striated material. At the same time the epithelium in the interior of the nodule is transformed into a granular mass and disappears as the change in the surrounding tissue advances. The tunica propria at last vanishes, and when this has taken place the whole nodule presents a uniform fibrous appearance. If the fibrous tissue in its advance presses unequally upon the tubules, portions of these are cut off and irregular

<sup>1</sup> Virchow's Archiv, Bd. 82, s. 377.

<sup>2</sup> Virchow's Archiv, Bd. 83, s. 239.

bodies are left looking like giant cells, and sending prolongations into the surrounding newly formed tissue.

The author wishes, however, to distinctly assert that he does not consider all giant cells, either in the liver or kidney, to be formed in this way, but will show when considering tuberculosis of the lymph glands in what other ways they may be produced.

*Tuberculosis of the Testicle.*—This has been investigated by Waldstein<sup>1</sup> in a series of cases furnished by the clinic at Heidelberg. As the result of his investigations it appears that the cheesy nodules, which are to be seen with the unaided eye, are formed by changes which have their seat either in the interstitial tissue in the interior of the canals or in the walls of the same.

In the connective tissue of the organ scattered infiltration of small cells is met with, occurring first about the vessels, especially at the nodal points where the branching takes place. This is distinguished from the early stage of a simple inflammation by its dispersed, circumscribed character. At the same time an infiltration and thickening of the wall of the canals takes place, which, however, may be independent of this. There is also often found a hyaline thickening of the wall, which, however, alone is not characteristic, as it appears equally in the walls of the small arteries in the other organs, and even in testicles where there is no suspicion of tuberculosis.

The changes in the interior of the canals can be shortly described by saying that the epithelium is either loosened from the wall, fatty degenerated, squeezed into the middle and atrophied, or the portion next the wall is alone changed, while the central cells become rolled together, and later metamorphosed into a so-called giant cell.

The existence of nodules has been made a point of great importance in the diagnosis of this disease, and they appear to be of two sorts. One composed entirely of round cells, and the other of larger and more epithelioid like cells, mingled with which are the ordinary round cells, and others of a more or less spindle shape. The diagnosis between tuberculosis and cheesy orchitis is not always clear, even when the clinical aspect of the case is considered.

*Tuberculosis of the Lymph Glands and Spleen.*—Arnold in his last article<sup>2</sup> gives the result of his investigation of material of ninety cases partly from autopsies, and partly from surgical operations.

He concludes that the tuberculous process begins in the lymph glands, as in other organs, with the nodular formation of granulation tissue, the cells of which assume later an epithelioid character, with the formation at the same time of multinuclear and giant cells. In the further course of the process there usually appears cheesy, more rarely hyaline or fibrous, degeneration. These three forms of degeneration can also occur in the inflammatory new formation without the previous epithelioid change. Therefore the author does not consider the reticulated tubercle with its epithelioid and giant cells as a particular form, but only a phase in its degeneration. Just as little does he believe that the development of the tubercle commences with the formation of a giant cell, as many have considered to be the case, and he adds his testimony to that of others against the diagnostic worth of the presence of these bodies.

In scrofulous glands, which are often regarded as simply tuberculous, Arnold found that in the commencement of the process an extended hyperplasia was present, while a new formation of nodules composed of small round cells could not be detected. Later there occurred, however, nodules of epithelioid cells, which subsequently became cheesy. The process extends over a greater portion of the gland from the commencement than in the case of tuberculosis. The epithelioid and giant cells are found in both equally, but in the tubercle they are generally confined to the nodules, while in the scrofulous glands they are everywhere equally distributed.

In regard to tuberculosis of the spleen there is no doubt but that it commences in the malpighian bodies as in the follicles of the lymph glands, and undergoes the same degenerations. It can also have its point of origin in the adventitia of the vessels, and more rarely in the pulp.

## Hospital Practice and Clinical Memoranda.

### A CASE OF PUERPERAL PERITONITIS.

SAMUEL AUG. FISK, M. D. (HARV.), PONCHA SPRINGS, COLORADO.

MRS. M., an American, twenty-four years old, was confined with her third child, a girl, head presenting, early in the evening of Saturday, February 4th. She was attended by a midwife. The labor was easy and rapid, lasting only about three quarters of an hour. The after-birth came away almost immediately, without any interference from the midwife. The placenta and membranes were said to be whole, and there was not any excessive bleeding. The midwife left in a couple of hours after the labor and Mrs. M. slept the night through.

Mr. M says his wife suffered a slight laceration of the perineum at the time of her first labor. It must have been very slight, for the perineum is now intact. Previous to this labor she had been constipated, but was in good general condition. She found, however, that she did not rest well at night if she ate any supper.

Sunday, February 5th. She was bathed early in the morning and her clothes were changed, and as nearly as I can learn was exposed to the cold while bathing, by the opening and shutting of doors into cold rooms. Her diet was toast and tea, of which she partook heartily. She rested quietly all day, and the child was put to the breasts, as in fact it had been the previous night.

Monday, February 6th. Diet, toast and tea, some California canned cherries, also some canned cove oysters (Field's brand). Nursed the child. P. M. crampy pains in abdomen.

Tuesday, February 7th. I was called at 3.30 A. M. and found the patient suffering from intense pain in the abdomen. Abdomen somewhat enlarged and tender to pressure, especially in the iliac fossae. Pulse full and rapid, and respirations rapid. R. Squibbs' tr. opit comp. (diarrhoea mixture) c. e. iv. Sinapisms and hot fomentations locally. Pain was relieved, and she went to sleep. At eleven A. M., she was given an enema of soap-suds, and a considerable mass of hard, dark faeces came away. Her bowels moved twice that

<sup>1</sup> Virchow's Archiv, Bd. 85, s. 397.

<sup>2</sup> Virchow's Archiv, Bd. 88, s. 111.

day, and once the day following. This eased her. She complained of sore nipples from the child's sucking. No cracks visible. The milk came on this day, and her lochia were abundant and not offensive.

Wednesday, February 8th. She was bathed. At noon she ate a third of a can of oysters. All this without my knowledge. Nursed her baby all night.

Thursday, February 9th. About one A. M. pains returned, but not so severely as on Tuesday A. M. Mr. M. put mustard plasters and hot cloths on her abdomen, and it eased her so that she went to sleep. I was called in, a second time, at nine A. M. Found pulse 145; temperature 103.5° F.; respiration 42. Respirations thoracic. Abdomen swollen, tympanitic, and tender to pressure especially over the pubes and iliac fossae. Milk present, and she nursed her child all through the day. Lochia present and not offensive. R. Quinine sulph. (in sol.) 95 gm. every three hours. Flaxseed poultices over abdomen and changed repeatedly. Also gave a vaginal injection qts. iii. warm water with three teaspoonful sat. sol. of carbolic acid. Diet: milk, ice, whiskey. Afternoon. Ringing in ears. Temperature 101.2° F.; pulse 130; respiration 26. Lochia present and normal. Milk still present.

Friday, February 10th. About one A. M. pains returned, and her husband put on mustard plasters and hot cloths. About four A. M. they gave a vaginal injection as it had eased her so much the day before, but it gave no relief this time. Her tongue became stiff, chin dropped, and she gasped for breath. She was rubbed with whiskey and camphor. I was called again at 5.30 A. M. and found her very low; pulse 132 and thin; temperature 105° F.; respiration 45 and shallow. R. Spts. camphor, gtt. x., and whiskey in teaspoonful doses repeatedly. Sinapisms to abdomen. Also Squibbs' mixture c. c. iv. Ten A. M. I had a consultation with Dr. C. B. Underhill (Harv.) of Salida. And had Mr. M. telegraph for her parents to come from Kansas.

*Consultation. Results.* — Lacerated cervix uteri. Tender spot (on pressure) on anterior vaginal wall in front of cervix. Abdomen greatly swollen. Tympanites. Tenderness on slight pressure over pubes and iliac fossae. Respiration thoracic. Pulse rapid, thin, and shreddy. Temperature, as earlier in the morning. Respirations shallow and rapid. Milk stopped. Lochia present, but scanty, not offensive. Legs extended; not flexed. Prognosis. Death within twenty-four hours. We ordered: Poultices for abdomen, to be changed repeatedly. Vaginal injection with carbolic acid. R. Quinine sulph. .13 and morphia sulph. .008 in wafers every two hours. At twelve noon she had a fainting turn; I was called in and exhibited spts. camphor, and whiskey freely.

Afternoon, five P. M. Pulse 132; temperature 104.8° F.; respiration 26. Gave a vaginal injection. I stopped the administration of morphia as directed. I watched with her that night, giving milk and whiskey. Poultices were changed frequently. I gave a causet of quinine .13 and morphia .008 at eleven o'clock, and another at three A. M. She slept quietly. Respirations were in series of three at a time. The first long, the other two rapid and shallow, and the interval between the series was seven seconds (Cheyne-Stokes?).

Saturday, February 11th. Pulse 132; temperature 103.4° F.; respiration 18. She was feeling so well that we changed her clothes throughout taking care to

have the room warm. Milk returned in abundance. Lochia still present and normal in odor. I drew the urine with a catheter, and gave a vaginal injection with carbolic and warm water (about 105° F.). Diet, milk; but the doses of whiskey had to be moderated as they flushed her and affected her head. Afternoon, 4.30 P. M. Pulse 132; temperature 102.5°; respiration 24. The milk was still present. Abdomen still swollen and tympanitic, and the tenderness was extending upwards especially on the right side; she spoke of slight pain under her ribs on the right side. She had not had any morphia since three A. M. The quinine had been continued. I was called out of town, and gave directions to give a powder of morphia if the pain became sharp. They gave morphia sulph. .008 at five and again at seven P. M., and at one time put the raw mustard directly on the skin. When they took it off, the skin came with it, but she did not feel it. At ten P. M. I returned. Found the pulse thin and shreddy, the respirations shallow and frequent, carphologia. She was in great pain. Morphia sulph. .008, and again at eleven o'clock. Also sinapisms. Pain relieved. Pupils only moderately contracted. She went to sleep. I watched with her again that night. Administered milk and whiskey freely, arousing her to give them. The respirations as on the previous night but much weaker. She grew steadily worse, and it became very difficult to arouse her to take stimulants. Pupils were only moderately contracted, and her respirations were twenty-four to the minute.

Sunday, February 12th, 2.30 A. M. She could not swallow any more. Pulse stopped at the wrist. The head was thrown back. Respirations were forced. The eyes became fixed. The chin dropped. The cheeks were sunken. Tongue was stiff and dry, and heavily coated, and her respirations came with a rattle. She was unconscious, and could be aroused only momentarily by the piercing, beseeching cries of her husband. Involuntary micturition. I administered in succession three syringes full of ether hypodermically, and followed them by repeated subcutaneous injections of whiskey. Her arms were rubbed with whiskey, and hot bottles were put to her feet. Her pulse came up and the respirations were restored. She then remained in an unconscious stupor from four until eight A. M. 7.30 A. M. Temperature 106.7° F. (in axilla); respiration 30, and heavy; pulse 132, moderately full, mild delirium and nervous twitchings. With her husband's consent I put on wet packs, and changed frequently. In about three quarters of an hour the temperature fell to 102.2° F. The respirations became easy and the pulse full. Spirits frumenti by enema. Mrs. M. went into a gentle sleep. The diet was milk iced, and I ordered whiskey as much as she could bear. Five P. M. Pulse 132; temperature 101.5° F.; respiration 20. I again put on a wet sheet as the respirations were becoming heavy. It eased her very much. I again watched with her. Respirations as on previous nights. She rested quietly without any opiate, and from this time on I gave up the administration of morphia. Milk and whiskey were administered frequently. She rested quietly, excepting that she became uneasy, and her vitality seemed less, about two A. M., as occurred every night I watched with her.

Monday, February 13th, nine A. M. Pulse 156; temperature 102.8° F.; respiration 32. Diet had been milk, and whiskey had been administered. R. Veratrum viride (Norwood's tincture) twenty drops, also quinine

sulphatis .13 in wafer. 12.30, noon. She began vomiting, and the vomiting lasted for three hours. She must have vomited between a pint and a quart of coffee-ground mucus, and in it was the pellet of quinine undigested. Five p. m. Pulse 86; temperature 101.2° F.; respiration 20. Greatly prostrated. Abdomen lax and non-tympanitic. Gave an enema of whiskey. I again watched through the night with her. No medicine administered, but I gave her a little whiskey by the mouth, and one enema of beef tea about midnight and another at seven a. m.

Tuesday, February 14th, nine a. m. Pulse 130; temperature 102° F.; respiration 30. She had spent a quiet night and rested well. Her parents had come, and she was allowed to see them. Abdomen lax, non-tympanitic, and not tender to pressure. On account of the sensitiveness of her stomach quinine was not given through the day. Milk was given cautiously and only in small quantities. R̄ Veratrum viride gr. v. at eleven o'clock and again at five p. m. This last nauseated her. Five p. m. Pulse 138; temperature 104° F.; respiration 36. That night her husband said that Mrs. M. was delicious, and at three a. m. she was given R̄ Morphia sulph. .008. That afternoon she had a voluntary defecation, soft and natural in color.

Wednesday, February 15th, nine a. m. Temperature 103° F.; pulse 150; respiration 35. I stopped the administration of beef tea, because I found that it flushed her and acted too much like a stimulant. I was giving very little whiskey and no quinine. She took milk well. She was feeling nicely, and she had her clothing changed. Found a bed-sore over her sacrum.

Friday, February 17th, nine a. m. Pulse 120; temperature 102° F.; respiration 28. No cough; no pain referable to her chest. The right cheek was flushed.

*Physical Examination.*—Percussion showed dullness on her right back from the spinal column around into the axilla and downwards from the end of the scapula on the back to the fourth rib in the axilla and the fourth intercostal space in the mammary line. There was a flat spot in the axilla about at the fifth rib.

*Auscultation.*—Occasional moist râles near the spinal column. A friction sound at the seat of flatness. Occasional sibilant râles over the area of dullness, and over the area of flatness bronchial breathing.

I ordered flaxseed poultices to the chest, to be changed repeatedly. I also resumed the administration of quinine .065 every two hours. Whiskey to be pushed, and a milk diet. Five p. m. Pulse 126; temperature 102.5° F.; respiration 30. She has not had any cough nor any pain in her chest.

Saturday, February 18th, nine a. m. She had spent a quiet night. Area of dullness about as yesterday, except that the area of flatness extended more forwards towards the mammary line. Auscultation as on previous morning.

She was taking milk well and relished it. She was lying on the right side partly to ease the respirations, and partly because of the bed-sore over sacrum. Five p. m. Temperature 103.5° F.; respiration 26; pulse 126. In a stupor. Ten p. m. She had had a peaceful sleep and awoke feeling bright. She spoke especially of her refreshing sleep.

Sunday, February 19th, nine a. m. Temperature 101.5° F.; pulse 142; respiration 36. She was feeling

decidedly better. She complained of pain in right side on breathing.

*Physical Examination.*—Showed less dullness along spinal column and the breathing becoming vesicular. Friction sound as above, and fine moist râles all over the lower back. Breathing less bronchial than yesterday.

Monday, February 20th. Poultices on back and chest. Area of dullness diminishing in the back from the spinal column forwards, but the area of flatness increasing forwards in mammary line under fourth intercostal space and down to liver flatness. Friction sound as above, respiration clearer along the back, especially near the spinal column, *crepitations redue* in the back and axilla. She spoke of a tingling sensation over whole body.

*Analysis of Urine.*—Color normal. Specific gravity 1018. Reaction slightly acid. Urea greatly increased. (Crystals of nitrate of urea formed almost immediately, and, in testing for albumen, crystals formed a layer at point of contact with acid.) Albumen a very slight trace. Chlorides slightly diminished. Sediment abundant and cloudy. It contained amorphous urates in abundance. Frequent pus corpuscles. Circular and pavement epithelium, separate cells and in clusters (vaginal), mucus, shreds, and casts.

Five p. m. She has been taking milk freely through the day. Tongue clearing up. I noticed fine milary vesicles over chest, back, and abdomen. Pulse 120; temperature 100° F.; respiration 28.

Wednesday, March 1st. Pulse 120; temperature 99.5° F.; respiration 24 and easy. She is eating well, feels well, except that the bed-sore has suppurated and troubles her. I have had poultices applied to it for several days. She sits up for a while every day, and has been doing so since Sunday. No pain on respiration, but she coughs a very little. Expectoration is a light mucus.

*Physical Examination.*—Shows percussion normal except in a limited area in axilla which is very slightly dull. No râles are elicited even on forced inspiration and with cough. Respiration vesicular, but slightly suppressed in axilla. Abdomen lax and normal. No tenderness on pressure. Vaginal examination showed that the cervix uteri was normal in size and hard. A slight lateral laceration to the right. No tenderness on pressure anywhere in vagina.

There is no milk in the breasts. Child is doing well on cow's milk and water, half and half.

*Remarks.*—In reporting this, the first and only case of puerperal fever that I have ever treated, I am conscious that I am laying myself open to criticism in regard to my treatment. For instance, intra-uterine injections, which are considered almost a *sine qua non* in the treatment of this class of cases, were not employed here, and most of my professional brethren will have suggestions of methods which might have been employed. My reply to objections must be that I find it impracticable, in this small town in the heart of the Rocky Mountains, to do many things in my practice which would be considered essential in the East; that, further, as Horace puts it, "*Nam vitis nemo sine nascitur*," and, finally, that my patient has made a good recovery from an unusually severe and protracted sickness.

This case was autogenetic. There was no possible source of contagion that I can learn of. There have not been any other cases in town, nor, in fact, have



there been any of the zymotic diseases recently. The house is cleanly, and is situated on high and dry ground; further, the woman is very cleanly in her habits. Whether the origin, in this case, was due to septic absorption through a lacerated cervix uteri, or whether it was due to her bathing in a room where doors were open to the cold, the day following her confinement, it is difficult to tell.

I found that the administration of beef tea was followed by flushing of the face, an increase in strength and rapidity of the pulse beat, and I therefore stopped it. Since then my attention has been called to the article of Mr. Mastermann, in the *Lancet* for October, 1880, and also to that of Dr. Neale in the *Practitioner* (November, 1881), in which they show that beef tea has an analysis similar to urine, and that it is a stimulant and not a food.

I cannot but feel that Mrs. M.'s life was saved (Sunday, February 12th) by the frequent hypodermic injections of ether and whiskey on the one hand, and by the wet pack on the other, when her temperature (in axilla) was 106.7° F.

The relaxation of her abdomen, and the disappearance of the tympanites, dated from her vomiting spell on Monday, February 13th, and although greatly prostrated by it, she soon rallied and improved from that time.

The pneumonia and localized pleurisy were discovered not through any subjective symptoms, but because I was apprehensive that they might exist.

## TWO CASES OF CHRONIC OTORRHOEA

PRODUCING CARIES OF PETROUS PORTION OF TEMPORAL BONE, ONE WITH CEREBRAL ABSCESS, THE OTHER WITH GENERAL MENINGEAL INFLAMMATION AND MENINGEAL ABSCESSES.

BY JAMES L. QUINN, M. D., EATON, OHIO.

ON November 27, 1879, F. C. came to my office for treatment for chronic otorrhœa. He was a young man aged nineteen years, of fair physical development, but his mother had died of consumption, and his father was at this time suffering from the same disease, and died from it in a few months. The otorrhœa in the case of Mr. C. had lasted from childhood, and dated back to an attack of scarlatina. When he presented himself to me for treatment the most marked symptom was a very offensive discharge from right ear with almost total deafness on the same side. No considerable pain, except at times when abscesses would form in the ear, and at these times the chronic discharge would cease until the abscess would break. The pus would be thick for a few days, and then become thin and offensive again. The odor was so great that the room where he slept would be full of it in the morning. He had had occasional treatment, but it was never persisted in until much benefit was obtained. The offensive discharge had been thus for about three years. On examination could detect an ulcer in the soft parts, situated in the upper and anterior wall of the external auditory canal. The drum of the ear appeared to be sound, and no air passed through it on inflating the internal ear through the Eustachian catheter. Prescribed for him

|                         |     |
|-------------------------|-----|
| R. Atropia sulph., grs. | iv. |
| Acid carbol., gttss.    | x.  |
| Aq.                     | 3ij |

The ear to be washed out with a syringe and warm water three or four times a day, and a few drops of the above solution dropped in. Gave him no constitutional treatment. In addition, I syringed the ear myself three times a week, and inflated the internal ear. This treatment was continued about three or four weeks, when I added ten grains of nitrate of silver to the above solution, and went on with treatment same as before until the end of two months, when I had the satisfaction of seeing that the discharge itself was much lessened in quantity and no longer offensive; his hearing had been improved from three inches to three feet in hearing the tick of a watch. I was very much encouraged, thinking that I would soon be able to discharge my patient, if not entirely cured at least so much improved that he would have little further trouble from his infirmity. About this time, however, he discontinued attendance, and I did not see him for two weeks, when he returned with the disease aggravated from taking cold while skating. Abscesses had formed again, and the old offensive discharge was re-established, and this time it resisted treatment, and, on account of the serious illness of his father, he did not come very regularly to my office.

On March 25, 1880, I was called to visit him, and found him suffering from severe pain in the right side of head and right ear; there was no fever, and the pulse was normal. I supposed he was suffering from an attack of neuralgia, and prescribed for him two grains of quinia every four hours, fully expecting in the morning to find him much improved, but, contrary to my expectations, he was no better, but having no especial reason to change my mind in regard to the diagnosis I continued the treatment, and gave him a small dose of calomel at night which operated very freely next morning, but still no improvement in head symptoms. His temperature was from half to three fourths of a degree below normal and pulse 60, sometimes falling to 50 per minute, but in other respects normal, tongue heavily coated brown; no appetite, and could not sleep on account of pain, which was located in right temporal region. Pupils normal, and respond readily to light. The pain in head gradually extended from temporal region to vertex, and was very severe. I now gave him tincture of acouite, and blistered the back of the neck, and both before and behind the ear, but without any relief to suffering. The offensive discharge from ear continued all the time, except for about twenty-four hours, when it again started up as profuse as ever. Nitrate of amyl was tried for the pain in head, but seemed to aggravate it, and it was discontinued. I put him on iodide of potassium which was continued until death, but at no time did I have much hopes after the tenth day of the disease of benefiting him by treatment. After the second week I was obliged to give morphine at night in order to procure any sleep, and only when under its influence did the temperature and pulse go above the normal condition except on the last day, and then, though he had had no morphine for forty-eight hours, his condition was as follows: Pulse 86; temperature 100° F; respiration 24. Partially comatose, but can be aroused sufficiently to attempt to protrude his tongue, which is covered with a slimy secretion and red at tip. Secretions collect in throat and are swallowed. Some paral-

ysis of muscles of deglutition. Pus appears to pass down Eustachian tube into throat and has caused some pharyngeal inflammation. Pupils neither contracted or dilated, but do not respond to light. No paralysis of muscles of tongue nor of the extremities, but extreme weakness has existed for a week. Speech has been defective for some days, and this morning he was unable to articulate intelligibly, though he could hear and understand what was said to him, and made effort to answer. I had diagnosed disease of brain, arising from caries of temporal bone, which was verified by the autopsy, which was made on April 14th, the day after he died. At the autopsy were present Drs. Stephens, Welsh, Small, Bruce, Campbell, Michael, and myself.

On removing calvarium we found a large abscess situated in the middle lobe of right hemisphere of cerebrum, a thin layer of brain tissue intervening between the pus and bone, which ruptured. The abscess contained two ounces of pus, thick, dirty, and extremely offensive. The lower part of abscess lay on the petrous portion of temporal bone, in which there was a carious perforation one quarter of an inch in diameter over the semicircular canals; and external to this were several patches of blackened, diseased bone. The mastoid cells were also diseased, and carious bone was found in them. The abscess seemed to connect with the large carious opening, and probably discharged some of its pus through it and into the throat. The arachnoid contained a much larger amount of serum than normal. No special congestion and no inflammation of membranes of brain.

CASE II. Was called on April 4, 1880, to visit Alice W. She was about twenty-two years old, and had suffered since childhood from trouble with her ears, sometimes one and sometimes the other giving her the most pain, but for three years the right ear had been principally affected, and this with a chronic, offensive discharge, thin, and watery in character. This, as in the first case, dated from an attack of scarlatina. The discharge was so offensive that the whole room was full of it. It was sickening on coming close to patient, and was so profuse that the pillow on which she lay was saturated. When I first saw her she was complaining of pain in right ear and in temporal region. Some vertigo, tongue coated and dry, no appetite, bowels not moved for some days; pulse 90; temperature slightly above normal. Gave her hyd. sub. mur. five grains, hyd. cum creta, ten grains, at bed-time, which moved her bowels freely next morning. I then gave her quinia sulph., two grains every four hours, and aconite, five drops every four hours; I also prescribed atropine, same as in first case, to be dropped in her ear four or five times a day. I omitted the nitrate of silver. The first prescription was discontinued at the end of first week, as it did not appear to be of any benefit whatever. I then gave her bromide of potassium in ten grain doses, with no better result. Blisters were applied on neck and behind the ear, and kept discharging freely. At the end of ten days the heat of body had increased very much, but she was so restless that it was impossible to get the temperature. The pulse ran up to 120, and there was violent delirium, with loss of ability to articulate intelligibly. I now put her on ergot, thirty drops, tincture of aconite, five drops, every four hours, under which she began improving slightly, in some respects at least. She regained, to some extent, her ability to articulate words, but only a few short ones, and she was never

entirely conscious at any time after delirium first set in. There was partial paralysis of right arm, but no change in facial muscles, or in pupils. Her delirium was so violent at this time that it was almost impossible to keep her in bed, and she required constant watching, and required some one to be continually pressing with the hands on top of the head, to which point the pain had gradually extended by the end of a week, and in ten days to the back of head. There was also decided opisthotonos, her head being thrown back between the shoulders; when she turned on her back she appeared to touch the bed only with her heels and back of head.

She died on the 18th of April, fourteen days after I first saw her. During the forty-eight hours previous to death the ear appeared to be discharging through the Eustachian tube, as she spit up pus, and there was some inflammation also of pharyngeal mucous membrane. The right ear also discharged all the time freely, externally.

Autopsy made eighteen hours after death. Present, Drs. Small, Bruce, Michael, Campbell, and myself. On sawing through the bone a large amount of blood escaped, and we found on removing calvarium that it was from a remarkably congested condition of the meningeal vessels. There was also a general meningeal inflammation. As we removed the brain found an abscess situated near the apex of petrous portion of temporal bone, and extending backwards to the medulla. The abscess was in the meninges. There were several other small abscesses at other points in the membranes. There was also a carious opening in the petrous bone, communicating with internal ear; the disease in the bone corresponded to the point where the large abscess began. Cut down into the bone and found carious condition of bone in semicircular canals and in mastoid cells.

These two cases have been of much interest to me on account of their intimate connection and dependence on chronic disease of the ear. In a country practice we do not often meet with such, and more rarely have opportunity to verify by post-mortem examination the exact condition of the temporal bone after a long-continued chronic otorrhea. The disease of the bone and consequent disease of membranes and of the brain itself, are only part of the dangers of allowing otorrhea to run on without treatment, hoping for a spontaneous cure, or, as it is frequently spoken of in the country, expecting the child to outgrow the disease. No doubt many of the simple diseases of the external auditory canal do head spontaneously; but many that finally result in permanent deafness might have been cured in their early stages by judicious and persistent treatment, the hearing restored, and perhaps lives saved. In the first of these cases I was reasonably well satisfied that there was caries of the temporal bone, but the exact location and extent I was not able to determine, but the fetid discharge, unaccompanied with perforation of the tympanum, left no doubt of the diseased bone. But at one time there was so much improvement that I felt in good hopes that the injury was limited, and would eventually be healed. I was disappointed, and the post-mortem showed injuries that it was impossible to treat to a favorable termination. In the second case I had never prescribed until she was taken down with the acute symptoms. I never examined her ear carefully, as no opportunity offered for me to do so; and I did not know whether the drum was perforated

or not. I was guided entirely by the history of the case given me by the patient herself and by her mother. I leave the cases without further comment, as the report was necessarily long, and too much space has already been occupied.

## New Instruments.

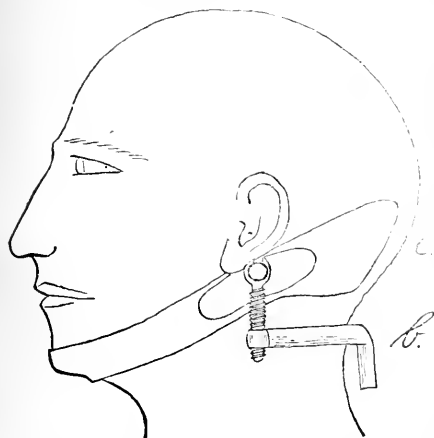
### A HEAD SUPPORTER.

BY C. E. WEBSTER, STUDENT OF MEDICINE.

It is often necessary in surgical practice either to entirely remove the weight of the head from the spinal column, as in caries of the vertebra, or to restore and maintain it in a normal position, as in conditions dependent on abnormal muscular action. For these purposes various contrivances have been used. The Taylor head supporter and its modifications and Sayre's jury-mast are perhaps the best known and most typical. All are open to some objection. They may annoy the patient by being very conspicuous and awkward. They may be painful to wear, may hold the head in a constrained position, restrict to an unnecessary degree its freedom of motion, or afford insufficient support.

The apparatus herein described was made by the writer with the view of obviating as far as possible these disadvantages. The necessity for complete support of the head was never lost sight of. The next object considered was the comfort of the patient. The apparatus is not cumbersome or very conspicuous, is easily removed, perfectly fitting, and permits great freedom of motion.

It consists of two parts, *a* and *b* of the cut. The



part *a* may be made of copper, steel, or vulcanized rubber. Copper from one thirtieth to one twenty-fifth of an inch in thickness is about the most convenient material. A plaster cast should be taken of the lower part of the head, and the sheet copper hammered or swedged to fit the cast. *It must fit perfectly*, in order that the pressure may be as uniformly distributed as possible. This head-piece should be tinned or silvered on the inside to prevent corrosion, and lined with thin

felt or flannel to protect the skin from the uncomfortable chill of the metal and facilitate the evaporation of perspiration. To still more facilitate evaporation the metal may be perforated with numerous fine holes. It should be stiffened by a boss opposite each mastoid process. In this same region should be soldered turned brass studs. These serve for its articulation with the next part of the apparatus. The axes of these studs should be in a line passing through the centres of the occipital condyles. The points of the mastoid processes are about in this line, and serve as valuable landmarks. In some heads this axis is not parallel to the transverse axis of the body, but greatly rotated to one side or the other. *If the studs are exactly on the axis of the condyles* the head can swing backward and forward with freedom, and yet the weight will be perfectly supported during all phases of the motion.

The necks of the studs fit into open bearings in the tops of vertical screws passing through the ends of a semicircle of iron rod which forms the next part of the apparatus. This arc of iron, marked *b* in the cut, presents at the centre of its length a short dependent stem which serves for its articulation with any suitable supporter made to rest either upon the shoulders or hips, according to the location and nature of the disease. By means of this latter articulation considerable lateral motion of the head is permitted. In some cases the lateral motion cannot be allowed; then the stem and the socket into which it fits can be cut square or triangular.

It is best to have a separable joint at this point, as it is often convenient for the patient to entirely remove the head supporter. The part *a* can be lifted out of its bearings and drawn forward. The opening at the back may be from two to three inches in width. The spring of the metal, and atrophy of the muscles of the neck, occurring in most patients, permits it to be quite narrow. After the removal of *a*, *b* can be lifted out of its socket.

This head supporter can be used with any spinal apparatus, a Taylor brace, a felt or plaster splint, or it can be attached to some suitable base improvised to meet the requirements of a particular case.

Its most novel feature is the articulation, which permits the free nodding motion of the head. This is a great convenience to the patient, and if the centres of the studs are accurately located could be permitted in every case except caries of the upper cervical vertebrae; perhaps in every case except where the occipito-atloid articulation was involved. The lateral motion is dependent upon the twisting of the cervical vertebrae about the axis of *b*, and can be employed when they are free from disease. It could perhaps be permitted in some cases of wry neck.

The apparatus has been used since 1878 in a case of Pott's disease located in the dorsal region, and has given good results. In cheapness and ease of construction it cannot compare with many forms of apparatus, particularly Sayre's jury-mast; but for patients who can afford it, and who require protracted treatment, it will be found a serviceable instrument. The minor details of construction vary with each case, and success depends largely upon the skill of the mechanic.

— Sir John Rose Cormack, Surgeon to the Hertford Hospital in Paris, is dead at the age of sixty-seven years.

## Reports of Societies.

### NEW YORK ACADEMY OF MEDICINE.

#### DISCUSSION ON BRIGHT'S DISEASE.

At a stated meeting of the Academy, held May 4th, Dr. J. G. ADAMS read an interesting memoir of the late Dr. James O. Pond, who died in February, 1881, at the advanced age of ninety. Dr. Pond was elected treasurer of the Academy in 1848, two years after the organization of the society, and served in that capacity for twenty-nine years, when the increasing infirmities of age compelled him to resign the position. At the conclusion of his paper Dr. Adams presented a portrait of Dr. Pond on behalf of his family, a number of whom were present on the occasion, and the president, Dr. Forlyce Barker, received it for the Academy with a brief eulogistic address.

The special order of the evening was then taken up, namely, an adjourned discussion on Bright's disease, suggested by a paper read before the Academy by Dr. T. A. McBride on the early diagnosis of this affection. The chair announced that the discussion would not be limited to the points treated of in Dr. McBride's paper, but would include the whole subject of Bright's disease, and then introduced Dr. William H. Draper as the first speaker.

DR. DRAPER, in opening, remarked that it was certainly a tribute to the genius of Bright, as well as a token of the slow progress which medical science makes, that the name Bright's disease was still retained to designate the various forms of renal disease. After alluding to the variety and importance of Bright's labors in this field, Dr. Draper said that he presumed that Dr. McBride in his paper referred exclusively to that insidious form in which there was but little, and possibly no, albumen in the urine and rarely any dropsy, and which was associated with granular contracted kidney and its correlated hypertrophied heart and atheromatous arteries. In the course of this affection he believed that diffused inflammation of the kidneys was liable to occur occasionally, and this, he thought, might perhaps explain the mixed symptoms which were observed in certain patients suffering from it. There was no doubt at the present day, however, of the essential entity of the granular kidney, with its insidious and often long-protracted clinical history.

In the discussion of this subject he thought it the utmost importance that the chief factors in the etiology of the disease should be carefully considered. The first of these he regarded as *heredity*, and the history of constitutional tendency in it, he said, was not less remarkable than that in glycosuria. Thus, Dickinson related one instance in which it occurred in three successive generations of a family. In connection with this point it was interesting to consider also the troubles belonging to the circulatory system which were so commonly met with in granular kidney. The next factor to demand attention in the etiology was the existence of the *gouty element*, whether hereditary or acquired, in regard to which there was now quite a general unanimity of the best authorities. The late Dr. Todd, in a lecture delivered in 1846, was the first to call attention to the atrophied kidney, and in the course of it he related the history of six cases of this form of disease associated with gouty diathesis. Some observers, however, regarded the kidney trouble as a coincidence rather than as the result of this diathesis, and

Dr. Draper then mentioned the opinions of Dickinson, Granger Stuart, Garraud, and other authorities in regard to the connection between the two. In considering this subject he believed that it was not enough to look merely at arthritic trouble as an evidence of the gouty diathesis, since he thought this was but one of its many manifestations in the system, and that it was beyond doubt a constitutional disease. The third factor was *senility*. The history of the affection showed that it was extremely rare under the age of twenty, and that it occurred most frequently between the ages of forty and sixty. Senility, however, was not due merely to age, but to the declining process in the system, and in some individuals, where it was induced by heredity or the wear and tear of life, the signs of premature old age were observed even in early youth. This seemed to prove conclusively that the granular condition of the kidney was only one part of a general process. In other words, the disease was not a local, but a general, one. The vascular changes, including hypertrophy of the heart, with or without valvular disease, he went on to say, did not escape the observation of Bright, and he then quoted from the latter to show his views concerning the correlation of vascular and renal disease. Bright, it was true, he continued, regarded the circulatory trouble as the result of the renal; but this opinion unquestionably led to the modern idea that they both have a common origin in a blood dyscrasia.

The claim made by Dr. McBride that there was a functional or formative stage of kidney disease, which might exist for many years before the full development of organic trouble, had been confirmed by many observers. The ordinary signs of the disease, as a rule, were not found until irretrievable damage had been done, and hence it was of great importance to recognize the evidences of the functional stage if possible. Among the latter Dr. McBride laid great stress upon pulse-tension; but it was not to be forgotten that this was liable to occur occasionally in functional trouble where the kidney was unaffected. Another point made by Dr. McBride was the existence of a high specific gravity in the urine, which was not affected by any measures employed to reduce it. This, however, was a very common symptom, due to a variety of causes, and he thought a greater number of cases were necessary to substantiate this sign. Its persistence, no doubt, constituted its chief value; but if it was persistent the questions arose, had not the disease already obtained a firm foot-hold, and was not this as indicative of organic trouble as persistent albuminuria? After all, Dr. Draper continued, was not the question of early diagnosis merely one of diagnosis of the conditions he had mentioned, — heredity, gout, and the atrophic changes of premature senility? These might, indeed, lead us to suspect the presence of formative cirrhotic kidney; but when there were persistent high specific gravity, cardiac hypertrophy, marked vascular tension, etc., was not the disease already formed?

DR. BARKER stated that twenty-two years ago there had been a long and interesting discussion on Bright's disease before the Academy, and that it was highly gratifying to note the great progress that had been made in pathological investigation since then. He could not but regret, however, that the therapeutics of the subject had not advanced in a commensurate degree. He hoped that this matter of therapeutics would not be neglected in the discussion which was to follow, as it was certainly a matter of great importance, and

in connection with it he would take the liberty of suggesting a point in regard to the therapeutic value of digitalis, and the discrimination of cases where it would be beneficial from those in which it was contra-indicated.

DR. ANDREW H. SMITH said in regard to the use of digitalis he believed that Fothergill was correct in his statement that it acted as a diuretic chiefly in those cases where it increased arterial tension. In regard to the general treatment of Bright's disease he said he had been much pleased with the results which he had obtained from the use of the milk diet. He also had faith in the value of oxygen (which promoted oxidation and diminished the quantity of uric acid), and always advised that his patients should be out in the air as much as possible. In this connection he would like to inquire if gouty subjects who took a good deal of outdoor exercise, like the English country gentlemen, were as liable to disease of the kidneys as those who led sedentary lives.

DR. S. O. VANDERPOEL alluded to a paper recently read before the Academy on Albuminuria in Adolescence (which had also been mentioned by Dr. Draper), in which the writer, Dr. Kinnicutt, claimed that this was due to three causes: (1) diminished arterial tension; (2) lithemic conditions; and (3) vaso-motor disturbances. In regard to the last two he said he was not convinced, because he had seen many cases of temporary albuminuria without the presence of either lithemia or vaso-motor paralysis. In regard to the first he had no doubt whatever, and he believed that a state of low arterial pressure, with more or less resulting venous stasis, always preceded the presence of albumen in the urine. He mentioned a variety of conditions in which he had noticed this, and then stated that it was hardly necessary to seek beyond the one cause, as it seemed to be so universally present. Dr. Vanderpoel went on to say that he heartily agreed with Dr. Draper in most of his conclusions, but he wished to protest against a misnomer which had already been far too long in use. What was known as red granular kidney was not at all a disease of the kidney, but was a strictly diathetic disease in which the whole system was implicated, and of which the interstitial changes in the kidney constituted only one factor. The atheromatous condition of the arteries he had generally supposed to precede the other signs, and he thought that the trouble in the heart began as early as that in the kidney. When there was found to be high arterial tension, he believed that the disease was present *de facto*, and it was a fact that patients rarely applied for treatment until they began to suffer from some of the secondary accidents of the affection, such as polyuria, epistaxis, or diarrhoea. This diathetic condition was most apt to occur in individuals of sedentary habits who indulged in high living or alcoholic stimulus; and the sooner the profession discarded the name of Bright's disease, in connection with the granular kidney, the better he believed it would be for medical science. As to the use of digitalis in this affection, he thought it was rarely applicable until the later stages, when the arterial tension had diminished and dilatation had supervened upon hypertrophy of the heart; for if it were employed while the tension continued high it would only do injury instead of being beneficial.

DR. KINNICUTT said that he did not mean to claim that the causes mentioned in his paper would cover all cases of temporary albuminuria, but that one or more of

them was found to be present in a certain number of the cases. In the affection under discussion this evening there were some cardinal points, such as polyuria, albuminuria, increased arterial tension, cardiac hypertrophy, certain changes in the *fundus oculi*, and the presence of hyaline casts in the urine, one or more of which he believed could be discovered in all cases. On this occasion he wished to call special attention to the significance of hyaline casts. It had been the tendency of many of the English writers, under the leadership of Dr. George Johnson, to underrate the importance of this pathological sign; but the best observers of the present day view the matter in a different light, and there was no doubt in his own mind that these casts represented a process of diminished intensity. Their presence, in connection especially with increased arterial tension, he thought, was of great significance, and was often perhaps an indication of that functional stage which was now so generally recognized. In many cases of lithemia he believed hyaline casts to exist, although they might be found only in small numbers. Polyuria, also, he considered a very early and important sign, and thought that enough attention was not generally paid to it by practitioners. As patients were rarely apt to speak of it themselves, careful inquiry was usually necessary to ascertain its existence; but, of course, the best method to determine the matter was to make daily measurements of the quantity of urine passed for a considerable period.

DR. BERRALL stated that out of two hundred records of urinary examinations in his possession he had found eighteen cases of albuminuria. Of these there was but one in which uric acid was noticed in the urine, although in two others he had found oxalate of lime, which was supposed to indicate an analogous condition. In three specimens the specific gravity was 1030 and over, in two 1008, and in three 1010. His impression was that albumen was by no means a frequent concomitant of lithemia or the presence of the urates. A *résumé* of one of his cases of chronic nephritis, he thought, might perhaps be of interest, as the records which he had of it extended from 1861 to 1879. The patient when first seen was a girl of ten years of age, and his attention was attracted to the kidneys from the fact that she suffered from occasional attacks of faintness. An examination of the urine revealed the presence of albumen and tube-casts, and she was at once put under a course of careful treatment. There were occasional exacerbations of the disease, but the result was on the whole very satisfactory. Thus, in 1871, there was no albumen; in 1874, a trace; in 1876 it had entirely disappeared, and in 1879 there was neither albumen nor casts. It was the general opinion that Bright's disease was always progressively fatal; but such a case as this seemed to suggest that there might be occasional exceptions to the rule. The treatment had consisted in carefully regulating the diet, and the use of hot-air baths, dry cups and iron, the latter usually in the form of the tincture of the muriate or the liquor ferri subsulphatis. Functional nervous disturbances, he said in conclusion, should always attract attention to the kidneys.

DR. MCBRIDE thought that the point of greatest importance in the discussion was to ascertain whether we could really establish a stage of early occurrence in Bright's disease characterized by a sufficient number of symptoms to allow of its detection. Hitherto a low specific gravity, an increased quantity of urine,

and the presence of certain tube-casts, had been necessary to diagnosticate the disease; but if it could be said that before the time when these evidences occurred there was a constant set of symptoms which might appear for years before the signs which indicated the closing period of the malady, he believed it to be a very important point gained. These he thought could now be detected, although the most careful observation was often necessary to establish their presence. Thus it was really a very difficult matter to determine an increased pulse-tension with accuracy, and the great majority of the urinometers in use were very imperfect. Again, if the quantity of albumen was very minute, it was very hard to detect; but in this connection he could not too strongly recommend the method of Dr. Munn for determining albumen. Nor was it always easy to make out hypertrophy of the heart. If from these points, however, we could succeed in recognizing an early stage of Bright's disease, he thought we had accomplished a great deal. The earlier it could be detected the more important, of course, would be the bearing of therapeutics on the case. It was to Dr. Draper, he believed, that the profession was indebted for the best dietetic plan of treatment for those suffering from sub-oxidation (one which was widely at variance with that commonly laid down, and especially by the English authorities), and he hoped that the doctor would favor the Academy with a synopsis of his views on the subject.

DR. DRAPER said that he did not wish to claim any originality in this connection, but that it was as if a sort of prophetic vision had been revealed to him when, several years ago, he got hold of a book that was one of the most remarkable ever written, and was far ahead of both the pathology and therapeutics of the times. This was the work of Dr. Bence Jones on Pathology and Therapeutics, which appeared in 1860, and was devoted to a discussion of affections which the author designated as the diseases of sub-oxidation. It was in the main an elaboration of some of Liebig's views, and treated chiefly of the allied disorders of glycosuria and gout. This strictly chemical view of disease had been very severely criticised by many authorities, but he had no doubt of its correctness, and that it would be ultimately recognized by all. Dr. Draper then said that the subject was too vast to admit of being treated of properly in a few minutes; but that with the president's permission he would be very glad to prepare a paper upon it to present at some future meeting of the Academy. In reply to Dr. Smith's question whether contracted kidney was not more common among gouty persons of sedentary habits than those who lived for the most part out-of-doors, he was not able to give a definite answer, but his impression was that such was not the case. In each individual there seemed to be some inherent vulnerable part which was the first to be affected by disease, and on the vulnerability of particular tissues or regions, such as the skin, the mucous membranes, the joints, and the arterial system, depended the seat of the gouty attack. After some remarks on the use of digitalis, Dr. Draper stated that he had found morphia a much more valuable remedy in the later stages of granular kidney, whether there was a valvular complication of the heart or not. It was well known that at this period dyspnea was apt to be one of the most distressing symptoms, often causing the most agonizing suffering; though why this should be the case had never been satisfactorily ex-

plained, since it was liable to occur whether there were any valvular trouble or not. In this condition digitalis did not afford any relief; but morphia was of the greatest possible benefit.

## PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

T. M. ROTCH, M. D., SECRETARY.

MAY 8, 1882. DR. J. C. WARREN presided.

### PNEUMONIA IN CHILDREN.

DR. FIFIELD spoke of the various forms of pneumonia which occur in children, especially of that variety which appears at times to be infectious, and also that class of cases which, beginning with the symptoms of a pleuritis, and in its course having a pulse of perhaps 110 and a temperature of 102° or 103° F., continues much longer than is usual in an ordinary pneumonitis and often involves both lungs. As an instance of the latter class, Dr. Fifield reported the case of a boy seven years old, who was previously well and strong and was out on the day when he was attacked; in the afternoon, while playing with another boy, he was thrown down, and in the evening complained of pain in the left side of his chest. Dr. Cushing, of Dorchester, was called to the case, diagnosticated acute pleuritis, and applied leeches and a poultice. A few days later Dr. Fifield saw the patient, and found that he had a pulse of 110 and a temperature of 103° F.; the symptoms at this time pointed towards a pleuritis, and Dr. Fifield concurred with Dr. Cushing in the diagnosis of that disease. A week later such urgent dyspnea appeared that Dr. Fifield strongly recommended thoracentesis, but was not allowed to perform it. On the following day bronchial respiration and râles were found in the chest, and the dullness, which at first was only on the left side of the chest, was now found on both sides, front and back, with the exception of an area of resonance over both apices in front, where the respiration was good. These symptoms continued for another week, the lungs assuming an apparently wooden condition, and respiration being absent over both backs. May 6th Dr. Rotch was summoned in consultation, when the following condition of affairs was found: The child was suffering from orthopnea; face and hands somewhat livid; pulse 120; respiration 50; temperature in the morning 102° F. The vocal fremitus was not marked; the heart's apex was in position; percussion showed complete dullness over both lungs, front, side, and back, excepting moderate dullness above the spine of the right scapula, and fairly good resonance under both clavicles in front as low as the third ribs. On auscultation faint respiration was heard throughout both lungs, with numerous subcrepitant râles and bronchial respiration at the apex of the left scapula, with harsh, exaggerated, vesicular respiration under both clavicles corresponding to the areas of resonance. The vocal resonance was slightly increased. Dr. Rotch agreed with Dr. Fifield that the case was one of fibrinous pneumonia, that resolution was just beginning, and that the treatment, which was chiefly stimulating, should be continued. The child died from exhaustion, on the morning of May 8th. No autopsy could be obtained. The duration of the case was about three weeks.

Dr. Fifield remarked upon the prolonged duration of the attack and the unusual lowness of the temperature, and said that cases of this kind showed such a difference from the common pneumonia of the adult that much remained to be written on this subject in children.

Dr. C. P. PUTNAM said that he recalled two cases seen by him in consultation where the duration of the disease was unusual; the first was a boy eight years of age, who was seen by him at the end of the third week of what he supposed to be a lobar pneumonia; in this case catarrhal symptoms developed later, and the child has probably died. The second case, also a child, after lasting for some time, began to resolve, but complete resolution never took place, and this case probably also died. Dr. Putnam was inclined to think that the prognosis in these prolonged cases was unfavorable.

Dr. ROTCH said that in the few cases which he had had an opportunity of observing of prolonged duration in the fibrinous pneumonia of children the prognosis had not been especially unfavorable, and that he had found a great variety in the course of the disease as to temperature, pulse, and duration, without a necessarily fatal termination; he especially recalled the case of a little girl, six years of age, who was attacked with a fibrinous pneumonia involving the whole of the right lung, in whom the temperature was never especially high, perhaps  $102^{\circ}$  or  $103^{\circ}$  F. During the stage of hepatization, which came after the usual initiatory symptoms, complete dullness with absence of râles took place, and this state of affairs continued for three weeks, so that Dr. Calvin Ellis, to whom the case was described, was so convinced that it must be a case of pleuritic effusion that he took his aspirator with him when he went to examine the case with Dr. Rotch, fully expecting to tap; but after careful examination he agreed that it was a case of lobar pneumonia, and this view was corroborated a few days later by the appearance of resolution as shown by numerous subcrepitant râles and returning resonance. The child was much debilitated, and during her convalescence had an attack of acute pemphigus confined to the chest, but she recovered entirely, and two years later an examination showed the lungs to be normal, and the child strong and well. Dr. Rotch also called attention to the fact that where a large portion of the lung is involved we often have a lower temperature, and less severe constitutional symptoms, such as delirium and stupor, than where a small area, especially at one of the apices, is attacked.

Dr. SABINE spoke of a case occurring in his practice, where a child of four years was attacked with a fibrinous pneumonia of the lower lobe, which ran its course, and resolved in three days. Immediately after recovery, however, the upper lobe was attacked with apparently the same process, and remained consolidated for three months, finally clearing up, and the child recovering its health, and remaining well ever since.

Dr. FIFIELD spoke of the rapid changes which at times take place in the physical signs of children's pneumonia, sometimes a little dullness in one place changing to another area on, perhaps, the next day, and patches of râles found here and there.

Dr. ROTCH suggested that as these were usually the physical signs of the catarrhal form of pneumonia, that possibly the instances where Dr. Fifield had observed

this state of affairs were cases of acute catarrhal pneumonia.

Dr. WEBBER exhibited

SPECIMENS OF INTUSSUSCEPTION OF THE INTESTINES AND TUMORS OF THE BRAIN,

a description of which will appear in full later.

Dr. J. C. WARREN read a paper on

EXCISION OF THE WRIST-JOINT,

which will be published in full. He stated that this operation had not been popular with surgeons on account of the great deformity and impaired usefulness of hand which resulted from it. Lister's complicated method had been supposed to overcome the difficulties which led to this condition. In a diseased wrist the anatomical landmarks given by Lister could not be easily followed, and he had found that an external and internal lateral incision, both of which were in a line slightly posterior to that of the vessels, caused very little mutilation of the soft parts concerned in the movements of the hand. He had performed the operation seven times. It consisted in removing the entire joint, through the incisions mentioned, under antiseptic precautions. One case was traumatic, the others were cases of caries. In one case only was amputation necessary. In most of them there was good motion of the joint, but the metacarpophalangeal articulations were stiff, owing to the shortness of the metacarpal bones. The after-treatment was tedious, but a tolerably straight and moderately useful hand was obtained. Most of the cases had been watched for several years after the operation.

## Recent Literature.

*Sensation and Pain.* By CHARLES FAYETTE TAYLOR, M. D. New York: G. P. Putnam's Sons. 1881.

This is the title of a brochure reprinted, we believe, from the *Popular Science Monthly*. It is for the general public rather than for medical readers, and contains some information which it is important all people should be familiar with. The purport of the writer is to call attention to the influence of the emotions, and the errors which honest persons may fall into by reason of the fallacies of their sensations. An interesting incident is related illustrating this point. A soldier, during the battle of Williamsburg, was met inquiring the way to his regiment, from which he had been separated. The officer to whom he spoke gave him the information, and advised him also to have his arm dressed. The private denied that anything was the matter with his arm, and it was only on ocular demonstration that he could be convinced that his hand had been entirely shot away.

The following case of medical interest is mentioned: A gentleman who had suffered from "dislocation" of the hip-joint since childhood considered himself cured by the Italian bone-setter Regina dal Cin, who claimed to have pulled the limb into a normal position. On examination by Dr. Taylor, an ankylosis of the femur at right angles with the pelvis was found. The relief which had been apparently gained was simply that the patient, formerly accustomed to use a high shoe, had been unconsciously taught to tilt his pelvis and bring his affected limb into what was supposed to be the axis of the body.

# Medical and Surgical Journal.

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## THE NEW UNITED STATES PHARMACOPEIA.

We are pleased to learn that the manuscript of the sixth revision of the United States Pharmacopœia is now in the hands of the printer, and that the book will appear next August. Hitherto our medical profession have hardly known in what the Pharmacopœia consists, and have generally gone to the Dispensatories for information in regard to the composition of official as well as unofficial medicinal preparations. We call to mind that the first effort towards the preparation of an official work originated in Boston, and resulted later in a plan which was instituted in answers to circulars issued by the New York State Medical Society, and approved by many other State medical societies and medical colleges. At first the various societies and colleges were divided into district conventions who afterwards sent delegates to the General Convention held in Washington, on the 1st of January, 1820. At this General Convention the works of the district conventions were consolidated into one work, adopted, and ordered to be published by a committee appointed for that purpose; also the general plan for providing for a second National Convention was then instituted, and has upon subsequent meetings been extended to the succeeding decades. The publication committee of the first edition of the Pharmacopœia of the United States of America (1820) consisted of five members, of the fourth and fifth revisions of nine and fifteen members, respectively, and of the present or sixth revision of twenty-five members.

The copyright of the first edition was sold to a Boston publishing house "for a large sum," and this copyright apparently was held by the publishers in high esteem, if we can give any credence to the notification which occurs upon the reverse side of the title-page of that work. The fifth edition, according to the report at the last convention, was sold for \$168.42, an agreement having been previously made with Messrs. Lippincott & Co. by which this firm agreed to give the committee of revision twenty-five copies free of charge, and to pay the expenses of the committee provided these did not exceed \$300. As the official reports of other committees did not present the details of financial matters, we have no means of ascertaining what money was paid for the copyright in any other years. The present or sixth edition has been assigned by contract to Messrs. Wm. Wood & Co., who are allowed to use the manuscript only in the manner prescribed by this contract, and hence neither they nor

any other publisher can use the material thus collected in any other book. We may surmise that this edition will be of great value to the professions of medicine and pharmacy, inasmuch as \$4,400 is guaranteed on the first year's sale of the book. We anticipated that it will occupy the place that has heretofore been held by the various Dispensatories, but regret to learn that no list of doses is to be included among its pages.

We are informed that the largest and most useful contributions in this book are from the laboratory and pen of Prof. A. B. Prescott, of Michigan, and that it will contain an admirable description of chemical pharmacy to which Prof. H. B. Parsons and E. S. Wood have lent valuable assistance. Mr. Taylor, of Philadelphia, has, we also learn, rendered material assistance in the preparation of the text. Among other contributors we are permitted to state in their several order, Professor Diehl, of St. Louis, on Fluid Extracts, the process for preparing which promises to replace those which are at present unreliable and of uncertain medicinal value; Professor Maisch, of Philadelphia, on Pharmacognosy; Dohme, of Baltimore, on iron preparations; Professor Remington, of Philadelphia, on some laboratory work of whose nature we have not been fortunate enough to learn; Professor Scheffer, and Professor Wall, of St. Louis, the latter upon certain stable syrups; Professor Oldberg, Mr. Thompson, of Washington, and Professor Bedford, of New York.

Dr. Charles Rice, of New York, the chairman, has skillfully organized his committee, and has devoted more time, and given more useful service, than any of his colleagues, and has, we understand, well repaid the expectation which led the convention to place him at the head of the work.

Though we do not wish to disparage the work of the committee of revision of former years, yet that they did not successfully accomplish their work would seem to be shown by the success with which private Dispensatories have hitherto supplanted in a great measure the Pharmacopœia, notwithstanding the high price commanded by the first-named books and the low price asked for the Pharmacopœia. There seems to have been considerable excitement among certain publishers of medical books over a supposed partiality on the part of the committee in awarding the contract for publication of the Pharmacopœia. The award was made to a New York publishing house which is untrammelled by books of a character likely to compete with the National Pharmacopœia. The criticisms of the committee's action, which have been sufficiently warm, have proceeded mainly from Philadelphia, and found expression in two medical journals, both of which are owned by publishers already interested in private Dispensatories. We refrain from further editorial criticisms and exposition of the subject of publishers' quarrels, as we do not suppose our professional readers are as much interested in these matters as in the main question of having a truly national and good practical Pharmacopœia, of the scope of which we have given an outline, and upon the value of which we shall in due time present our views, that is, after the book has issued from the press.



## THE DEATH-RATE OF NEW YORK.

THE official figures of the Bureau of Vital Statistics show a decided increase in the death-rate of New York city during the past year or two. Thus, in 1879, the deaths per thousand of the estimated population were 25.82; in 1880, 26.47; and in 1881, 30.97. During this period there has been no extensive and fatal epidemic to account for the increased mortality, and, consequently, inquiry has naturally been directed to the explanation of this increase, and the consideration of the question why New York should be less healthful than many other large cities. On careful investigation, however, the facts of the case seem to show that the increase in the death-rate is an apparent rather than a real one, and that the mortality of the city, although, unfortunately, much greater than it ought to be,—principally owing to the prevalent ignorance and lack of sanitary precautions among its immense tenement-house population,—is in reality by no means alarming.

One of the explanations of the apparently high rate of mortality is found in the fact that the population of the city is really greater than that estimated in the tables used in making up the statistics. Thus the census taken in June, 1880, which showed the population to be 1,206,577, could not have been accurate, since a large number of the regular residents are always absent from the city at that time of the year; and the estimated population of 1881, 1,212,533, is considered by the best judges to be short of the actual figure. The immense number of buildings—especially apartment-houses—which are annually being erected, and the fact that they are all occupied as soon as completed, affords some evidence of the great rapidity with which the population is constantly increasing. There are, however, additional reasons why the mortality of New York should appear disproportionately great. In comparing it with that of other cities, it should be borne in mind that in many places the still-births are not, as in New York, included among the deaths. During the past year no less than 2,462 of these are reported. In many places, too, the hospitals are outside the city limits, and the deaths occurring in them are not included in the mortality lists, although the greater number of patients may be brought from the city. Then there is a very large and continually increasing emigrant population passing through the city of New York, and as almost all the sick and weakly remain there, many of the latter die, and are, of course, credited to the city death-rate. Again, a large number of serious or incurable cases which baffle the skill of country practitioners are naturally sent to the metropolis for treatment, and many of these die while in the city. Still another reason for the apparent high death-rate is that the returns of deaths are complete, so that no decease escapes registration; which is not the case in many other cities. In New York the statistics of physicians or undertakers are not relied upon; but the law which requires that a body cannot be buried or removed until a death certificate has been filed at the office of the Board of Health is unvaryingly enforced by the police. In

this connection it may be well to mention, incidentally, that one reason why the number of deaths is apparently so much greater than that of the births in New York is, that while every death is necessarily registered, it is found impossible to strictly enforce the law requiring all births to be reported, and, consequently, a considerable number of these escape the attention of the Bureau of Statistics.

It has been found that the simplest method of determining whether an increase in the death-rate is due to an absolutely greater mortality, or only to one relatively greater, owing to an increase of population not recognized in fixing the rate, is to compare the deaths of young children in any year with those in preceding years; and with reference to this point, Professor Chandler, President of the New York Board of Health, has had prepared the following statistical table, which goes back to the organization of the board.

| Years. | Population. | Total Deaths. | Over Five Years. | Under Five Years. | Percentage.      |                   |
|--------|-------------|---------------|------------------|-------------------|------------------|-------------------|
|        |             |               |                  |                   | Over Five Years. | Under Five Years. |
| 1867   | 899,092     | 23,264        | 19,596           | 12,274            | 47.00            | 53.00             |
| 1868   | 913,298     | 24,706        | 11,668           | 13,067            | 47.50            | 52.50             |
| 1869   | 927,728     | 25,167        | 12,398           | 12,859            | 48.91            | 51.09             |
| 1870   | 942,292     | 25,174        | 15,741           | 13,533            | 50.49            | 49.51             |
| 1871   | 954,095     | 25,976        | 14,065           | 12,971            | 51.92            | 48.08             |
| 1872   | 967,142     | 32,423        | 16,235           | 16,188            | 50.42            | 49.58             |
| 1873   | 979,411     | 39,027        | 18,833           | 14,182            | 51.24            | 48.76             |
| 1874   | 992,646     | 38,539        | 14,533           | 13,956            | 51.19            | 48.81             |
| 1875   | 1,011,880   | 39,623        | 15,574           | 14,839            | 51.72            | 48.28             |
| 1876   | 1,035,535   | 39,152        | 14,942           | 14,210            | 51.26            | 48.74             |
| 1877   | 1,059,362   | 26,293        | 13,896           | 12,397            | 53.03            | 46.97             |
| 1878   | 1,083,571   | 25,008        | 14,598           | 12,410            | 54.05            | 45.95             |
| 1879   | 1,097,593   | 28,542        | 15,595           | 12,777            | 54.92            | 45.08             |
| 1880   | 1,206,577   | 31,937        | 17,287           | 14,650            | 54.13            | 45.87             |
| 1881   | 1,212,533   | 38,624        | 20,887           | 17,737            | 54.08            | 45.92             |

These figures, showing that there has been a gradual diminution in the number of deaths of those under five years of age from fifty-three per cent. to less than forty-six per cent. during the past fifteen years, indicate a decided improvement in the public health, although the death-rate in this class of the population is still excessive. Had the proportion been as large in 1881 as it was in 1867, there would have been 23,553 deaths instead of 17,737.

As evidence that the population of New York has increased to a greater extent than is shown by the estimates used in making up the returns of the Board of Health, in addition to the statistics furnished by the building departments, may be mentioned the circumstance that the elevated railways carried about fifteen per cent. more passengers and the street-cars about ten per cent. more passengers in 1881 than in 1880. Other indications of the same fact are afforded by the returns of still-births, which show an increase of over 12.20 per cent. between 1879 and 1881, and by the number of deaths from causes which are but slightly, if at all, dependent upon unsanitary conditions. Take, for instance, the deaths from apoplexy, cancer, and suicide, as shown by the following table, lately published in one of the New York papers:—

| Cause of death. | Number of Deaths. |      |      | Per cent.<br>increase<br>1880<br>over<br>1879. | Per cent.<br>increase<br>1881<br>over<br>1880. | Per cent.<br>increase<br>1881<br>over<br>1879. |
|-----------------|-------------------|------|------|--|--|--|
|                 | 1879              | 1880 | 1881 |  |  |  |
| Apoplexy . . .  | 489               | 516  | 587  | 5.52   | 13.76  | 20.04  |
| Cancer . . . .  | 572               | 659  | 704  | 15.20  | 6.82   | 23.07  |
| Suicide . . . . | 117               | 152  | 166  | 29.88  | 9.21   | 41.88  |

An indication of the great increase in the floating or transient population of the city is seen in the fact that in 1881 there were 318 deaths of persons whose residence was out of New York, while in 1880 there were 261, and in 1879 only 147, showing an increase of 21.84 per cent. since the latter year.

#### THE PETITION FOR A STAY OF PROCEEDINGS IN THE CASE OF GUTEAU.

SOON after the assassination of President Garfield we expressed the opinion, to which we still adhere, that the deed was the act of an insane man, much less insane, however, than the available evidence seemed to make him at that time. There were two methods open to the government in the conduct of his trial. The first, and to our thinking the best, would have been to have had Guiteau examined, as is the custom in Germany and France, by a commission of experts, upon whose statement as to his medical insanity the court should decide, as is also the law in France and Germany, whether or not to proceed with a trial; and in those countries, as a matter of fact, a criminal is sometimes convicted and sentenced in spite of the commission's unanimous decision of medical insanity, which may be altogether different from legal insanity or irresponsibility. The second course, the more common one in England, was adopted, the assassin was given a long trial, an immense mass of expert and other testimony was brought by the government, including a number of witnesses summoned for the defense, to show that Guiteau was at least legally sane, and he has been sentenced to death. If Guiteau could have been pronounced insane and secluded for life without trial, there could have been to our mind no better solution of the case, for the scenes of those disgraceful three months of his exhibition in Washington have furnished to the criminally inclined an education which must result sadly to society. There was the same disagreement in opinion, however, among the experts who saw Guiteau before the trial as was shown on the witness stand. One thought him sane; another considered that he had the insane temperament; a third regarded him insane but thought that there would be a wide difference in opinion as to his responsibility.

We do not purpose discussing, at present, the points of law involved in this case, nor shall we criticise the testimony and conduct of the trial now. It is simply with reference to the practical question of staying the execution, for which a petition is in circulation,

that we wish to present a few considerations to those who are in doubt as to their action in the matter. In the first place, by the highest authority, the responsibility of such criminals as Guiteau is far from being agreed upon even by experts.<sup>1</sup>

Further, society makes the laws, and has a pretty clear idea of what kind of persons it wishes to hold amenable to punishment, and the evidence of what it calls accountability was so overwhelmingly brought out during the protracted trial that, in the opinion of one of the most learned and distinguished judges of our State, who was present during the assassin's testimony on the stand, the jury would have agreed upon a conviction if every doctor in the court room had sworn to the insanity of the prisoner. The senior physician present, long recognized as a man of the highest personal character, and an authority in insanity, one of the Society of Friends, who do not approve in general of hanging, reluctantly came to the conclusion that Guiteau should be hanged if any one should be; and if only three experts, accomplished men, although without large practical experience in insanity, were called upon by the defense to give their opinions as to Guiteau's mental state, it was because the expressed opinion of the others was either favorable to the prosecution or not strongly favorable to the defense. Many of these facts we are compelled to acknowledge in fairness, although they conflict with our own views to a great extent.

Now that the trial is over, the whole question of pardon or withholding the execution of the law is one of the protection of society. The assassin has little claim upon the interest or sympathy of the community. Before sentence the prisoner should have the benefit of the doubt to a much greater extent than Guiteau has had it. As the matter now stands, society should have the benefit of any doubt, and we hold, with all due deference to those who think otherwise, that life would be rendered less safe if the President's hand should reverse the verdict in this case. Much as we regret to see hanged, even for a murder in which the motive and method were those of the criminal, a man whom we consider insane, and strongly as we are of the opinion that seclusion for life without trial would have been the proper disposition to make of Guiteau, we see that our opinion has not prevailed, and we fail to find any sufficient reason for asking the executive interference to save him from the gallows. The commission of experts asked for in the petition would be certain to disagree, just as there was a disagreement among the experts twice before, the inevitable result would be an opinion no more favorable to Guiteau than those which have been already given, and we should only get a continuation of the doctors' wrangle neither creditable to the medical profession nor beneficial to society. If the court in full bench

<sup>1</sup> Kraft Ebing says, in the last edition of his book, "Die Frage nach der rechtlichen Verantwortlichkeit solcher degenerativer Individuen muss beim gegenwärtigen Standpunkt der Strafgesetzgebung als eine offene bezeichnet werden. Möge sie vom Juristen generell und in konkreten Fall gelöst werden! Der Gerichtsarzt hat seine Aufgabe gelöst, wenn er in gegebenen Fall die organische Grundlage der scheinbar rein ethischen Depravation nachgewiesen, ihren Umfang feststellt, und das Zwangsmässige des scheinbar willkürlichen Gebahrens solcher Individuen dargelegt hat."

should fail to sustain Judge Cox's decisions, it will be time enough then to discuss the question from the point of view of another trial.

### MEDICAL NOTES.

—We have received a request to obtain medical signatures to a petition to the President of the United States asking in the name of psychological science for a stay of execution in the case of Charles J. Guiteau, and forward the same to Dr. Geo. M. Beard, of New York.

The petition is based on the following "facts":—

First. For more than twenty years Guiteau has been hopelessly insane. Secondly. Under a right management of the case the opinions of our leading authorities could have been formally brought before the court, and would have radically changed the character and probably also the issue of the trial. Third. The instincts and the customs of all civilized nations are opposed to the hanging of the insane. Years since, the insanity of Guiteau was recognized by some of his relatives, and formal efforts were made to send him to an asylum as an incurable and dangerous lunatic. One medical certificate (that of the family physician) was ready, and, but for a complication of accidents, the other would have been obtained. During these twenty years no asylum in the world would have refused admission to Guiteau, and in all probability none would have discharged him. The insane out of asylums as well as in asylums are entitled to the protection of that law which declares that no lunatic can commit a crime.

"If this petition for a stay of proceedings should be granted, we would further petition for the appointment of a commission composed of our best recognized authorities who did not testify at the trial, to examine into the mental condition of Guiteau, and report thereon."

"In Germany and in France—countries which have led the world in the scientific study of insanity—it has long been the custom to appoint such committees of experts in cases where the plea of insanity has been entered, and receive their reports *before* the trial. If this course had been pursued in the case of Guiteau, this country would have been spared the humiliation and disgrace of a protracted trial of a lunatic."

—We are requested to remind intending competitors for the Middlemore prize in ophthalmology, that all essays must be forwarded by the 31st May next, under cover, with a sealed envelope bearing the motto of the essay, and containing the name and address of the author, addressed to the General Secretary of the British Medical Association, 161A, Strand, London. The amount of the prize is £50, and the subject of the essay is The Scientific and Practical Value of Improvements in Ophthalmological Medicine and Surgery made or published in the past three years.

—The Secretary of the Surgical Section of the American Medical Association has the following progress to report in regard to papers for the next meet-

ing: Prof. A. C. Post, Lupus Exedens of Face; Dr. J. R. Weist, Elastic Tension in the Management of Cases of Delayed Separation of Ligature; Dr. Henry A. Martin, Advances in Conservative Surgery of the Joints; Dr. Carl Seiler, Some Remarks upon Electricity in Surgery; W. M. Fuqua, Subperitoneal Surgery; Dr. A. Van Derveer, Cleft of Hard Palate; Dr. Oscar J. Coskery, Modification of Plaster Splints; Dr. G. W. Nesbitt, Ununited Fracture of Femur treated by Exercise; Dr. John E. Link, Alcohol as an Anesthetic; Dr. Wm. Hill, Laparotomy; Dr. Ephraim Cutter, Bi-Fracture of Patella, Partial Bony Union after Eight Years; Dr. Wm. Stewart, Fracture of Elbow Joint. Drs. J. H. Dara, Joseph H. Warren, Henry O. Marcy, Edward Borek, and B. H. Riggs promise papers, titles not received. The secretary, owing to the death of the chairman, will read a paper on Excision of Portions of the Alimentary Canal covered with Peritoneum, as the address on Surgery. Gentlemen wishing to read papers will please notify the Secretary of the Section, William A. Byrd, M. D., 407 Jersey Street, Quincy, Illinois.

—At the annual meeting of the Norfolk District Medical Society, held on the 9th inst., the following officers were elected for 1882: President, James Morrison, M. D.; Vice-President, J. Y. Streeter, M. D.; Secretary, Librarian, and Reporter, George D. Townsend, M. D.; Treasurer, Edward G. Morse, M. D.; Commissioner of Trials, Joseph Stedman, M. D.; Censors, W. H. Campbell, M. D.; G. W. Clement, M. D.; E. L. Farr, M. D.; G. K. Sabine, M. D.; E. T. Williams, M. D.; Councilors, G. A. Bragdon, M. D.; Benjamin Cushing, M. D.; C. C. Hayes, M. D.; J. S. Flint, M. D.; R. T. Edes, M. D.; James S. Greene, M. D.; H. G. Morse, M. D.; U. O. B. Wingate, M. D.; J. A. Winkle, M. D.; Henry P. Bowditch, M. D.; Gustavus P. Pratt, M. D.; Robert Amory, M. D.; Joel Seaverns, M. D.; Edward Mead, M. D.; David B. Van Slyck, M. D.; Nominating Councilor, J. S. Flint, M. D.

—According to *New Remedies* the Minister of the Interior of Russia has notified the fourteen Jewish proprietors of pharmacies in St. Petersburg that they will no longer be permitted to pursue their calling, and has required them to dispose of their business within a year to pharmacists who are not Jews. Jewish assistants are required to resign their situations and cease the practice of pharmacy at once.

### NEW YORK.

—The pall-bearers at the funeral of the late Dr. James R. Wood were Drs. Alonzo Clark, Austin Flint, Sr., T. Gaillard Thomas, John T. Metcalfe, Willard Parker, Isaac E. Taylor, Lewis A. Sayre, Alfred C. Post, Fordyce Barker, Thomas F. Cook, F. S. Dennis, and Charles R. Shippard; and a eulogy was delivered by the Rev. Dr. Robert Collyer. The Commissioners of Charities and Correction, who were also present, ordered that the flags on all the hospitals and other public institutions under their charge should be displayed at half-mast on the day of the funeral.

—The annual reception of the ladies' association

having the care of the House of Rest for Consumptives was held at the institution at Tremont, New York, on the 2d of May. The present accommodations are for only forty inmates, but the erection of buildings at a cost of \$80,000, in which one hundred and fifty patients can be cared for, is in contemplation.

— At a fair just closed, at Irving Hall, about \$35,000 has been raised for the hospital of the French Benevolent Society of New York.

— President Chandler, of the City Board of Health, is engaged in preparing an exhaustive report on the milk supply of New York and its regulation, to be sent to the State Board of Health, and to be used for the purpose of securing still needed legislation against the adulteration of milk.

### Miscellany.

#### A CONFERENCE OF SANITARIANS IN REGARD TO MALARIA.

DR. ELISHA HARRIS, Secretary of the New York State Board of Health, Professor Lindsley of the Connecticut Board of Health, Dr. Chamberlain, its Secretary, and Dr. John S. Billings of the National Board, were in Boston last week to confer with Dr. C. F. Folsom of the National Board, and Dr. H. P. Walcott, Secretary of the Health Department of the Massachusetts Board of Health, Lunacy, and Charity, in regard to the continued development of malarial disease in New York and New England.

The National Board of Health is engaged in an investigation, having for its object the proof of the reliability of Klebs and Condelli's results in regard to the character of the malarial poison. In this, willing assistance is promised by the sanitary officers present at the late conference. A circular will shortly appear asking for the coöperation of individual physicians.

#### JOHN T. HODGEN, M. D.

DR. JOHN T. HODGEN, Professor of Anatomy in the St. Louis Medical College, died at St. Louis, April 28th, in the fifty-seventh year of his age. He was born in 1826 in La Rue County, Kentucky, and was the son of Rev. S. P. Hodgen, a minister of the Campbellite Church. He graduated at Bethany College, Virginia, and subsequently took a medical degree in St. Louis, where he lived for thirty-five years. He was for the greater part of this time a professor in the St. Louis Medical College, of which he was Dean at the time of his death.

He was very successful as a general practitioner, but was best known as a surgeon. In surgery his reputation at the West was very extensive. His modification of Smith's anterior splint, known by his name, and his views on the treatment of fractures have increased the number of those familiar with his name. He was President of the American Medical Association, in 1881, and presided at its last meeting in Richmond.

He was taken sick in the court-room whilst attending a trial as a witness, and reached home with difficulty in great pain. His death, as shown by an au-

topsy, resulted from peritonitis consequent upon a rupture of the gall-bladder.

He had suffered for a number of years from attacks of bilious colic.

#### BISMUTH AND TIN IN AUSTRALIA.

DR. J. R. M. ROBERTSON, who recently returned from Australia, read a paper on "Bismuth and Tin in Australia," before the Geological Society of Glasgow. He reports the discovery of very considerable deposits of metal in the northern portions of New South Wales.

Dr. Robertson described carefully the geological features of the place where the bismuth is found, and the various forms in which it occurs: (1.) Native metal in irregular bunches or nests throughout the substance of the quartz, the masses weighing from one half pound to fifty pounds; (2.) As oxide forming thirty to fifty per cent. of the soft casing of the quartz veins; (3.) In characteristic leaden-gray acicular crystals of sulphuret, though in smaller quantities.

"In nearly all the lodes large quantities of molybdenite occur; indeed, this mineral seems always to accompany the bismuth. At present it is thrown aside as worthless."

The ore is said to be of such great purity that a charge of £15 per ton will amply repay the smelter for his trouble. The doctor goes on to say that all the other known mines yielding bismuth (in Saxony, Bolivia, Mexico, Cornwall, and South Australia) are controlled by the "London Bismuth Ring," who reap enormous profits, the price being kept so high as to restrict the total consumption of the world to seventy tons per year, the chief use being for the production of bismuth subnitrate, much used as a cosmetic and as a medicine for treatment of gastric disorders; a minor use for bismuth is in production of type metals and fusible alloys.

It remains to be seen whether the price of this useful metal will be materially affected by this recently announced discovery. In this country the price of metallic bismuth ranges at present not far from \$1.90 to \$2 per pound, the subnitrate being sold at about the same price, and the subcarbonate at a slight advance. — *Sanitary Engineer.*

#### CHARCOAL FILTERS.

A CORRESPONDENT of the Washington *Evening Star* calls attention to a misunderstanding of the proper use of charcoal. Being porous and entirely insoluble in water, it makes a good filter, but "if," says the correspondent, "you have a noxious and offensive fluid which it is your wish to dispose of as speedily as possible, retaining none of the odor in your house or apartment, it is obviously unphilosophical to pour this fluid over a quantity of charcoal exposed in an open vessel, at the bottom of which may be a grating and waste pipe, to allow the fluid to pass off. By this means you simply filter out of the fluid, which it is your object to get rid of as speedily as possible, a large part of its offensive matter, which is retained in the charcoal to be given out in the atmosphere of your room or building. You send away the bad fluid purified of a portion of its bad-smelling substance, which remains behind in the charcoal to offend your olfactories and

poison your air. This, therefore, is obviously an improper use of charcoal. The surfaces of the drain hopper, where fluids of this character are thrown, if smooth porcelain or metal, require only thorough cleansing with water. The smell, which will still proceed from such contrivances, then, must be attributed to the matter that remains upon the inner surfaces of the openings, gratings, and waste pipes which cannot be reached by the brush, and the only effectual remedy for this is an occasional application of a solution of muriatic acid, which will loosen the matter and cleanse

these inner surfaces, after which a more frequent application of solution of chloride of sodium or carbolic acid will deodorize them. A piece of carbolic soap is sometimes placed in such drain hoppers above the grating with much more reason than the use of a lump of charcoal for the same purpose. The soap is dissolved by the water thrown upon it, and its purifying properties brought into contact with the inner surfaces of the gratings and waste pipes, which the lump of insoluble charcoal can never reach."—*Sanitary Engineer.*

## REPORTED MORTALITY FOR THE WEEK ENDING MAY 6, 1882.

| Cities.                           | Population by Census of 1880. | Reported Deaths in each. | Deaths under Five Years. | Percentage of Deaths from         |                |                       |                |            |
|-----------------------------------|-------------------------------|--------------------------|--------------------------|-----------------------------------|----------------|-----------------------|----------------|------------|
|                                   |                               |                          |                          | The Principal "Zymotic" Diseases. | Lung Diseases. | Diphtheria and Croup. | Scarlet Fever. | Small-Pox. |
| New York.....                     | 1,206,590                     | 803                      | 315                      | 27.02                             | 18.74          | 6.29                  | 6.78           | .99        |
| Philadelphia.....                 | 846,984                       | 370                      | 120                      | 16.75                             | 10.00          | 3.51                  | 2.16           | 1.35       |
| Brooklyn.....                     | 566,689                       | 311                      | 135                      | 24.75                             | —              | 7.05                  | 9.00           | .96        |
| Chicago.....                      | 503,304                       | 214                      | 107                      | 28.50                             | 14.95          | 7.00                  | 9.35           | 5.14       |
| Boston.....                       | 362,535                       | 184                      | 63                       | 17.34                             | 17.93          | 7.77                  | —              | —          |
| St. Louis.....                    | 350,522                       | 134                      | 45                       | 23.87                             | 7.46           | 5.22                  | 4.48           | —          |
| Baltimore.....                    | 332,190                       | 148                      | 56                       | 22.97                             | 9.45           | 8.78                  | 2.70           | 2.03       |
| Cincinnati.....                   | 255,708                       | 155                      | 66                       | 40.70                             | 13.59          | 4.52                  | 3.88           | 26.49      |
| New Orleans.....                  | 216,140                       | —                        | —                        | —                                 | —              | —                     | —              | —          |
| District of Columbia.....         | 177,638                       | 74                       | 23                       | 8.21                              | 13.51          | 5.41                  | —              | —          |
| Cleveland.....                    | 160,140                       | —                        | —                        | —                                 | —              | —                     | —              | —          |
| Pittsburgh.....                   | 156,381                       | 62                       | —                        | 20.97                             | 14.52          | 4.84                  | —              | 9.68       |
| Buffalo.....                      | 155,137                       | 98                       | 42                       | 33.71                             | 12.24          | 2.04                  | 9.18           | —          |
| Milwaukee.....                    | 115,578                       | 56                       | 29                       | 21.43                             | 16.07          | 5.36                  | 8.93           | —          |
| Providence.....                   | 104,857                       | 36                       | 6                        | 13.88                             | 16.66          | 2.77                  | —              | —          |
| New Haven.....                    | 62,882                        | 30                       | 5                        | 3.33                              | 13.33          | —                     | —              | —          |
| Charleston.....                   | 49,999                        | 23                       | 13                       | 8.68                              | 4.34           | 4.34                  | 4.34           | —          |
| Nashville.....                    | 43,461                        | 15                       | 6                        | 26.66                             | 6.66           | —                     | 6.66           | —          |
| Lowell.....                       | 59,485                        | 20                       | 6                        | 10.00                             | 20.00          | —                     | —              | —          |
| Worcester.....                    | 58,295                        | 21                       | 9                        | 25.00                             | 10.00          | 10.00                 | —              | —          |
| Cambridge.....                    | 52,740                        | 16                       | 8                        | 19.05                             | 14.28          | 4.76                  | 4.76           | —          |
| Fall River.....                   | 49,006                        | 16                       | 8                        | 18.75                             | 12.50          | 6.25                  | —              | 6.25       |
| Lawrence.....                     | 39,178                        | —                        | —                        | —                                 | —              | —                     | —              | —          |
| Lynn.....                         | 38,284                        | 12                       | 2                        | 33.33                             | 25.00          | 8.33                  | —              | —          |
| Springfield.....                  | 33,340                        | 8                        | 0                        | —                                 | 37.50          | —                     | —              | —          |
| Salem.....                        | 27,598                        | 16                       | 6                        | —                                 | 12.50          | —                     | —              | —          |
| New Bedford.....                  | 26,875                        | 13                       | 5                        | 15.38                             | 7.69           | —                     | —              | —          |
| Somerville.....                   | 24,985                        | 10                       | 2                        | —                                 | 20.00          | —                     | —              | —          |
| Holyoke.....                      | 21,851                        | 14                       | 5                        | 21.43                             | 7.14           | —                     | —              | —          |
| Chelsea.....                      | 21,785                        | 12                       | 4                        | 8.33                              | —              | —                     | —              | —          |
| Taunton.....                      | 21,213                        | 18                       | 5                        | —                                 | 27.75          | —                     | —              | —          |
| Gloucester.....                   | 19,329                        | 6                        | 2                        | 33.33                             | —              | 33.33                 | —              | —          |
| Haverhill.....                    | 18,475                        | 6                        | 0                        | 16.66                             | 33.33          | —                     | —              | —          |
| Newton.....                       | 16,995                        | 4                        | 1                        | —                                 | 25.00          | —                     | —              | —          |
| Brockton.....                     | 13,608                        | 5                        | 0                        | 20.00                             | —              | 20.00                 | —              | —          |
| Newburyport.....                  | 13,537                        | 6                        | 2                        | 16.66                             | —              | 16.66                 | —              | —          |
| Fitchburg.....                    | 12,405                        | 2                        | 1                        | 50.00                             | 50.00          | —                     | —              | —          |
| Malden.....                       | 12,017                        | 6                        | 2                        | 16.66                             | —              | —                     | —              | —          |
| Nineteen Massachusetts towns..... | 153,238                       | 55                       | 13                       | 9.09                              | 12.73          | 3.64                  | —              | —          |

Deaths reported 2983 (no reports from New Orleans and Cleveland); 1112 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and fevers) 689, consumption 465, lung diseases 381, diphtheria and croup 166, scarlet fever 126, small-pox 80, measles 62, typhoid fever 60, diarrheal diseases 56, whooping-cough 43, cerebro-spinal meningitis 35, malarial fevers 23, puerperal fever 18, erysipelas 15, typhus fever five. From measles, New York 25, Chicago 15, Brooklyn seven, Philadelphia six, Baltimore, Cincinnati, and Buffalo two each, St. Louis, Pittsburgh, and Milwaukee one each. From typhoid fever, Philadelphia 25, Chicago six, New York five, St. Louis four, Baltimore and Buffalo three each, Brooklyn, Cincinnati, Pittsburgh, and Lynn two each, Milwaukee, Nashville, Lowell, Cambridge, New Bedford, and Spencer one each. From diarrheal diseases, New York 26, Chicago and Boston five each, St. Louis four, Baltimore and Cincinnati three each, Buffalo and Nashville two each, Brooklyn, District of Columbia,

Pittsburgh, Worcester, Lynn, and Chicopee one each. From whooping-cough, New York 21, Brooklyn seven, Boston six, Chicago and Providence three each, Baltimore two, Cincinnati one. From cerebro-spinal meningitis, Buffalo 11, New York four, Philadelphia three, Chicago, Boston, St. Louis, Baltimore, and Worcester two each, District of Columbia, Providence, Fall River, New Bedford, Holyoke, Chelsea, and Weymouth one each. From malarial fevers, New York 11, Brooklyn five, Buffalo three, St. Louis two, Baltimore and New Haven one each. From puerperal fever, St. Louis four, New York three, Boston and Milwaukee two each, Brooklyn, Chicago, Buffalo, Lowell, Cambridge, Haverhill, and Newburyport one each. From erysipelas, New York four, Philadelphia, Brooklyn, and St. Louis two each, Chicago, Boston, Baltimore, Cincinnati, and Buffalo one each. From typhus fever, New York four, Buffalo one.

Two hundred and forty-eight cases of small-pox were reported in Cincinnati, Baltimore and Pittsburgh each 21, St. Louis 12, Brooklyn nine, Buffalo four, Milwaukee three, and Boston

one; diphtheria 34 cases, scarlet fever eight, typhoid fever eight, in Boston; scarlet fever 15, and diphtheria seven, in Milwaukee.

In 39 cities and towns of Massachusetts, with a population of 1,057,596 (population of the State 1,783,086), the total death-rate for the week was 20.34 against 22.27 and 21.36 for the preceding two weeks.

For the week ending April 15th, in 173 German cities and towns, with an estimated population of 8,559,514, the death-rate was 28.2. Deaths reported 4636: under five 2194; pulmonary consumption 716, acute diseases of the respiratory organs 557, diphtheria and croup 190, diarrhoeal diseases 163, scarlet fever 90, whooping-cough 76, typhoid fever 39, measles and röteln 35, puerperal fever 18, small-pox (Munich, Essen five, Koblenz two, Strasburg three) 11, typhus fever (Danzig, Berlin two) three. The death-rates ranged from 21 in Elberfeld to

44.6 in Nuremberg; Königsberg 26.2; Breslau 30.2; Munich 35.3; Dresden 28.9; Berlin 24.6; Leipzig 23.7; Hamburg 28.2; Hanover 20.9; Bremen 25.8; Cologne 29.8; Frankfurt 28.5; Strasburg 25.8.

In the 28 English towns, with an estimated population of 8,457,514, for the week ending April 22d, the death-rate was 22.7. Deaths reported 3677: acute diseases of the respiratory organs (London) 331, whooping-cough 214, measles 149, scarlet fever 70, fever 47, diarrhoea 43, small-pox (London eight) 17. The death-rates ranged from 16.8 in Halifax to 34 in Wolverhampton; Bristol 20.1; London 21.1; Leeds 21.3; Sheffield 21.9; Birmingham 23.1; Liverpool 27; Manchester 30.7. In Edinburgh 21.5; Glasgow 26.7; Dublin 36.3.

The meteorological record for the week ending May 6th in Boston, was as follows, according to observations furnished by Sergt. O. B. Cole, of the U. S. Signal Corps:—

| Date.            | Barom-eter. | Thermom-eter. |          |          | Relative Humidity. |            |             |       | Direction of Wind. |            |             | Velocity of Wind. |            |             | State of Weather. <sup>1</sup> |            |             | Rainfall.             |                   |
|------------------|-------------|---------------|----------|----------|--------------------|------------|-------------|-------|--------------------|------------|-------------|-------------------|------------|-------------|--------------------------------|------------|-------------|-----------------------|-------------------|
|                  | Mean.       | Mean.         | Maximum. | Minimum. | 7.23 A. M.         | 3.23 P. M. | 11.23 P. M. | Mean. | 7.23 A. M.         | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.        | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.                     | 3.23 P. M. | 11.23 P. M. | Duration, Hrs. & Min. | Amount in inches. |
| Sun., 30         | 29.940      | 45            | 55       | 42       | 92                 | 79         | 87          | 86    | NW                 | E          | S           | 2                 | 8          | 5           | O                              | F          | C           | —                     | —                 |
| Mon., 1          | 30.002      | 54            | 65       | 39       | 60                 | 24         | 55          | 46    | W                  | SW         | SW          | 9                 | 18         | 8           | C                              | F          | C           | —                     | —                 |
| Tues., 2         | 29.996      | 46            | 66       | 36       | 55                 | 36         | 61          | 51    | SW                 | NW         | W           | 12                | 21         | 8           | C                              | F          | C           | —                     | —                 |
| Wed., 3          | 30.090      | 47            | 58       | 31       | 46                 | 22         | 53          | 40    | W                  | W          | SW          | 12                | 22         | 9           | C                              | F          | C           | —                     | —                 |
| Thurs., 4        | 29.773      | 58            | 72       | 43       | 36                 | 22         | 61          | 40    | W                  | SW         | NW          | 11                | 20         | 10          | F                              | O          | F           | —                     | —                 |
| Fri., 5          | 29.918      | 45            | 55       | 42       | 48                 | 68         | 37          | 51    | NE                 | E          | NW          | 8                 | 11         | 10          | C                              | C          | C           | —                     | —                 |
| Sat., 6          | 30.156      | 43            | 54       | 35       | 48                 | 64         | 73          | 62    | NW                 | E          | W           | 6                 | 7          | 8           | F                              | O          | C           | —                     | —                 |
| Means, the week. | 29.982      | 48            | 72       | 31       |                    |            |             | 45    |                    |            |             |                   |            |             |                                |            |             | .50                   | .04               |

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; X., clearing.

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM MAY 6, 1882, TO MAY 12, 1882.

KING, WILLIAM S., colonel and surgeon. The extension of his leave of absence on account of sickness, granted him in S. O. 251, November 7, 1881, from A. G. O., still further extended six months on account of sickness. S. O. 104, A. G. O., May 5, 1882.

CLEARY, P. J. A., captain and assistant surgeon. The leave of absence on surgeon's certificate of disability, granted him in S. O. 224, October 4, 1881, from A. G. O., is extended six months on account of sickness. S. O. 107, A. G. O., May 9, 1882.

COWDRY, S. G., captain and assistant surgeon. Now awaiting orders, to report to commanding general, Department of the East, for assignment to duty at Fort Monroe, Va. S. O. 103, A. G. O., May 4, 1882.

HOLT, J. V. R., captain and assistant surgeon. To be relieved from duty in Department of the East, and report in person to commanding general, Department of California, for assignment to duty. S. O. 105, C. S., A. G. O.

CARTER, E. C., first lieutenant and assistant surgeon. To be relieved from duty in Department of California, and report in person to commanding general, Department of Arizona, for assignment to duty. S. O. 103, C. S., A. G. O.

RAYMOND, H. L., first lieutenant and assistant surgeon. To be relieved from duty in Department of California, and report in person to commanding general, Department of Arizona, for assignment to duty. S. O. 103, C. S., A. G. O.

#### BALTIMORE MEDICAL COLLEGES. A CORRECTION.

BALTIMORE, May 11, 1882.

MR. EDITOR.—In a communication from this city in the April 27th number of your journal signed "Papeau," appears the following statement: "We now have three schools of medicine: one giving a degree after two years of study; the others—for

the formation of both of which we have to thank (?) Dr. Edward Warren, late of Egypt, now of Paris,—"giving degrees after one year's study." There is but one school of medicine in Baltimore founded by Dr. Edward Warren,—the College of Physicians and Surgeons,—and of this school the statement that degrees are conferred after one year's study is unqualifiedly false.

At no time in the history of this school has any degree been conferred except after attendance on at least two full (winter) courses of lectures.

By making this correction you will greatly oblige,

Your obedient servant, THOMAS OPIE, M. D.,  
Dean, College of Physicians and Surgeons.

#### REDUCED FARES TO ST. PAUL.

MR. EDITOR.—Permit me, through the JOURNAL, to state that the Boston and Albany Railroad will sell tickets to St. Paul at \$17.60 each to members and friends attending the American Medical Association, provided the number going in party is not less than twenty. Should such offer be accepted a sleeper will be furnished for exclusive use.

The advised time of leaving Boston is by six p. m. train Friday, June 2d, arriving in St. Paul on Monday. Delegates desiring to avail of the above will address

HENRY O. MARCY, 116 Boylston Street.  
BOSTON, May 12, 1882.

The last meeting of the Surgical Section of the Suffolk District Medical Society will be held at 19 Boylston Place, Saturday, May 20th, at 7.45 p. m. Papers: Dr. J. W. Elliot, Fibromyoma Uteri; Dysmenorrhoea for Fifteen Years; Enucleation; Recovery. Dr. F. B. Greenough, The Rational and Routine Treatment of Venereal Diseases. Other material will also be presented.

H. C. HAVEN, Secretary.

DIED.—Suddenly, of peritonitis, at Longwood, the 15th inst., Marianne A. Amory, wife of Robert Amory, M. D., and daughter of Amos A. Lawrence, Esq.

## Original Articles.

## PERINEPHRITIC ABSCESS.

BY DR. G. H. LYMAN.

This case presents features of interest in the mode of origin, the coincident pregnancy, and the complications inducing a fatal result after obliteration of the abscess.

J. H., aged thirty-six, married, entered the City Hospital November 14, 1881. Ten months previously (January 19th) she was in the hospital for a week, with mild diphtheria, from the effects of which she appears never to have fully recovered. She had done little work for several months, and for two weeks before admission was confined to her bed. Eight months ago, that is, two months after the diphtheritic attack, she began to have frequent, sometimes painful, micturition, with "thick, muddy" urine, and frequent attacks of "jaundice" and constipation, these symptoms continuing until two months ago, when pain set in in the right side and back, extending down the leg to the ankle, and accompanied by daily chills morning and evening, followed by fever. For twelve days she has vomited everything taken. Her skin is now somewhat dusky, rather more so than other brunettes, the conjunctivæ clear, and no marked evidence of jaundice in the urine or faces. She has had two children, the last five years ago; no miscarriages. Menses very irregular, varying in occurrence from two weeks to three months, the last period being four months before entrance. Thinks that six weeks ago there was puffiness of the face and eyelids, and oedema of the left leg, but there is nothing of the kind now. The urine is slightly alkaline, contains one fourth per cent. of albumen, much pus, and numerous round epithelial cells; specific gravity 1008. The fundus uteri extends half way to the umbilicus; the abdomen is tympanitic; the breasts enlarged, and the areola dark, with enlarged follicles. Vaginal examination reveals a rupture of the perineum to the sphincter, with vaginal prolapse and varicose labia. There are evidences of old effusion in the right iliac fossa, but no extensive induration. She has had no cough, and the pulmonary symptoms are negative.

November 18th. Has had the bladder washed out at intervals with relief to the dysuria. The pulse has ranged from 100 to 116, and the temperature from 99° to 101° F. She is sure of the fetal movements, but neither fetal nor placental sounds are audible. Some fullness is now recognized on the right side, between the ribs and the crest of the ilium. Has had no rigors.

November 22d. Has been much the same; rather restless, occasional vomiting, and some dysuria. To-day she complains of a lancinating pain in the right lumbar region, extending down the thigh, and she sweats profusely upon the least exertion.

December 1st. On the right side a hard, obscurely fluctuating mass has developed, extending round from the navel to the spine, and from the crest of the ilium upwards until lost beneath the ribs (see diagram). Flatness, apparently from the displaced liver, extends nearly half way up the chest.

December 3d. The tumor was aspirated between the ribs and crest of the ilium, on a level with the um-

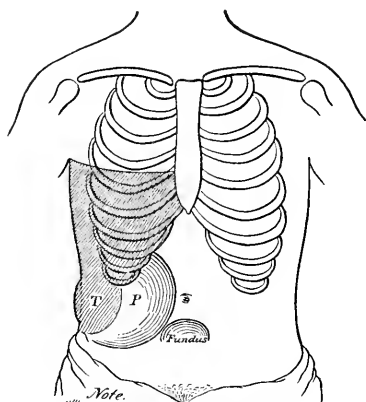
bilicus, but from a defect in the instrument only an ounce of fluid with a foul, fecal odor was withdrawn. This was mostly pus with some blood and granular detritus. The pus corpuscles were small and shriveled. The aspiration was followed by a chill and vomiting. Temperature 103.5° F. The following day, with the exception of some gastric irritability, she was perfectly comfortable, and without pain. On the 7th she had profuse sweats, but no rigor.

December 10th. The swelling was again prominent; sweating profuse; no rigors; ten and one half ounces fetid pus were aspirated, and the next day she expressed herself as much relieved, and perfectly comfortable.

December 16th. Has complained only of sweating and weakness until to-day, when vomiting recurred, and she is now restless and uneasy.

December 17th. Twelve ounces thick pus with fecal odor were withdrawn; the cyst is apparently much diminished.

December 21st. In consultation with Dr. Bowditch it was thought advisable, in view of the repeated refilling of the cyst, to make a free opening, and get permanent drainage, but on visiting her for that purpose to-day she was found to have been suddenly attacked during the night with severe spasmodic pain and excessive tenderness in the region of the tumor, with constant vomiting. Pulse 116; temperature 101.2° F.; no rigors; no general abdominal tenderness; countenance pinched, anxious, and haggard, and voice suppressed; respiration 60, and very shallow; flatness on



percussion extends upwards to about the fifth rib; the fundus uteri is now crowded to the left of the umbilicus. Her condition forbade any operative interference. The following morning her respiration remained unchanged; pulse 126, of fair strength, but in the afternoon her respiration fell to 36; she had dark green vomitus, and still a good deal of abdominal pain.

December 23d. After incision with history posteriorly, a large trocar and canula were tried without success, but with the longer aspirating needle four

<sup>1</sup> Read before the Section for Clinical Medicine and Pathology of the Suffolk District Medical Society, April 8, 1882.

ounces of greenish material, with fecal odor, was obtained, consisting of fat globules, granular detritus, bits of tissue, stained a bright yellow, and numerous crystals of irregular outline. (It is quite possible that the aspirator may have penetrated the edge of the liver, though there was nothing in the subsequent history to indicate it.)

December 24th. Less pain, swelling, and tympany; countenance better; tongue aphthous; micturition free and painless, but urine unchanged; there is not now, nor has there ever been, pus or blood in the dejections.

December 27th. Has been nourished mostly by injections; she now bears pressure over the tumor, the singular lateral prolongation of which towards the navel has disappeared; the abdomen is softer; the outline of the tumor in front is no longer recognizable to the eye, and only slightly so on the side, but is more visible behind; her countenance is brighter, and general condition much more hopeful; two ounces of pus aspirated.

December 28th. Has had four dejections of hard fecal masses, with profuse sweating, but the stomach retains nourishment and stimulants, and in every way she looks more promising; the uterus is less displaced, extending now three inches to the right of the navel.

December 29th. After a comfortable night the waters came at five this morning, and in an hour were followed by child and placenta. The child (a male, fourteen inches, hair and nails developed) lived but a few minutes. There has been no vomiting; the lochia are free and natural, and she says she feels well.

January 1st. Improves steadily; pulse 100, and strong; temperature normal; aphthae which have covered tongue and lips have disappeared; the skin is clearer; she has had no more sweating; she likes and retains her nourishment; has had a natural fecal dejection; there is no tumor perceptible to the eye or discoverable by palpation and moderate pressure, and she lies upon either side without pain; the abdomen is reduced not only to its normal size, but is flattened, the iliac bones projecting.

January 5th. The improvement continued until today, when the stomach again became irritable, the pulse feeble and irregular, the face flushed, and sweating profuse.

January 9th. Has steadily lost ground; is now unable to retain anything by the stomach; the aphthae have returned, and she is slightly wandering; complains only of weakness; no change noticed in abdomen. On the 10th she vomited blood freely, and clots were found in the dejections.

January 12th. Passed blood again by the rectum; she is greatly emaciated; no swelling or tenderness in epigastrium or elsewhere.

January 15th. Passed more blood yesterday, but to-day there is an improvement noted in her symptoms, which continued until the 18th, when she finally relapsed again, and died the 19th.

Though unusual efforts were made, it was impossible to verify the diagnosis in this case by an autopsy. At first the probabilities seemed to lie between an old pelvic cellulitis, resulting in suppurative extending upwards, coccal abscess, hepatic abscess, hydatid cyst, and suppurative kidney with perinephrite abscess.

The first vaginal examination, to be sure, revealed the evidences of old cellulitis on the right side, but there was neither pelvic heat, tenderness, nor swelling, and externally the outline of the tumor, after it be-

came perceptible, was not traceable downwards towards the pelvis, but distinctly upwards and laterally.

The locality, and especially the fecal odor of the pus obtained by the various aspirations, suggested the possibility of coccal abscess, but here, again, the evolution of the tumor was upwards and lateral, there was no history of typhilitis or intestinal obstruction, and no discharge of pus or blood by the rectum until long after the disappearance of the tumor and apparent convalescence. The fecal odor may well have arisen from contact of the mass with the intestines.

The attacks of jaundice, asserted by the patient to have existed in the early history of the case, suggested the liver as the possible seat of the disease, but there being no other symptom of hepatic derangement traceable, either at first or subsequently, than could rationally be accounted for by adjacent pressure, interfering with its blood supply or its excretory ducts, the inference seemed at least improbable.

During the earlier stages a fremitus, resembling that from hydatids, was felt at times in front, but its site was always resonant, and no hooklets were ever found in the pus obtained, though repeatedly sought for. The first fluid aspirated was not clear,—as would have been probable with an hydatid cyst,—but distinctly purulent.

The patient had, ten months previously, suffered from an attack of diphtheria, from the effects of which she had never fully recovered. Two months later she began to have thick, muddy urine with dysuria, and after another interval of six months, during which time pregnancy occurred, lumbar pains, extending down the leg, supervened, with daily chills and fever. When two to three months pregnant she had oedema, though lasting, apparently, but a short time. From first to last there was abundant pus in the urine. I suppose the case, therefore, to have been one of suppurating kidney, with perinephritic abscess, rapidly enlarging, and pushing the liver upward, displacing the lung, the whole influenced more or less by the pressure of an enlarging uterus. The abscess seems to have been entirely obliterated by the aspirations (in all forty-two and one half ounces of pus), it being lost sight of, and never refilling after the last operation, three weeks before death. Pus continued to discharge from the remaining sac of the kidney or its pelvis through the ureter, delivery took place, the tumor disappeared, and there was fair hope of recovery until, from some septic ulceration into stomach or intestines, a vessel was opened, and fatal exhaustion from hemorrhage ensued.

It would be interesting to trace, if possible, the connection between the antecedent diphtheria in this case and the primary renal symptoms which supervened two months later. Renal congestion and desquamative interstitial nephritis have been long sufficiently well established as common results of diphtheria, scarlatina, etc., but although tonsillar and post-pharyngeal abscesses do occur as sequelae of diphtheria, I am not aware of any well authenticated evidence of an actual suppurative process in the kidney traceable to such causes. Why it should be exempt from such results of pyæmic or septic blood changes as occur in other localities is not so clear.

—Dr. John Brown, of Edinburgh, died on May 11th. He was perhaps best known as the author of *Rab and His Friends*.



## NEPHRO-LITHOTOMY.

## RECOVERY OF COMPARATIVELY GOOD AND CONTINUOUS HEALTH DURING THE PAST EIGHT YEARS.

BY FRANK E. BUNDY, M. D., AND WILLIAM INGALLS, M. D.

OCTOBER 4, 1872, I was called to see Mrs. G. and attended her through a miscarriage. December 9th I was called again on account of excessive flowing, which had continued more or less since her miscarriage. It was at this time that she drew my attention to a trouble with her bladder, from which she had suffered for years. I learned the following concerning her previous history: She was thirty-one years old; her father died in California at the age of ninety-eight from the results of vaccination; her mother at the age of forty-five at the City Hospital after an amputation of the thigh, for disease of the knee-joint; she had four brothers and two sisters in good health; one brother had recently died of consumption. She was married at the age of fifteen, soon after her first menstruation. The menstrual discharge has always been profuse. She has had two children and two miscarriages. Her labors were natural.

In 1859, about two years after marriage, she began to suffer from frequent and painful micturition, which became so distressing that she finally submitted to an examination, which disclosed a uterine polypus as large as a good-sized orange; this was removed by Dr. Storer, and she regained perfect health.

In 1864, while sitting in a chair partially asleep, and resting the left side of her head on a table, she was struck from behind a severe blow on her right side and back with a chair. This blow was followed by severe illness, which obliged her to keep her bed for several days; she had great pain and soreness in the region injured, from which she never entirely recovered.

In March of the next year, 1865, on stepping from a horse car, she was seized with intense pain in the region of the right kidney; it was with great difficulty that she could be got home and into bed. The pain extended down the thigh and leg, and was so severe that morphia in large doses failed to control it, and she was kept for hours under the influence of ether; she had constant nausea and vomiting, and frequent, painful, and scanty micturition. She was confined to her bed for three weeks, and it was five weeks before she could use the right leg. She slowly recovered, but for more than a year at each menstruation she had a return of her distressing symptoms. She has never been free for any length of time from trouble while urinating. Some time in 1869 or 1870 she first noticed, in addition to the brick-dust sediment, which was almost constant, a deposit of thick white matter in the chamber; her distress increased rapidly, and finally the desire to pass water was so frequent at night as to seriously interfere with her rest, and she would frequently find herself asleep sitting on the vessel; she could relieve herself by pressing with her hands over the bladder, and forcing out what she said looked more like white soft soap than anything else. When about the house, she wore a napkin constantly. What follows is from notes.

December 10th. An examination of the urine

shows the amount and color natural, a large quantity of mucus, some pus, and a little albumen. A vaginal examination finds the uterus retroflexed, the fundus easily reached in the posterior cul-de-sac, and very tender; the depth of the cavity is five inches; the bladder is also retroflexed so that in passing the catheter the beak is turned backwards. There are several external hemorrhoids and evident disease of the rectum.

January 21th. Since last date, Mrs. G. has been treated with reference to the condition of her bladder and rectum. The bladder has been cleansed daily with carbolized water, and she has taken medicine internally; as a result, the organ is less sensitive, and the amount of pus and mucus is less. She has menstruated once, the amount of discharge being small, and attended with hemorrhage from the rectum and bladder. Ether was given, and three small hemorrhoidal tumors removed.

February 22d. Since the last date there has been but little change in the condition of the patient. Under ether, applied acaudal nitrate of mercury to several patches of diseased mucus membrane in the rectum. She has menstruated again, attended as before by a bloody discharge from bladder and rectum.

February 28th. Was called in great haste, and found that instead of using a soothing injection that I had ordered, Mrs. G. had injected an ounce of dilute nitric acid into her rectum. The pain and distress resulting from this accident continued for several days, but it was the last application needed for the rectum.

April 23d. Drs. Ingalls and Bixby in consultation. Since February 28th the history of the case has been, in short, as follows:—

February 29th, the day after the injection of the nitric acid, great pain was felt in the region of the liver; on examination a tumor was easily defined, hard, and excessively tender; this I took to be an enlarged liver. The area of dullness gradually increased for two weeks, until it extended down to within two inches of the crest of the ilium and anteriorly to within an inch of the umbilicus. The patient is compelled to lie on her back or right side, any attempt to turn on the left causing great pain. By the use of leeches, poultices, blisters, and tincture of iodine, the pain, tenderness, and swelling has diminished. For the last three weeks there has been almost constant nausea and frequent vomiting; she has complained of severe aching in her right side, and at times of excessive pain in the right umbilical and lumbar regions, and there is also a spot about the size of a half dollar, three inches to the right, and a little above the umbilicus, that is very tender on pressure. The pulse has been natural, except when suffering great pain; the tongue more red than natural, but always moist and free from coating. The bowels are constipated; she has no appetite, and her nights, as a rule, are rendered sleepless by pain. The bladder, although still sensitive, is much less so than it was two months ago. She passes during the twenty-four hours about four pints of urine, in which there are about four ounces of pus and but little mucus; the odor is highly offensive.

Although she has been in bed five weeks, has taken but little nourishment, has suffered almost constant pain, and had but little sleep, neither her strength nor flesh seem to be seriously impaired. She is bright

<sup>1</sup> Read before the Surgical Section of the Suffolk District Medical Society, March 25, 1882, by Dr. Ingalls.

and cheerful and invariably answers to my "How are you this morning?" "Nicely, I thank you."

Night before last she had a severe chill lasting an hour, and last night another.

After a careful examination and consultation, it was decided that either within the abdominal cavity or in the walls, there existed a collection of fluid, probably pus, and that the case might prove to be one of perinephritic abscess. It was decided to aspirate the tumor, and the point of excessive tenderness near the umbilicus was selected for the insertion of the needle. About one ounce of bloody fluid of an urinous odor was drawn and saved for examination. No ether was given, and the operation was well borne.

The next day, April 24th, Mrs. G. seemed none the worse, and in some respects better; she had passed a fair night, and, for the first time for many months, did not urinate from bed-time until morning. The nausea, which has been constant for three weeks, has entirely left her. She reports that after the operation yesterday, she passed from the bladder about a half cup of clear blood. The fluid drawn by the aspirator was examined and found to contain blood, pus, and albumen, and had a strong smell of urine.

The evening of April 24th was called in great haste. Found Mrs. G. suffering paroxysms of intense pain, which she said seemed like a cramp; it came on about noon in the small of her back, went through to her stomach, and then down into her pelvis; during the intervals, which last from three to ten minutes, she is perfectly free from pain. Large doses of opium and hot applications relieved her by midnight.

May 2d. Since the use of the aspirator the patient, with the exceptions mentioned, has been quite comfortable; has had little pain, little if any nausea, less frequent micturition, more sleep, and a better relish for food. The tumor seems to have decreased somewhat in size and is less tender. She averages about three pints of urine a day, in which there is from one drachm to one ounce of pus. She has taken tonics and a decoction of dog-grass. Large and hot flaxseed poultices have been applied, and the daily washing out the bladder with carbolic water continued. The capacity of the bladder is eight ounces.

Saturday, May 3d. Patient has had a bad night. No sleep on account of increased pain; her skin is sallow, her eyes dull and sunken, her face drawn and pinched, and her whole appearance indicates serious internal disease. Her pulse 72, weak and small, and her hands and feet are cold and clammy. The whole abdomen is swollen and tender, but especially over the tumor.

Sunday morning, May 4th. Dr. Ingalls in consultation. No improvement. When freely etherized an exploring trocar was pushed into the lumbar region between the eleventh rib and the crest of the ilium; a small quantity of bloody fluid followed. An incision about an inch long was then made into the cavity, from which escaped about four ounces of blood and pus. On passing the finger into this cavity, a considerable portion of the surface of the kidney could be felt; on the upper anterior part there was a small depression, in other respects it was natural to the touch. The operation was at ten o'clock; at noon she had a severe chill, with paroxysms of severe pain, such as followed the use of the aspirator; by three o'clock p. m. reaction was fully established. At eleven p. m. pulse 120; temperature 102° F. Tongue red and dry,

and face flushed. The pain is controlled by morphia, and a hot flaxseed poultice covers the entire abdomen.

Monday morning, May 5th. Had a bad night; in spite of the opium the pain is severe; it shoots from the side into the stomach and then into the pelvis. Pulse 118; temperature 102° F. Tongue red, dry, cracked, and centre covered with a brown coat. Abdomen much distended with gas. No indications of peritonitis. Takes beef tea, brandy, and morphia. Eleven o'clock p. m. Perhaps less pain this afternoon; has made and signed her will. Thirteen ounces of urine were drawn, pinkish in color, no odor, and no pus apparent. Pulse 130; temperature 102° F. The whole side is very sore, and she moves with great difficulty.

Tuesday morning, May 6th. Dr. Ingalls saw the patient with me. Had a better night, seems brighter and more hopeful. Pulse 110; temperature 102° F. Tongue red, but moist. Suffers from tympanitis. The region of the wound is very tender, and there is a small discharge of pus. Washed out the bladder, changed her clothes, and moved her to the other side of the bed, all of which she bore well. A portion of her urine taken yesterday was examined with the following result:—

Reaction acid. Sediment one fourth inch, pink, and consisting of urates. Albumen present in considerable quantities.

By microscope—Granular casts and pus in small quantities.

Tuesday evening. Pulse 118; temperature 100.7° F. Drew ten ounces urine free from pus, and natural in appearance.

Wednesday morning, May 7th. Looks bright and cheerful; her face has lost its sallow hue. Pulse 110; temperature 100° F. Tongue red, but quite moist. There is a discharge from the opening of a thin, colorless, and odorless fluid which keeps her constantly wet. The discharge of pus does not amount to more than one ounce in twenty-four hours.

Thursday, May 8th. Not so well this morning; had more pain last night. I drew six ounces of urine. The discharge of fluid from the opening is profuse.

Friday, May 9th. A decided improvement. Pulse 96, of fair strength; temperature 98.75° F. Tongue more healthy, and she has more appetite. Less tympanitis.

Saturday, May 10th. Had a good night. Pulse 76; temperature 98.75° F. Was moved into a large room.

May 18th. Mrs. G. has been slowly, but surely, gaining; she sits up in bed, has been moved to a lounge, and says she feels strong enough to walk; she takes a fair quantity of food with good relish. The appearance of the abdomen is natural, and the region of the kidney still somewhat tender on pressure. The average amount of urine passed for the twenty-four hours has been until to-day seven ounces; to-day she passed sixteen ounces, and with the exception of a little pus, it looked natural. The discharge of pus from the cavity has increased, and the amount of fluid is so profuse as to cause great annoyance, frequently wetting through two large folded sheets, and often at night wetting her clothes, her pillows, and even her hair.

From the last date, May 18th, to October 1st there accrued in the progress of the case nothing of importance. She spent her time between the bed and lounge, was able to take a few steps about the room,

and twice rode out. The amount of urine passed was variable, depending, as it seemed, on the quantity of discharge from the side. On two occasions she had retention of urine for twenty-four hours, relieved, as she expressed it, by something giving way, and followed by a large quantity of blood.

On September 17th I gave to Dr. Clement four ounces of the discharge from the cavity, and the same amount of urine, for examination, which he kindly made, and gave me the following report: "The specimen of urine contains albumen, pus, and blood cor-



puscles. The other specimen contains albumen, pus, blood, crystals of triple phosphate, and, with nitric acid, a few crystals of nitrate of urea."

October 1st. Drs. Cheever, Ingalls, and Blake in consultation. For several days the discharge from the cavity has been gradually decreasing; the abdomen is much distended, and the region of the right kidney painful and tender. After consultation it was decided that removal of the kidney should be advised, or, the patient not consenting to this operation, a free incision should be made, allowing a more ready escape of the discharge.

October 8th. There being no improvement in her condition, and Mrs. G. refusing to submit to the grave operation of removal of the kidney, it was decided to make a free opening.

The operation was done by Dr. Ingalls, who furnished, in a few days after, the following description:—

"The sinus being narrow, barely admitted the director, which entered a distance of one and a half inches. With a scalpel upon the director, an opening was made large enough to admit the forefinger, which passed downwards, and a little forwards, into a sac or cavity, which was smooth to the touch, and of the length, nearly, of the finger, and otherwise a little larger. No fluid escaped through the incision other than a small quantity of blood. As, evidently, the purpose for which the operation was made was not accomplished, the finger searched for and found a narrow opening at the upper end of the inner side of the cavity mentioned, and nearly opposite to the point of entrance of the director within it. Introducing the director into this newly-found orifice, it was passed onwards, easily, its whole length, and upon this the scalpel was plunged to the end, and a little beyond, when there gushed forth a quantity of the same kind of fluid which had been flowing for so long a time through the sinus. There were six measured ounces, and at least two ounces more which were not caught. The finger was now introduced as far as possible, and entered a cavity with ragged walls, the size of which I venture to compare to that of a full-grown horse-chestnut. Searching this, at the posterior wall, the finger came in contact

with what seemed to be a calculus, and which proved to be one. Little by little the soft substance embracing the stone was loosened by the finger, and finally the larger fragment was withdrawn by the aid of forceps, and in a few moments, by the same process, the smaller piece; two small fragments broke off at the first touch of the finger.

"The stone, with its fragments, weighs ten drachms and four grains."

This operation was followed, as the other had been, by days of severe illness, attended with high fever and great pain. The patient gradually improved, and in eight weeks was able to be moved to her reclining chair.

January 28, 1874. The discharge having again diminished, owing to a closing up of the sinus, followed by increased pain, swelling, and tenderness, another operation was made by Dr. Ingalls. The original sinus was enlarged to the bottom of the cavity. The probe entered four and one half inches. At a point two inches to the right, and a little above, another opening was made, and the two connected by rubber tubing.

April 15, 1882. The history of this case for the last eight years can be condensed into a few lines.

The rubber drainage tube was retained for three days, and then escaped, and all subsequent attempts to replace it or to assist nature in keeping the cavity well drained were futile on account of the great tenderness of the sinus. In October, 1874, after two or three days of diminished discharge, Mrs. G. was seized with a severe chill, which lasted several hours, during which time she was unconscious. I was sent for, but being out of town another physician was called. On my return I learned that after the chill she had several copious evacuations from the bowels, which resembled in appearance and odor the discharge from the side. I am unable to say positively, but my opinion is that the over-distended cavity found a vent through the intestine. This chill was similar to though more severe than several which she has had since 1874; the last occurred about six months ago.

In June, 1876, she was able, with the aid of crutches, to take a few steps about her room; since then she has been constantly improving, and is now able to walk and ride without discomfort, and says that, with the exception of the soreness in her side, she feels perfectly well.

When the sinus is discharging freely the right side is smaller than the left, but if the flow is hindered the right lumbar region becomes swollen and tender. She is unable to lie down, and sleeps sitting up in bed, any attempt to lie down bringing on severe cramps in her side. Her urine is natural in appearance and quantity.

The greatest annoyance has arisen from the profuse discharge from the sinus: until two years ago she used large quantities of cloth, wads of tow, or a sponge, to absorb this fluid; at that time, at my suggestion, Dr. Green, of Leach & Green, undertook to contrive something for her relief, and the result is all that could be asked for. The apparatus consists of a silver plated reservoir and shield, concave on its inner surface, and convex on the outer. The plate forming the inner surface only covers the lower half, and its upper edge forms a flange, which fits so accurately to the body just below the sinus that all discharges must drain into

the receptacle below. The outer plate extends high enough to completely cover and protect the opening from contact with the clothing. It is held in position by a suspender from the opposite shoulder, and a belt around the hips. To the lower extremity of the reservoir is attached a short rubber tube leading to a rubber bag, holding a pint. The inlet to this bag is provided with a valve, to prevent reflow, and also a stop-cock at its lower extremity, by which its contents can be drawn off. This bag she is obliged to empty, on an average, twelve times during the twenty-four hours.

## OBSERVATIONS ON CATARRHAL FEVER.<sup>1</sup>

BY J. M. DA COSTA, M. D.,

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THOSE engaged in active medical practice must have been struck with the widespread prevalence of an epidemic of catarrhal fever presenting many curious features. As it is only by a study of all such epidemics that we shall ever learn fully to understand this dissimilar malady, I trust it may not prove without value to record before the College my individual experience with it.

The disorder begins almost invariably in a sudden manner, sometimes with a chill, quite as often without it. I have known persons well in the afternoon, and in the evening with a decided fever, and suffering all the discomforts of the catarrhal malady. Among the first signs of this are pain in the throat, and a feeling as if it were filled up, yet looking at it nothing is seen but redness and some relaxation. Fever is by this time developed, at first of only moderate intensity, and with a quick but very compressible pulse. Dry cough soon becomes a feature, occurring not infrequently in paroxysms, and now and then combined with loss of voice, and with difficulty in swallowing. The chest walls are sore, and the cough is painful. Frequent, rather difficult breathing, not associated with any marked physical signs except feebleness of respiratory murmur, is a common symptom. As the malady progresses, more obvious signs of bronchial catarrh may happen, and harsh breathing and dry râles be found on listening to the chest. But here and there will be a spot still marked by feeble breathing, a spot of seeming congestion of the lung and of impaired expansion. Scanty tenacious sputum, blood streaked, is perhaps noticed, to become more copious and purulent only in cases in which the bronchial catarrh is prominent. The eyes are, as a rule, injected or watery, but nasal catarrh does not exist. Yet late in the disease it may come on, and the malady pass off, in the language of the patient, by a bad cold in the head. Besides these catarrhal symptoms, are pains, — chest pains, pains in the neck and scalp, pains in the loins and limbs. The chest pains are most peculiar and severe. They are sharp and like pleurisy, indeed they are so regarded. But only impaired respiration exists, friction does not, save in the rarest instances; and the character of the pain, its having its seat in the chest walls, is shown by its transferring itself with rapidity from one side to the other.

As regards the nervous symptoms, great lassitude, restless nights, and marked hebetude strike us most.

<sup>1</sup> Read before the College of Physicians of Philadelphia.

With reference to the drowsiness, it is often so decided that it is difficult to believe that the patient has not taken opium. Delirium I did not once encounter, nor were the cutaneous hyperæsthesiæ as common as I have noticed them in other epidemics. In truth, on the whole, the nervous phenomena, except the hebetude, were less pronounced.

The duration of the disease is a short one. It does not, unless kept up by complications, exceed a week; nor did I see a fatal case unless from complications. During the rather tardy convalescence, what forces itself on our attention is the weakness with the decided loss of flesh which so short a disease has occasioned. Of course, I am speaking only of marked cases, and not of the slight ones of a few days' duration that abound as a light manifestation of the epidemic influence. Glandular enlargements are very occasionally met with during the convalescence; more often did I notice inflammation of the antrum with its distracting headache and sense of fullness and pain.

I have just alluded to the complications. Pneumonia, catarrhal and lobar, is the most common. And I am quite clear that the great prevalence just now of pneumonia must be mainly ascribed to the influence of the poison of the catarrhal fever. But this is too large a question to enter into here, as it would equally lead me too far to inquire whether there are any clinical differences which separate these pneumonias of epidemic origin from those originating from other causes.

Besides pneumonia, I have met with overwhelming attacks of pulmonary congestion. One, for instance, seen with a medical friend in which a bright lad of sixteen perished who had not been ill forty-eight hours; perished with bloody tenacious sputum, temperature of 104.8° F., intense dyspnoea, heavily congested lungs, terminating in œdema, and amid vanishing pulse, wild struggles for life, and signs of non-aerated blood, in whom, nevertheless, there were no spots of dullness or bronchial breathing or other evidences of consolidation to be detected. Then I saw, with Dr. Herbert Norris, in a previously healthy, although rather delicate, young woman, who was seized with catarrhal fever just as her little girl was fairly convalescent from it, rapid phthisis develop itself, primarily in the lung which, three or four days after the acute setting in of the catarrhal malady, had slowly advanced to imperfect consolidation at its lower part, then more rapidly in the right. On the side first affected a large cavity formed in the lower lobe, and became manifest on about the twelfth day of the disease. The whole duration of the case was just three weeks; the only instance of tubercular affection to be traced in the family was that of an aunt.

The state of the skin is at first dry and harsh. It becomes soft and clammy as the disorder advances, and copious sweats, especially at night, are common. The face at the outset is apt to be flushed, and what has particularly struck me in this epidemic as a feature which I cannot recall to have noticed so strikingly before, is a curious irregular mottling of the surface. This is very marked on the neck and breast, and might easily cause the case to be mistaken for scarlet fever or for German measles. But when closely looked at, it is seen that the capillary injection is really quite unlike the eruption of either.

As temperature observations on catarrhal fever are very imperfect, I recorded whenever a good opportu-

nity offered as many as possible. Here is a case in which with the aid of a very intelligent nurse they were made three or four times daily, and begun a few hours after the first symptoms had manifested themselves.

1st day. 2.30 A. M., 102.2° F.; 6.45 A. M., 100.8° F.; eight P. M., 101° F.

2d day. Eleven A. M., 100.8° F.; nine P. M., 101.6° F.

3d day. Two A. M., 104° F.; 10.30 A. M., 101.5° F.; three P. M., 101.5° F.; six P. M., 103° F.; nine P. M., 105° F.

4th day. Seven A. M., 101.5° F.; nine A. M., 99.5° F.; eleven A. M., 100° F.; six P. M., 100° F.

5th day. Eleven A. M., 99.92° F.; nine P. M., 99.6° F.

6th day. A. M., 99° F.

7th day. A. M., 98.5° F., no evening rise.

This temperature was the highest I have met with in an uncomplicated case. It attained its height on the third day, and is seen to be very irregular. In truth, irregularity of temperature is one of the characteristic features. The temperature is apt to be irregular until the whole disorder markedly declines, when it by gradual degrees, but in the space of a day or two, returns to the normal.

Next to the catarrhal and febrile symptoms the gastro-intestinal claim attention. Disgust for food, pasty tongue, are very usual, and attacks of diarrhoea not unusual. In some cases, indeed, the intestinal catarrhal symptoms are far the most prominent, and it may be that only with their subsidence the bronchial catarrh appears. Nor is it always a simple diarrhoea. Seizures bespeaking an irritation of the large intestine, diarrhoeas soon merging into dysenteries, form quite a fair proportion of the cases. The urine is high colored, scanty, but free from albumen, even in cases with a temperature of 105° F. Only in instances of most marked pulmonary congestion have I known it to contain albumen, and then but in small quantities.

Another complication I have met with is gangrene of the lung. I saw such a case with Dr. Girvin. The sputum was horribly offensive, the wasting decided; a spot at the upper part of the left lung was gangrenous. These symptoms had set in acutely, about ten days after an attack of catarrhal fever in a young woman before in good health.

There is generally little difficulty in the diagnosis of the epidemic malady; the catarrhal symptoms, the signs of the general disorder, are very manifest. Occasionally a puzzling case happens; as, for instance, one in a young girl with nosebleed, with diarrhoea, with high temperature, all within the first week of the disease. Yet the sequence of the phenomena prevented the affection from being mistaken for typhoid fever. The nosebleed came on after the marked catarrhal symptoms; the diarrhoea appeared on the fourth day, and lasted only forty-eight hours; the high temperature continued but for a day, and then there were very irregular variations until, by the eighth day, the temperature had declined to normal.

One of the most interesting features of the present epidemic is its infectious character. In one household five members took it in succession; in another, it began with grandchild and ended with grandmother, after two children, mother, and three servants had had it. Nor are those exempt who are confined to

the house. One of the most marked cases I encountered was in a lady who has been for five years bed-ridden; in another, the patient had not been out of doors for ten months.

As regards the treatment, I have nothing to add to what is well known. It has to be symptomatic; and in the very young and the very old decidedly supportive. My experience, however, makes me urge the advantage of employing quinine almost from the start; and has taught me that small, repeated doses of opium have a most happy, steady, and distress allaying influence.

## RECENT PROGRESS IN PATHOLOGY AND PATHOLOGICAL ANATOMY.

BY WM. F. WHITNEY, M. D.

### THE ETIOLOGY OF TUBERCULOSIS.

ALL the work which has been done up to the present time points to the probability of tuberculosis being an infectious disease, and further, that the virus is intimately associated with an organized ferment. This, however, has never as yet been demonstrated as a definite morphological form, capable of isolation and cultivation outside of the body. Nor have the results of the cultures which have been attempted ever with positive certainty reproduced the disease. During the past week an article by Dr. Robert Koch, of Berlin,<sup>1</sup> whose work on the infectious diseases of wounds and the etiology of malignant pustule (anthrax) has placed him at the head of investigators of such subjects, has appeared, in which he proves as clearly as is possible without the direct inoculation of human beings the dependence of tuberculosis upon an organized virus, and the identity of the forms found among animals and men. The importance of this discovery demands more than a brief summary.

A peculiar method of coloring enabled him first of all to discover the parasite, which had escaped the eyes of all previous investigators. The objects were either examined fresh or after hardening in absolute alcohol. If the first method was chosen a little of the material from recent tubercles was spread as thinly as possible upon a cover glass and exposed to a heat of from 120° to 130° C. for from two to ten minutes. If the tissue had been hardened it was cut in the ordinary manner. The sections or cover glasses are placed in a coloring solution of the following composition: 200 centimetres of distilled water are mixed with 1 centimetre of a concentrated alcoholic solution of methyl blue, this is well shaken, and to this is added under constant agitation 0.2 centimetres of a ten per cent. solution of caustic potash. The objects remain in this from twenty to twenty-four hours, which can be reduced to half an hour by placing them in a water bath heated to 40° C. After removal from this they are at once placed in a watery solution of vesuvium (which must be filtered before each time of using) and then washed with distilled water for from one to two minutes. The sections are to be dehydrated by alcohol, which is replaced by oil of cloves, and then examined in that or mounted in Canada balsam. In these preparations the constituents of the tissue appear brown, while the tubercle bacteria remain of a deep blue color, and can thus be readily distinguished, even when present in small numbers.

<sup>1</sup> Berlin. klin. Wochenschr., April 10, 1882.

The bacteria thus made evident have certain peculiar characteristics. They are staff shaped, and thus come under the group of bacilli. They are very thin and one quarter to one half as long as the diameter of a red blood corpuscle. They are very similar to the bacillus of leprosy, but differ by being slimmer and pointed at the ends.

The bacilli are present in large numbers where the tuberculous process is fresh and making rapid progress. They are usually found thickly pressed together, often in little bundle-like groups situated in the interior of cells, as are also the bacilli of leprosy. Near at hand are found numerous free bacilli, especially on the borders of the large cheesy foci, where they occur in great masses.

As soon as the acme of the eruption is reached the bacilli become fewer, are found only in small groups, or entirely isolated on the borders of the nodules. These take color very feebly, and at times are scarcely to be recognized, and are probably in the process of destruction or already dead. Finally they can entirely disappear, yet this is very rarely the case, and only where the process has come to a standstill.

When giant cells occur the parasite lies in their interior, and in the slowly progressive forms of disease this is the only place where they are to be found. In this case the greater number of giant cells contain one or two bacilli, and it makes an astonishing impression to see each new group of cells containing these diminutive blue-colored rods, almost pendulous in their centre. From their size and position it is probable that the giant cells which contain the bacilli are the youngest, while those in which they are not found are older. They probably have contained the parasite at one time, which has been destroyed or passed into the stage of permanent spores.

The bacilli can also be seen in uncolored preparations. For this purpose a little of the substance must be taken from a place that contains large numbers of them, for example, from the gray tuberculous nodules of the lung of a guinea-pig, and examined in a little distilled water, or better, in blood serum. In order to prevent currents in the liquid a hollowed object glass slip is to be used. The bacilli appear as very fine rods which show only a slight molecular movement, but do not possess the slightest automatic motion.

Spores are formed even in the animal body, under conditions to be described later, and a single bacillus may contain several, usually two or four of an oval form, placed at equal distances throughout the length of the rod.

In the various tuberculous affections of men and animals bacilli have been found as follows: (1.) From man. Eleven cases of milary tuberculosis. They were never missed from the nodules in the lungs, but only to be found, however, in the periphery of those with cheesy centres. They could be found in the tubercles of the spleen, liver, and kidney, and were especially abundant in the gray granulations of meningitis basilaris. The cheesy bronchial glands often contained a thick swarm of the parasite, many of which carried spores.

Twelve cases of cheesy bronchitis and pneumonia, in six cases with formation of cavities. The occurrence of the bacilli was restricted to the edge of the cheesy infiltrated tissue, but they were very abundant. In the exudates they were found in great quantities, the little cheesy bits which are found there consisting al-

most exclusively of masses of the parasites. Several cases containing spores were found in these localities. In the larger cavities they were found mixed with other bacteria, but were easily distinguished by their color.

One case of solitary tubercle of the brain. This was extensively cheesy, and only a few were found in the giant cells in the periphery.

Two cases of intestinal tuberculosis. The bacilli could be easily made out in the nodules, especially in the youngest and smallest, which were grouped about the ulcerations. They were also present in great numbers from the mesenteric glands belonging to these two cases.

Three cases of freshly extirpated scrofulous lymph glands were examined, and the bacteria could be found in but two, and then only in the giant cells.

In two out of four cases of fungous inflammation of the joints the parasites were also seen, but in small numbers.

(2.) From animals. Ten cases of tuberculosis of cattle were examined. These had the customary cretaceous masses in the lungs, peritoneum, and once in the pericardium. In all the cases the bacilli were detected especially in the giant cells in the tissue inclosing the cretaceous masses. The distribution of these was so regular that there was not a cell which did not contain from one to twenty parasites. In one case they were distinguished in the bronchial and in another in the mesenteric glands.

In three cases of cheesy bronchiectasis the bacillus was met with in the tissue of the periphery.

A cheesy cervical gland from a pig contained the same bacillus.

In the organs of a hen, dead from tuberculosis, the medullary portions of the bones, the large nodules of the intestines, in the liver and lungs, a large number of the tubercle bacillus were found.

In three tuberculous monkeys the parasite was found in the numerous nodules which studded the lungs, spleen, liver, and omentum, and the cheesy lymph glands in their neighborhood.

In nine guinea-pigs and seven rabbits, which had developed tuberculosis spontaneously, were the bacteria seen in the milary granulations.

Besides these cases of spontaneous tuberculosis there was a great number of animals which became tuberculous after infection with the various tuberculous substances, namely, the gray and cheesy tubercle of human lungs, the sputa of consumptives, tuberculous masses from apes, guinea-pigs, and rabbits, and the cheesy and cretaceous masses from the lungs of cattle, and finally, the results of the inoculated disease. The number of animals thus used was one hundred and seventy-five guinea-pigs, thirty-two rabbits, and five cats. In every case were bacilli found, often in great numbers, and frequently containing spores.

From these numerous observations the author holds it to be proved that in all the tuberculous affections of man and animals there occurs a characteristic bacterium (which from its smallness and peculiar reaction with coloring reagents had escaped the previous observers). This Koch has designated as the tuberculous bacillus.

From the occurrence together of tuberculous processes and this bacillus, it does not follow that they stand in relation of effect and cause, although a certain degree of probability is given to this assumption from

the fact that the bacilli are especially to be found where the disease is in progress, and disappear when it has come to a stand still.

In order to prove this, however, the parasite must be isolated from the body and bred in a pure medium, until they are freed from all the products of disease arising from the animal organism, and finally the carrying of these isolated bacilli into previously healthy animals must produce the same disease, which, according to experience, has been produced by the inoculation of tuberculous material produced in the natural course of disease.

The method employed for the cultivation of the bacilli was as follows: Serum from the blood of cattle or sheep, obtained as pure as possible, was placed in beaker glasses and stopped with cotton wool and submitted to a temperature of  $58^{\circ}\text{C}$ . during an hour for six days in succession. By means of this expedient the serum was sterilized in the majority of cases. The serum appeared after this operation as an entirely transparent, or only slightly opalescent, almost gelatinous mass. If the temperature rises above  $75^{\circ}\text{C}$ . or is continued too long it becomes opaque.

The tuberculous material is brought upon this prepared blood serum in the following manner: The fresher the material the more likely is the experiment to succeed. For this purpose an animal that has become tuberculous by inoculation or otherwise is killed. The skin of the breast and side is cut through with a knife which has been previously "fired." The ribs are next separated, all the instruments having been thoroughly fired. The anterior chest wall is next removed, care being taken not to open the abdominal cavity, and the lungs are thus exposed to a large extent. The instruments are then exchanged for others carefully disinfected by fire, and single tubercles or patches of the size of a millet seed are quickly separated and immediately transferred to the stiffened jelly by means of a "fired" platinum needle. It goes without saying that the cotton wool plug is to be exposed to the air for as short a time as possible. In this way six to ten glasses should be sown, all of which, even with the greatest care, will not remain absolutely free from impurities.

The culture from human lungs, or from the "pearly" masses of cattle, is much more difficult, yet it has succeeded in the hands of Kock.

The glasses thus sown are to be placed in a constant temperature apparatus, and must be persistently maintained at a temperature of from  $30^{\circ}$  to  $37^{\circ}\text{C}$ . During the first week there is no special change. If any occurs during this time, such as the formation of gray or yellow drops, often with the liquefying of the medium, it is a sign of the presence of impurities, and those glasses must be rejected.

The culture proceeding from the growth of the tuberculous bacillus appears first to the unaided eye, about the tenth day, as little dry points or scales surrounding the bits of tuberculous material. By the aid of a low power, thirty to forty diameters, the colonies of bacilli can be distinguished towards the end of the first week. They appear then as very tender spindle, often S or irregular shaped masses, which, when spread thinly upon a cover glass, colored, and examined with the highest powers, are seen to consist entirely of the very finest bacilli. The growth of these colonies goes on for from three to four weeks. They increase to flat scales, never exceeding the size of a poppy seed,

which lie loosely upon the jelly, which they never cause to liquefy, or into which they never penetrate.

The colonies of bacilli form so compact a mass, that the small scale from the stiffened serum can be lifted up intact by a platinum needle, and can only be broken by using some little force. The exceedingly slow development, which is only obtained at a constant temperature, and the peculiar scaly, dry, firm consistency of these colonies do not occur in the growth of any other known kinds of bacteria, so there is no possibility of confounding the tubercle bacillus with any other.

After several weeks the growth of the colony is ended, owing probably to the fact that they have no automatic motion, and are pushed over the surface of the jelly simply by their increase in size. In order to preserve such a culture in progression it must be carried on to a new soil on the tenth or fourteenth day. This is accomplished by lifting a scale on the point of a "fired" platinum needle, and transferring it to a fresh sterilized glass, where it is to be broken up and pressed out as much as possible. There occur then in the same period the same dry, scaly masses which become confluent. In this way the culture is continued.

In order to meet the objection that from the inoculation of the tuberculous masses in guinea-pigs before the cultivation, a change in the nature of the bacillus could be produced, an attempt was made to cultivate the tubercle bacillus directly from the spontaneously affected organs of men and animals. These experiments succeeded several times, and there was obtained a pure culture from two human lungs with miliary tubercle, from one with cheesy pneumonia, twice from the contents of phthisical vomica, once from cheesy mesenteric glands, and twice from freshly extirpated scrofulous glands. Further, twice from "pearly" lungs of cattle, and three times from the lungs of guinea-pigs spontaneously affected with tuberculosis. These cultivations were all exactly similar to each other and to those which were obtained by the circuitous route of first inoculating guinea-pigs, so there is no doubt as to the identity of the bacillus in the different tuberculous processes.

In regard to the results of pure cultivations he remarks that Klebs, Schuller, and Toussaint have also obtained micro-organisms after the culture of tuberculous masses. But all of these investigators found that their fluids became cloudy after two or three days. In the experiments of Klebs small, quickly moving rods appeared, while Schuller and Toussaint obtained micrococci. The author, on the other hand, has repeatedly convinced himself that the true tubercle bacillus grows but poorly in fluids, never makes it cloudy, and are entirely immovable. Development, moreover, does not take place before two or three weeks. These investigators, therefore, must have had to do with other than the tubercle bacillus.

Up to this point it is certain through his investigations that the occurrence of a characteristic bacillus is regularly joined with tuberculosis, and that these bacilli can be obtained from tuberculous organs and isolated in pure cultures. There still remains to be decided the important question whether the isolated bacilli when they are again brought into the body can reproduce the disease.

In order to exclude every error, in the solution of this problem, in which the difficulty of the entire ex-

periment lies, as many series of experiments as possible were arranged.

In the first series of experiments the animals were inoculated by introducing a fragment of the material into the subcutaneous tissue of the abdomen. The material for the cultures for this series was obtained from the following sources: (1.) From human miliary tubercles of the lungs and bred for fifty-four days before using. (2.) From the lungs of an ape, bred ninety-five days. (3.) From the lungs of tuberculous cattle, bred seventy-two days. (4.) From the lungs of a monkey, and bred one hundred and thirteen days.

Guinea-pigs were chiefly used for this series, and one or two animals in each set were kept under the same conditions, with the exception of inoculation, for control. This rule was always observed in all subsequent experiments. The results of these experiments were all exactly similar, and showed that the inoculation of the bacillus culture in the abdomen produced the same inoculation tuberculosis as if fresh tuberculous material had been brought into the animal.

The next series was the inoculation of the results of various cultures for varying times in the anterior chamber of the eye of rabbits. In all the cases there appeared after the regular period of incubation, first, the iris tuberculosis, and later the general affection, corresponding exactly with the observations of Conheim, Solomonson, and Baumgarten, who had employed the fresh material.

He instituted further experiments by injecting the bacillus culture into the abdominal cavity and directly into the blood stream. By this method he also succeeded in producing the disease, while the animals which had received simply an injection of blood serum unmixured with bacilli remained entirely free from trouble. Further by this same means animals, such as rats and dogs, which are not liable to spontaneous tuberculosis, could be inoculated, and the characteristic appearances were found after death.

The syringes used for these experiments were disinfected by submitting them to a heat of 160° to 170° C. for an hour before using.

The tubercles which followed the inoculation presented the same histological structure as did those which originated spontaneously, and the bacilli were found in the giant cells in the same manner.

In summing up the results of his experiments the author says it is seen that in no small number of animals into which the bacilli were introduced in various ways, namely, by injecting into the peritoneum or anterior chamber of the eye, or directly into the circulation, or by inoculation in the subcutaneous tissue, all became tuberculous without exception, and there was found not only separate nodules but an extraordinary number of tubercles in the organs corresponding to the quantity of the infectious germs. In other animals the inoculation of a very small number of bacilli in the anterior chamber of the eye produced exactly the same tuberculous results that Conheim and others had obtained by the inoculation of pure tuberculous substance only.

A mistake for spontaneous tuberculosis or the accidental infection of the animal by spontaneous tubercle virus is excluded on the following grounds: (1.) Neither a spontaneous nor accidental infection can cause such an extensive eruption in so short a time (twenty-five to thirty days being the average for the full development of the inoculated disease). (2.) The

control animals which were treated in exactly the same way as the infected animals, except that they received no bacilli, remained sound. (3.) There has never occurred in the numerous animals he has injected for other purposes with various materials at various times this typical picture of miliary tuberculosis, which can only occur when the body is overwhelmed at one time with a large quantity of the infectious material.

All these facts taken together warrant us in the assumption that the bacilli occurring in the tuberculous substance are not the accompaniment of the process, but that we have before us the tuberculous virus itself.

With this there is also furnished the possibility of defining what is to be understood by tuberculosis, which before this could not be done with certainty. There was wanting a definite criterium for the disease. Some reckoned to miliary tuberculosis, phthisis, scrofulosis, pearly distemper, etc., while others held all these processes for distinct. In the future it will not be difficult to decide what is and what is not tubercle. Not its peculiar form, nor its want of vessels, nor the presence of giant cells will give the criterium; but the knowledge of its bacillus, be it in the tissue by the color test, or be it by culture on coagulated blood serum. This, then, taken as the standard must, according to his experience, declare miliary tuberculosis, cheesy pneumonia, cheesy bronchitis, intestinal and gland tuberculosis, "pearly" distemper of cattle, spontaneous and inoculated tuberculosis of animals, for one and the same. On scrofulous and fungous disease of the joints his experience does not allow him to give a decision.

The occurrence of the tubercle bacillus in the cheesy gland of a pig, and in the nodule from a hen, cause it to be suspected that tuberculosis has a wider spread among the domestic animals than is generally supposed, and it is greatly to be desired that its distribution in this direction could be exactly learned.

After the parasitic nature of tubercle is determined, in order to complete the aetiology of the disease the question must be answered where the parasite originates and how it gets into the body.

In respect to the first question it is necessary to decide whether the infectious stuff is only developed under relations which are met with in the body, or if, as in the case of the bacillus of malignant pustule (anthrax), it can also go through its stages of growth entirely independent of the animal organism. The result of several experiments showed that the tubercle bacillus only grew in a temperature between 30° and 41° C. Under 30° as well as at 42° C. there was not the slightest growth in three weeks. While by way of contrast the anthrax bacillus grew vigorously at 20° C., and between 42° C. and 43° C. On the ground of this one fact the question can be decided. In the temperate climate there is no opportunity outside of the animal economy for preserving a temperature of at least 30° C. for two weeks without change. It follows from this that the bacillus tuberculosis arrives at its development solely in the body, also that it is not an accidental but a real parasite, and can only arise from the animal organism.

The second question as to how the parasites get into the body can also be answered, he thinks, by the following facts: By far the greater number of cases of tuberculosis take their origin in the respiratory tract, and the infectious material is first to be discovered in



the lungs or bronchial glands. It is therefore very probable that the tubercle bacillus is inhaled sticking to the particles of dust. Concerning the way in which they get into the air there cannot be much doubt when one considers what enormous masses of them are present in the cavities of the lungs of phthisical individuals and everywhere spread broadcast by the expectoration.

In order to obtain an idea of this the sputa from phthisical individuals was examined, and in about half of all the cases were not only abundant masses of the bacillus found but also those which carried spores. Inoculations with such sputa were as successful as if the material itself had been used. Even after drying for eight weeks this sputa was as virulent as ever. Therefore it can be easily imagined that the phthisical sputa dried upon clothing, floors, etc., can preserve its virulence for a long time, and when pulverized and inhaled can reproduce the disease.

Many questions must still remain for the future to decide, foremost among which is the part which hereditary tendency plays in the production of the disease, but to attempt to answer that now would take us too far into the realm of hypothesis. It is, however, a great step forward that in the future there will be something tangible to attack in the attempts to ward off the disease. The two points which come out strongly in this work of Koch's are the infectiousness of the sputa and the infectiousness of the disease of the household animals. And it is against these that attention should be first directed.

It is also to be hoped that the methods which have been proved successful in investigating the ætiology of tuberculosis may also be used in working out the other infectious processes, especially those diseases which are most closely related to it, as for example syphilis and glanders, and which form with it the group of the infectious tumors.

His paper is closed by the following significant paragraph:—

Let the physicians once recognize that tuberculosis is an exquisitely infectious disease, and the necessary precautions for its prevention will develop of themselves.

The presence of the bacillus in tuberculous nodules has been confirmed already by the independent discovery of the same by Baumgarten.<sup>1</sup> He has observed them in the nodules which were produced by the inoculation of pearly masses from cattle, and also in the fresh nodules from human lungs. His description of their form coincides with that given by Koch.

## Hospital Practice and Clinical Memoranda.

### CARNEY HOSPITAL.

SERVICE OF DR. M. H. RICHARDSON.

REPORTED BY C. W. SPARHAWK.

RENAL CALCULUS; REMOVAL; RECOVERY.

J. R., twenty-one years of age, single, farmer, was operated on at the Massachusetts General Hospital at the age of sixteen. The hospital records give the following history: Age sixteen. Has not been able to run or "ride in a cart" for a year, or to jump about without great pain. July 4, 1874, was examined by

Dr. Porter with a lithotrite in order to get the size of the stone. The calculus was phosphatic, and so soft that it could not be detached from the instrument. Dr. Porter was obliged, therefore, to crush it; it was about the size of two large peas. During the next day he passed a few fragments with his urine. The operation caused no pain nor after trouble of any kind.

July 7th, three days after the operation, he felt perfectly well, and was able to get about, jump, or run without any trouble or pain whatever. Since this time he has been subject to involuntary micturitions. His urine has contained "stringy settlements." He has frequently passed stones. Three years ago he had an abscess in the left lumbar region which lasted three months. When it broke a large stone escaped. As the swelling subsided he says he coughed up a large quantity of pus, first in gushes and then in small quantities. In September, 1880, he was taken sick again with pain in the left side. Passed light-colored urine of very offensive odor, containing much sediment. There appeared again a swelling in the left side as before, in the lumbar region. These symptoms continued till February, 1881, when, without medication, the urine became transparent. In February, while at Tewksbury, he had retention of urine for two days. At the end of this time he passed several small stones, which gave him complete relief. Has been aspirated twice, the last time at Tewksbury, yellow pus being drawn. He was admitted to the Carney Hospital in the latter part of June, 1881. At that time he was much emaciated; the skin had a very peculiar bronzed hue, suggesting the appearance described in Addison's disease; the tongue was coated; breath foul; temperature slightly elevated, and general appearance bad. A tumor was found in the left lumbar region, occupying the entire space between the crest of the ilium and the last rib. It was moderately soft, and deep fluctuation could be obtained.

June 26th. The tumor was aspirated, and about eight ounces of fetid pus was withdrawn.

July 5th. Analysis of urine: reaction acid; color pale yellow; specific gravity 1022; albumen one fourth per cent.; sediment considerable in amount, composed of pus and a few epithelial cells.

It having seemed advisable to make an incision for the sake of free evacuation and drainage, the patient was etherized, and an incision, three inches in length, made in a line parallel to the spine, and four inches from it. After evacuating about two ounces of fetid pus and exploring the cavity of the abscess, a small and hard concretion was found in the bottom of the wound. The walls of the cavity were smooth and velvety to the touch except where the calculus was attached. At these points it was necessary gently to separate the stone from the abscess wall. A moderate amount of hemorrhage followed, which was easily controlled. There was no escape of urine or anything suggesting it. The kidney could not be felt, nor anything resembling it, though the cavity of the abscess was sufficiently deep to enable the finger to reach the proper position of the viscus. Carbolyzed gauze was used to protect the wound, Lister's precautions having been carried out through the operation.

On renewing the dressing on the following morning, the patient having meanwhile passed a restless night, the gauze was found completely soaked with a most foul and stinking discharge. The odor of the wound was so very frequent that it was feared that the de-

<sup>1</sup> Centralblatt f. d. Med. Wissenschaft, April 13, 1882.

scending colon had been wounded during the operation, especially as the incision had been made very near the posterior wall of the intestine. Large oakum dressings were substituted for the gauze. During the next ten days the discharge became much diminished in quantity, and lost its fetid odor. The patient steadily improved in every way. An examination of the urine on the day after the operation gave the following results: amount in eight hours, one and one half pints; color high; specific gravity 1011; reaction alkaline; albumen one half per cent; sediment chiefly pus with some triple phosphates and renal epithelium.

The condition of the patient steadily improved during the ten weeks following that he remained in the hospital. The wound was well drained by means of a large drainage tube, which was removed from time to time as it became foul or in any way obstructed.

September 22d he was discharged for drunkenness. By that time he had gained thirty pounds in weight, was well filled out in the face and body. There was still existing a sinus which discharged more or less pus.

An examination of the calculus, made by Dr. Charles Harrington, proved it to be phosphatic. The weight was thirty grains, which is certainly very little considering its size.

## Reports of Societies.

### PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

#### SURGICAL SECTION.

H. C. HAVEN, M. D., SECRETARY.

APRIL 1, 1882. Dr. R. M. HODGES presiding. Fifty members present.

Dr. WILLIAM INGALLS reported a case (1) of

#### RENAL CALCULUS WITH RECOVERY AFTER OPERATION.<sup>1</sup>

Dr. M. H. RICHARDSON also reported a case (2) of the same nature.<sup>2</sup>

In the discussion which followed on the two cases, Dr. BLODGETT asked if the history of expectoration of pus in Case 2 was credited, and if so, was there supposed to be any connection between it and the condition found.

Dr. RICHARDSON answered in the negative.

Dr. BLODGETT also asked if the situation of the swelling was not unusual.

Dr. RICHARDSON stated that the patient was sent to the hospital as suffering from empyema. He had never credited the diagnosis, as there were no physical signs of it, and the operation was the result of a diagnosis of perinephritic abscess.

In reply to a question as to the nature of the discharge in Case 1, Dr. INGALLS said an analysis would shortly be made and published with the case.

Dr. LYMAN asked the theory of the origin of the abscess.

Dr. INGALLS thought that the blow had a causative effect, though there might have been other factors. He believed a blow was often the determining cause of many surgical affections, such as cancer of the breast; there were undoubtedly very often predisposing influences, but the blow was the directly exciting cause.

There were so many cases of cancer of the breast following a blow, or of disease of the knee-joint following a wrench or twist, that it seems unfair to deny a causal relation.

Dr. HODGES asked if there had been any severe hæmorrhage in either of the cases reported. The answers were negative. He then spoke of the great danger in these cases of introducing the finger into the cavity for explorations more than is absolutely necessary, on account of the net-work of vessels traversing the cavity, the supporting connective tissue of which had been destroyed. He also spoke of the interest of Dr. Ingalls' case, inasmuch as the operation was among the earlier ones of modern times. Although calculi were removed occasionally in ancient times, since the introduction of antiseptics "abdominal surgery" had so advanced that extirpation of the kidney and removal of a renus calculus are now comparatively frequent. In 1873, however, it was a rare operation. With the light of our present experience it is probable that in Dr. Ingalls' case, had it occurred within the last year or two, extirpation of the kidney would have been more strongly urged, especially in view of the fact that the first investigation of the tumor was made from the front.

Mr. Thornton has of late successfully removed the kidney from the front in two cases, and he states that this viscus can be reached through an incision on the outer edge of the rectus muscle more advantageously than by one in the median line.

Dr. LYMAN mentioned that Lawson Tait and Byford had also removed the kidney through an incision in front.

Dr. G. H. LYMAN read a paper entitled

#### A CASE OF PERINEPHRITIC ABSCESS.<sup>3</sup>

Dr. INGALLS asked the point where the aspirating needle was introduced.

The reader answered at the intersection of a line perpendicular to the anterior superior spinous process, with a transverse line on the level of the umbilicus.

In reply to a question as to the advisability of a free incision as soon as pus was proved to be present, Dr. LYMAN thought it unwise as long as the diagnosis was in doubt.

Dr. CUTLER did not consider it proved that the trouble in the bladder was not the cause of the perinephritic abscess, if such existed.

Dr. LYMAN answered that the cystitis was very mild, and it would be difficult to conceive of it as a cause. Interstitial nephritis may, as noticed by good observers, follow diphtheria; can interstitial nephritis cause suppuration?

Dr. LYMAN stated that the tumor was not aspirated in the rear for the reason that at first it bulged in one spot in front, and was more fluctuating there; later an incision and puncture were made farther back, as stated in the paper.

Dr. HODGES stated that he had always aspirated or opened from the rear because the drainage was better, and the peritoneum was avoided. In most of the cases he had observed the connection between the kidney and the abscess was absent; the abscess was perinephritic and not nephritic. It is a satisfactory class of cases to treat, as the relief is great and convalescence rapid. In regard to the question of empyema, it is well to remember that perinephritic abscess is often accom-

<sup>1</sup> Vide page 181 of the JOURNAL.

<sup>2</sup> Vide page 191 of the JOURNAL.

<sup>3</sup> Vide page 181 of the JOURNAL.

panied by a pleuritic cough, due to the irritation of the abscess pressing up against the diaphragm. In one case where he was called in consultation the patient had been supposed to be dying of phthisis; a perinephritic abscess was diagnosed and opened; during the operation the patient expectorated bloody pus, showing a connection between the lungs and the abscess; after the operation a discharging point on the inner side of the ankle was discovered, which proved to be the orifice of a sinus, the pus having burrowed from the lumbar region. The abscess might therefore be said to have extended the whole length of the patient's body.

DR. LYMAN asked if the case might not have been one of primary pleurisy resulting in empyema burrowing below the diaphragm.

DR. HODGES stated that although his memory failed to recall all the details, they were such as to leave no doubt in his mind at the time that the case was one of perinephritic abscess.

DR. GANNETT mentioned a case where the pus from the lumbar region had burrowed one third of the length of the femur.

DR. BLODGETT asked if the presence of fat globules in the urine afforded any indication.

DR. CUTLER said that the presence of free fat in large drops might indicate the rupture of any collection of disorganized tissue into some portion of the genito-urinary tract. Such an amount as Dr. Blodgett mentioned could only come from the disorganization of any tissue containing a large amount of fat, which is not the case in the kidney substance itself.

DR. MARCY spoke of a form of perinephritic abscess developing slowly, and convalescing slowly after operation.

DR. HODGES saw no difference between the cases reported by Dr. Marcy and other cases, except that the former did not get well as quickly.

DR. BRADFORD asked if the back had been examined to determine whether caries of the spine existed.

DR. LYMAN answered in the negative, and that there was nothing in the history of the case to call attention to the spine or to the possibility of the existence of caries, and, moreover, that he had supposed an abscess from caries would burrow along the course of the psoas muscle.

DR. BRADFORD stated that this was not invariably the case. In a patient for a long time at the Carney Hospital, a large abdominal abscess had existed for a long time, and caries of the spine was not at first suspected. The woman remained under observation for some time, and the later developments of the case, and the appearance of a projection in the lower dorsal region established the fact that caries of the vertebrae was present.

Pott's disease in the lower part of the spine is not easily recognized at an early stage, and the symptoms are not always such as readily attract attention.

## NEW YORK ACADEMY OF MEDICINE.

THE LATE DR. JAMES R. WOOD.

At the last meeting of the New York Academy of Medicine, held May 18th, the statistical secretary, Dr. F. V. White, made the formal announcement of the death of Dr. James R. Wood, and gave a brief biographical sketch of the distinguished surgeon. He was followed by Dr. Lewis A. Sayre, who made some eulogistic remarks upon Dr. Wood, and then presented a series of appropriate resolutions in regard to his death, which had been drawn up by Dr. Wm. H. Van Buren, who was prevented by illness from being present. In seconding the resolutions Dr. Willard Parker took the opportunity of paying a glowing tribute to the worth of the deceased, who was one of the original founders of the Academy, and Dr. Detmold also made a few remarks upon his many excellent qualities. Before putting the resolutions to vote the president, Dr. Barker, spoke eloquently of Dr. Wood, and alluded especially to the pertinency and force of the remarks which he had made the last time that he was present at the Academy, on the occasion of the reading of Dr. Sims' paper, in October last, on the contributions of gynecology to the subject of general peritoneal surgery. After the resolutions had been unanimously adopted, Dr. Barker announced that he would appoint Dr. Frederick L. Dennis, the pupil and intimate friend of the late Dr. Wood, to read an appropriate memoir of the deceased before the Academy in the coming autumn.

### LITHOTRITY WITH EVACUATION.

The principal business of the evening was the delivery of an address on the subject of lithotripsy with evacuation, by Prof. Henry J. Bigelow, of Boston, who was gracefully introduced by the chair. In commencing, Dr. Bigelow remarked that when asked, some time ago, by the president, to present this subject before the Academy, he felt that it was one which had already become so old and was so familiar to most surgeons that he could offer but little of interest in connection with it, and said that it was only when the request was again urged, at a subsequent time, that he had reluctantly consented to do so. He believed, however, that his own additional experience, and especially that of the New York surgeons, had now thrown more light upon the matter. He could not forget also that it was in New York that the procedure which he had labored to perfect had received its first distinct approbation, and that at a time when it needed friends. The profession here had then tested the matter by practical experiments, and he could not refrain from mentioning his special obligation, among others, to the distinguished Professor Van Buren for his interest and assistance in it.

The subject, he continued, was one relating distinctly to operative surgery, a mechanical one, and it was to the mechanical part of it — a mere matter of physics — that whatever advances had been made in lithotripsy of late were really due. He should confine himself, therefore, during the limited time at his disposal, to the mechanical procedure, because he believed that what the Academy would, perhaps, prefer now to discuss. There were a number of points in regard to which he would like to have an expression of opinion from some of the gentlemen present. Any common lithotrite, he went on to say, would break a stone, and most evacuator's will remove it. But it was an important ques-

I MUST go forth into the town,  
To visit beds of pain and death,  
Of restless limbs, and quivering breath,  
And sorrowing hearts and patient eyes  
That see, through tears, the sun go down,  
But never more shall see it rise,  
The poor in body and estate,  
The sick and the discolate,  
Must not on man's convenience wait.

— *The Golden Legend.*

tion which special instrument would do it best. Although it was stated, during the noted discussions which took place in London, in 1878, by Sir James Paget and other authorities that the subject of lithotomy had apparently gone as far as it could, and that the operation would probably not be further improved, yet since that time all the lithotritists had been steadily at work, and distinct advances had been made. It was desirable at the present day to use instruments materially different from those formerly in use, although the whole question was still one of breaking up a stone, and getting the fragments out through the urethra, an operation that had been in vogue for many years.

When Civiale commenced to operate he required from twenty to thirty minutes, but he gradually reduced the time as he improved his instruments to three or four minutes, a limit to the sitting generally accepted and taught since Civiale's day.

The means for removing the fragments completely, however, did not formerly exist. The sharp fragments remained in the bladder, and did the damage, not the operation. When it came to be possible to remove them, it was found, to the surprise of everybody, that the bladder was a very tolerant organ. That this tolerance of the bladder had never been suspected up to that time, and the fact that such an error had existed for half a century seemed to show the advantage of doubting everything in medicine of which we had had no personal experience. The single agent to which actual progress was due was the large catheter which held the urethra open while the fragments were drawn out through it, and it was a fact that the small catheter of Clover's instrument had retarded progress for a very long time. Long ago, in 1846, Sir Philip Crampton had drawn out a large quantity of dust in the form of powder by means of a vacuum made in glass. If fragments were completely pulverized, of course a small catheter would answer for the whole calculus, but the bladder could not afford to wait to accomplish this.

A large catheter by itself was not a new device, since it had been in use in former times to some extent. Collin's instrument had a catheter of number 25 or 26, but it was found to be inefficient, and was soon pronounced an impracticable failure. The distinctly new and important point in the instrument now employed was the use of a large catheter (of from 25 to 31) in combination with an efficient suction. This constituted the novelty of the thing. Having, then, the large catheter, the first question was, should it be straight or curved? This was a matter concerning simply the introduction of the instrument, and Dr. Bigelow said that he preferred a straight catheter, since he found it generally easier to pass this than a curved one. As most of the passage was practically straight, a straight tube could be introduced with greater facility than a curved one. The question of straight or curved was, then, simply one of convenience, and was related to the habit of the operator and sometimes to the individual case.

Dr. Bigelow next described the character of the extremity of the catheter which he preferred, and drew a diagram of it upon the black-board. It was oblique and blunted, and had a projecting lip of considerable length below, while the orifice was above. The orifice, he said, should be about the size of the calice of the interior of the tube; for if it were larger than this a fragment was liable to become lodged there, and in

this connection he mentioned a death that had occurred in consequence of the orifice of the catheter employed being disproportionately large. A fragment thus became fixed, and as a result of the laceration of the urethra occasioned by it the patient died of septicæmia. It was also recommended that the tube-wall, above the orifice, should be thickened, so that no injury might be inflicted by its edge.

The next point involved the important matter of retaining the fragments when they had been once gotten out from the bladder. It was a curious fact that until now all evacuator, so far as he knew, returned to the bladder something like from one third to one half of all fragments withdrawn. This had been attributed to the length of the elastic tube sometimes employed; but the length of the tube was not the main difficulty. As a fact, it was found on investigation that the fragments were really returned from the bulb, and that a little additional prolongation of the tube made very little difference. Nevertheless he had tried to devise a trap at the extremity of the tube. One consisted of a little glass cylinder containing a valve in the shape of a loose rubber ball, which worked backward and forward, and thus closed and opened the orifice alternately, while the water returned through a strainer. This device he had found to work very well, but as the objection had been made against it that it was too complicated an arrangement, he had afterwards employed a simpler one, which also acted perfectly, and which he had not as yet published. This was fastened more or less than a half an inch of cotton tube fastened at the end of the metal tube in such a way that it acted as a valve in closing and opening the orifice. Still, as even this might be thought by some surgeons a little complicated he had tried quite a variety of other valves. One objection to a metal valve was that it was liable to become obstructed by fragments. Consequently he had been obliged to resort to still other expedients, to which he would recur in a moment.

He would now go a step further, and speak of the evacuator as a whole. We are to dispose by means of it of air, water, and fragments. The receptacle for the fragments might be placed either between the catheter and the bulb or below the bulb itself. For his own part, Dr. Bigelow said, he considered it better to place the receptacle immediately below the bulb, especially for the reason that it materially shortened the instrument, and this of itself was a very important advantage. It was also an important matter to place the axis of the bulb in a line with the axis of the catheter. Otherwise there would be a leverage causing the instrument to work at great disadvantage. The moment the bulb and the receptacle were combined in one piece the question arose whether or not the catheter should be detached by an elastic tube to allow its freer motion. The ordinary straight elastic tube was liable to double on itself, and thus prevent the free flow of water; but a curved tube of proper construction was not open to this objection. In regard to the use of a stand, Dr. Bigelow said that his preferences had been in favor of it. Perhaps his present opinion might be best expressed in this way: If the stone were a small one, and the operation short, it was better to dispense with the stand; but if it were large, the stand was a considerable help, since the two or three pounds' weight of the instrument made quite a difference to the operator if it had to be supported by the hand. Still, the general belief in such matters was often the correct

one, and the prevailing practice, which was opposed to the use of the stand, he was willing to adopt.

Dr. Bigelow then exhibited the first instrument which he employed, and remarked, in connection with it, that it made no sort of difference at what point the catheter entered the bulb, provided it did not finally deliver directly at the top where the air collects. If the tube penetrated even for a short distance into the bulb, from above, an air chamber was formed by this means at once. The only air that belonged legitimately in the bulb was that which came from the catheter, and the amount of air varied with the capacity of the catheter. The best rule was to have the catheter deliver as near the centre of the bulb as possible, and when this was the case, the greatest possible facility was afforded for the uninterrupted passage of the fragments into the receptacle below. If the tube entered the lower narrow part of the bulb where the fragments accumulated, it was important that it should be prolonged above this point, or else they would be returned in great quantity to the bladder. This, he said, brought him to the point of showing how regurgitation of the fragments from the bulb took place in almost all instruments. He then exhibited one which he said had been abandoned by its author, beneath the bulb of which he had attached a short glass tube so that the course of the currents might be observed. It was clearly demonstrated that a considerable portion of the fragments went directly back into the bladder. How then, it might be asked, was evacuation ever accomplished by such an instrument? Simply by washing the fragments backward and forward between the bladder and the instrument until all of them had been finally dropped into the receptacle. This has been, till now, a serious defect of many evacuators. There is in this instrument also a current, which actually lifts the fragments out of the glass receptacle and sends them back to the bladder. In other words, the general fact held good, that wherever the water goes in an evacuator, the fragments go also, unless they are prevented by means of a strainer.

Dr. Bigelow next exhibited the latest instrument devised by Weiss, of London, which he had received during the past winter, and remarked that the first difficulty about it was that, as in Clover's evacuator, the bulb was not stiff enough. In his own instruments, a special point was made of having the bulb sufficiently stiff. A second difficulty was that the fragments, following as usual the course of the current, some of them collected in the bulb and were thence carried back into the bladder. Dr. Bigelow next exhibited another of his own instruments with a valve, which he had once published, and which worked perfectly well, although he said that it was not as simple in construction as was desirable. It was provided with a stand. He had often felt it a relief to stop once in a while in a long operation to see how things were going on, which the self-supporting character of the instrument enabled one to do with ease. With regard to the rubber hose which was attached to the top of the bulb and provided with a stop-cock, he regarded the device as a great advantage, and had continued to employ it in all his evacuators up to the present time. Its purpose was not only to dispose of the air, but especially to add or remove water. As had been stated, the only air legitimately held in the bulb was that contained in the catheter. If it were wished to get rid of even this amount of air, it could be promptly accomplished by compressing the bulb and filling its place with water by means of the hose. Another point in connection with

the latter was, that all bladders were not of the same size or the same elasticity. In a small bladder it was difficult to evacuate completely because the walls were liable to fall against the catheter. This was because there was not enough water in the bladder. It could be easily added by means of the hose; the quantity of water could be thus graduated exactly according to the desire of the operator. Sometimes during the operation the patient strained or vomited, so that everything became very tense; and in that case we had only to open both stop-cocks and deliver the water temporarily. He believed, therefore, that the hose was a valuable addition, both for the purpose of getting rid of air and of regulating the amount of water according to the circumstances arising from time to time during the operation.

Finally Dr. Bigelow exhibited the new and simple instrument which he said he had now settled down upon, and which could be used with either a single stop-cock or with two, as might be preferred. In the first place, it had a spherical bulb acting as a handle in the axis of the catheter. In the second place, it is quite short from end to end. In the third place, the obliquity of the tube carried the receptacle high in the air, one advantage of which was that it was nearer the level of the eye of the surgeon. In the fourth place, the whole thing fitted well into the cavity of the hand which held it. In regard to the use of stop-cocks, he preferred to have two instead of a single one. He then gave a demonstration of its manner of working, and, after a moment or two, it was found that there was not a fragment left remaining in the glass vessel used to represent the bladder. The simple method by which this desirable result was accomplished, he said, could readily be understood. There was a cylindrical strainer that prolonged the catheter inside the bulb, and inasmuch as all strainers may get clogged with fibrin, resulting from the inflamed state of the bladder, it was so arranged that it could be readily removed for the purpose of brushing it. It could be replaced in an instant; so that very little time was consumed in this way. The fragments enter the bulb from the bladder through the main orifice, by reason of the momentum which the current has acquired in coming from the bladder. But the combined area of the small apertures along the tube being much larger than that of the principal orifice at its extremity, most of the water returns by these apertures, and is strained.

Dr. Bigelow then spoke briefly in regard to the lithotrite. He stated that the most convenient instrument of any sort was that which was best adapted to the movements of the hand. In devising his own instrument, therefore, he had first considered which was the easiest motion of the latter, and had arrived at the conclusion that this was its rotation. He had, therefore, not only made the handle of a size adapted to that of the hand, but in such a way that it could be worked by rotation. He had also provided it with a lock by means of which any position of the blades could be maintained as long as desired; so that it was not necessary to change the position of the hand. The blades were made at as near a right angle as would admit of their introduction into the bladder with convenience and safety, and are thus found to work at a much greater advantage than the more oblique blades formerly sometimes employed. As the greatest impaction always took place at the heel of the instrument he had abandoned the idea of crushing much at this point, and passed a flange through it, in order to bisect the

detritus and discharge it laterally. The crushing was mainly done in front of the heel. When the patient was in good health, he said, in conclusion, he believed that the safety of the procedure depended simply upon the surgeon's skill, and that if proper care was observed there would very rarely be any bad results with the facilities now at our command. In cases where the kidneys were affected, however, the same favorable results were not, of course, always to be anticipated.

When he had finished his remarks the subject was discussed by Drs. Weir, Otis, Sands, Keyes, Gouley, Hamilton, Willard Parker and others, and a vote of thanks was then tendered Dr. Bigelow for the lucid and entertaining exposition of his methods with which he had favored the Academy.

### Recent Literature.

*Lectures on the Pathology and Treatment of Lateral and other Forms of Curvature of the Spine.* By WILLIAM ADAMS, F. R. C. S. Second edition. London: J. and A. Churchill. 1882.

When the first edition of this book appeared it easily won its place as the clearest and best work in the English language on the subject of lateral curvature. In the eighteen years which have elapsed since nothing has been written that is better. The slight additions which the writer has made in the second edition show, however, the little progress won in the knowledge and therapeutics of this subject.

Mr. Adams rejects the muscular theory of the causation of lateral curvature, that is, that which explains the distortion as the result of the contraction of certain muscles. He believes the deformity due to alterations in the articulations of the spinal column, resulting from abnormally distributed pressure, this latter resulting from "vicious" postures assumed habitually or from necessity by the patient. An interesting illustration of this has recently been mentioned by Ory: Two growing girls, sisters, attended the same school, and sat at the same bench during school hours. The seat and desk were apparently badly constructed, and did not give ample elbow room. The girls were in the habit of leaning on one arm, and to avoid crowding they leaned away from each other. The result was that a lateral curvature developed in each, but the curve was reversed in one as compared to that which existed in the other.

The points to which Mr. Adams alludes as useful for the ready recognition of the disease in its early stage should be remembered by all practitioners, namely, the prominence of a shoulder (that is, scapula); the prominence of the hip, and also sometimes of one breast rather than any curve in the line of the spinous processes. Rotation is to be seen most readily when the patient stoops. If no alteration of the articulations is present the spinous processes should come into line when the patient curves the back; in this position any undue prominence on one side as compared to the other can be seen.

Mr. Adams justly classifies the disease not on the direction and degree of the curvature alone, but also on the causative influences which give rise to the distortion. The classes he defines are as follows: First, cases essentially of constitutional origin, where the constitutional can largely predominate over the local.

Second, cases depending equally upon constitutional and local causes. Third, cases depending essentially on local causes.

Mr. Adams states his views in regard to treatment clearly and well. The appliances, however, which he figures illustrate the slow-rate progress in mechanical therapeutics during the last twenty years, as the "braces" remain nearly the same ungainly scaffolding which the past generation suffered under. It is to be hoped that the fertile American mind will develop some mechanical beauty in the "machines" of the past, or that at least writers will use more attractive wood-cuts.

The systems of treatment which have been recommended are, as grouped by Mr. Adams,—

First. The system of complete recumbency.

Second. The system of muscular exercises.

Third. The system of cutting spinal muscles.

Fourth. The system of mechanical extension.

Fifth. The system of mechanical support and pressure by the use of appliances.

Rejecting all "systems" as such, Mr. Adams claims superiority for the mechanical treatment if one plan alone must be adopted. He adds that it is impossible to straighten a curved spine in the manner that a bent knee is straightened, but in combination with partial recumbency, and, in some slight cases, with muscular exercises, it is quite possible to cure a curvature of the spine when slight and of recent formation in a young person, and it is certainly within our power most effectually to arrest the progress of curvature when more severe.

— At the annual meeting of the Worcester District Medical Society, May 10, the following officers were elected: President, Dr. E. B. Harvey, Westborough. Vice-President, Dr. Albert Wood, Worcester. Secretary, Dr. J. Bartlett Rich, Worcester. Treasurer, Dr. John O. Marble, Worcester. Librarian, Dr. Leonard Wheeler, Worcester. Orator, Dr. Warren Tyler, North Brookfield. Committee on Waldo and Wilder Funds, Dr. Thomas H. Gage, Worcester; Dr. John G. Park, Worcester; Dr. George E. Francis, Worcester. Commissioner on Trials, Dr. J. S. Ames, Holden. Councillors, Dr. E. B. Harvey, Westborough; Dr. Thomas H. Gage, Worcester; Dr. Oramel Martin, Worcester; Dr. J. Marcus Rice, Worcester; Dr. John G. Park, Worcester; Dr. Leonard Wheeler, Worcester; Dr. George E. Francis, Worcester; Dr. Frederick D. Brown, Webster; Dr. Ford Kendrick, Grafton; Dr. Franklin W. Brigham, Shrewsbury; Dr. Albert G. Blodgett, West Brookfield; Dr. Walter P. Bowers, Clinton; Dr. William M. Parker, Milford. Councilor on Nominations, Dr. Oramel Martin, Worcester. Censors, Dr. William H. Workman, Worcester; Dr. Wesley Davis, Worcester; Dr. George C. Webber, Milbury; Dr. Jerome Wilmarth, Upton; Dr. J. Bartlett Rich, Worcester. Auditing Committee, Dr. Joseph Sargent, Worcester; Dr. Oramel Martin, Worcester; Dr. Albert Wood, Worcester. Library Committee, Dr. Leonard Wheeler, Worcester; Dr. Lewis S. Dixon, Worcester; Dr. William H. Workman, Worcester. Committee on Ethics, Dr. Wesley E. Brown, Gilbertville; Dr. W. E. Rice, New England Village; Dr. Henry S. Knight, Worcester. Reporter, Dr. H. M. Quinby, Worcester.

## Medical and Surgical Journal.

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## SOME OF THE SANITARY FRIVOLITIES OF THE PRESENT MASSACHUSETTS LEGISLATURE.

It certainly is not a little distressing that the good people of the Commonwealth of Massachusetts should, at the present moment, be compelled to read the criticisms of a Matthew Arnold upon the social condition of this country at large, in which he insists, with a show of reasons not easily dealt with, that we represent essentially an immense middle class, with its virtues and limitations, divested of the social elevations and depressions of older countries on the other side of the Atlantic. It is, we say, not a little distressing that, at the very moment when, confessing the truth of some of these comments, we take refuge in the thought that the virtues of the middle class are those which perpetuate and develop, if they do not adorn, civic and social life,—that just at such a moment the legislature of Massachusetts, a State where education and good sense or hard headedness should, if anywhere, be known of their children, should indulge itself in silly eccentricities and inconsistencies far more characteristic of the follies of the "aristocrat" or of the ignorance of the "barbarian" than of the useful but unpicturesque middle-class social development.

The city of Boston at present discharges its sewage upon flats, which are bare at low water, and in the immediate vicinity of its densest population. This has been going on for years, and at times a nuisance results. The construction of the tunnel under Dorchester Bay, and of the outfall works on Moon Island, necessary for the discharge of the city sewage into the outer harbor, has been unavoidably delayed, and cannot be completed for two years. The legislature was petitioned to prevent the discharge of the city's sewage, pending the completion of the tunnel and outfall works, into Dorchester Bay, a project entertained for relieving the old flats, which have been thoroughly drenched in past years. A joint special committee of the two branches was appointed for a hearing on the subject. Some few representatives of the comparatively sparse population around the bay remonstrated; on the other hand, Mr. J. P. Davis, formerly city engineer, Mr. E. S. Philbrick, a civil sanitary engineer of well recognized capacity, Mr. W. H. Bradley, superintendent of sewers of Boston, Mr. E. C. Clarke, first assistant engineer in the construction of the new sewers, Dr. S. H. Durgin, city physician, and Dr.

Walcott, secretary of the Health Department of the State Board of Health, Lunacy, and Charity, all testified with the weight of their respective and varied trained skill and experience that the discharge of the sewage into Dorchester Bay for two years, pending the completion of the tunnel and outfall works, would greatly benefit the older parts of the city, and in no wise injure the districts around the bay.

The estimable joint committee after listening to such testimony took about as many minutes for deliberation as can be counted on the fingers of two hands, and then unanimously recommended that the city of Boston be restrained from discharging sewage at Old Harbor Point, Dorchester Bay.

Now the strangest part of it all is that this joint special committee represented a legislature which only a few weeks ago refused all legislation on the petition of the inhabitants of the town of Millbury for relief from the sewage of the city of Worcester discharged into the Blackstone River, on the ground that, though an offensive smell was shown to result therefrom, a nuisance had not been created, as it had not been proved that any one had been killed thereby. When the representatives of our middle-class virtues see fit to legislate in this fashion it is of little profit to rummage in the dictionary for adjectives,—an outlet to outraged intelligence which we leave to those of our readers who have a taste for it,—merely suggesting that they avoid such epithets as dishonest or ignorant, which are too vigorous for the kind of legislation, or pretense at it, we have been describing, and look rather among such words as trivial and frivolous for suitable characterizations.

If these same readers should wish further proof of the appropriateness of these words trivial and frivolous as applied to the dealings of this present legislature with matters pertaining to public health, they have simply to follow its action upon the bill for preventing the adulteration of food and drugs.

We have not heard any one accuse this legislature of being corrupt or wicked, but only of being very weak.

## FOURTH ANNUAL CONGRESS OF THE AMERICAN LARYNGOLOGICAL ASSOCIATION.

THE Fourth Annual Congress of the American Laryngological Association will be held this year in the Hall of the Medical Library Association in this city, commencing Monday, June 12th, at ten o'clock A. M., and continuing during the following two days, June 13th and 14th, sessions being held each morning and afternoon. The committee of arrangements consists of Drs. Langmaid and E. W. Cushing. Dr. Langmaid will deliver the address of welcome.

The discussions will be stenographically reported and prepared for the press by Dr. Frank Woodbury, of Philadelphia.

The annual address will be delivered by the president of the Association, Dr. Frederick I. Knight, of this city. The following gentlemen have already signified their intention of presenting papers: Drs. Har-

rison Allen, Sajous, and Seiler, of Philadelphia, Daly, of Pittsburgh, Delavan, Elsborg, Jarvis, and Beverley Robinson, of New York, and Glasgow, of St. Louis.

The council of the Association has also selected the following subjects for discussion:—

(1.) The Singing Voice, its physiology, pathology, and treatment.

(2.) The Nature and Forms of Laryngeal Ulcer, specially the so-called Catarrhal Ulcer.

(3.) On the Utility or Non-Utility of Local Applications in Chronic Catarrhal Laryngitis.

(4.) Ozæna, its pathology and treatment.

The profession is cordially invited to attend the meetings, the programme of which we shall publish in a future number.

#### CULTIVATION OF CINCHONA IN THE UNITED STATES.

A COMMUNICATION, by Dr. George B. Loring, as Commissioner of Agriculture, was sent, on May 17th, to the United States House of Representatives relative to the cultivation of cinchona in the United States. His communication was in answer to a resolution of the House desiring information as to whether any portion of the United States was adapted to the growth of the cinchona, and he states "that the Department of Agriculture has, for the past sixteen years, annually distributed cinchona plants, some seasons to the amount of many hundreds, and that the reports received afford but little hope for success, except in Southern California, and, so far, no trustworthy experiments have been made in that region. Some of the species will live in Southern Florida, notably *cinchona succirubra*, which is one of the most robust, as also one of the most useful; but the climate of that State is not considered so promising for the establishment of an experimental plantation as the higher lands of Southern California." He quotes the reports of the Signal Office to make a favorable comparison as to temperature (monthly mean) between the climate of San Diego and that of St. Helena, where the cinchona flourishes, but calls attention to the importance of hygrometric observations in this connection as being of equal, if not greater, importance as regards vegetable growth, and this information seems at present to be lacking.

A correspondent of the Department, Willis Weaver, of Salem, Ohio, whose letter Dr. Loring furnishes in full, considers this tree as not strictly tropical, but belonging to the cold climate. "The cinchona belt begins at the limit of that of the orange, banana, coffee, ham-bone, etc." The whole cinchona region is liable to a variation of frost any night of the year, and considerable ice is formed in some parts of it. He considers that the plants in this country have been killed by heat rather than by cold, and that certainly few localities could be less congenial to this tree than the hot, flat, and water-soaked soil of Florida. The conclusion arrived at is that they are mountain plants, loving free air and alternate mist and sunshine, in a

warm, equable, and very moist atmosphere, at elevations where the mean yearly temperature indicates 64° Fahrenheit.

#### MEDICAL NOTES.

— Surgeon J. J. Woodward, of the United States Army, is reported to be seriously ill at Nice.

— The so-called "Brunelli process" of embalming is as follows: (1.) The circulatory system is cleansed by washing with cold water till it issues quite clear from the body. This may occupy from two to five hours. (2.) Alcohol is injected so as to abstract as much water as possible. This occupies about a quarter of an hour. (3.) Ether is then injected to abstract the fatty matter. This occupies from two to ten hours. (4.) A strong solution of tannin is then injected. This occupies for imbibition two to ten hours. (5.) The body is then dried in a current of warm air passed over heated chloride of calcium. This may occupy two to five hours. The body is thus perfectly preserved, and resists decay. The Italians exhibit specimens which are as hard as stone, retain the shape perfectly, and are equal to the best wax models. It will be observed in this process that those substances most prone to decay are removed, and the remaining portions are converted by the tannin into a substance resembling leather.

— At a recent meeting of a medical society in London, in a discussion on lead palsy, one member related the case of a lady who suffered severely from that affection after using a hair wash for two years, her wrists being particularly affected. Her cousin, who had used the same wash for a similar length of time, also suffered from distinct symptoms of lead palsy. A second member had observed three cases of the form of insanity produced by chronic lead-poisoning in persons who had used hair wash; and a third related his experience of two instances of lead colic traced to the same cause.

— At the primary or anatomical and physiological examination for the membership of the Royal College of Surgeons of England, sixteen hundred and nineteen students from the various metropolitan and provincial medical schools have, so far, presented themselves. This is an increase of seventy-six over the number at a corresponding period of last year.

#### NEW YORK.

— An interesting local outbreak of typhus has lately been reported. On the 3d of May the Sanitary Bureau received notice of a case of typhoid fever in a tenement house on East Forty-Seventh Street, and when the inspectors visited the premises it was found that the patient was suffering from typhus fever, and that there were no less than nine other cases of the same disease in the house. Of the ten cases, two were dying, four were seriously ill, one was just coming down with the fever, and three were convalescing. Three of the patients were at once removed to the Riverside Hospital on Blackwell's Island, and the two



worst cases (which were allowed to remain on the premises) died during the night. By the evening of the 4th another new case had developed, and this patient, together with one of those previously attacked, was removed to the island early on the morning of the following day. The adjoining house was then visited, and two cases of typhus fever were found on the top floor. One of the patients had had it for three weeks, the attack coming on a fortnight after he had visited one of the families whose members were ill in the next house. He was convalescing, but very weak, and was allowed to remain where he was; but the other patient, a woman, was removed to the hospital. At this dwelling the authorities learned that the owner of the property, named Fogarty, had been taken sick about the same time as the first of these patients, and that he, too, had visited the family next door. Mr. Fogarty was then visited at his own residence, and was found to be convalescent. No new cases occurred on the 6th, but on the 7th a daughter of a grocer living on the ground-floor of the house adjoining the one in which the two cases were discovered was reported ill with the fever. It was ascertained that two families had removed from this house on the 1st of May. On the morning of the 8th, the sanitary inspector who had had the oversight of the above cases was notified to see a dead case at the Presbyterian Hospital, and on visiting the institution found that it was a woman belonging to one of these families. She had been received at the hospital on the 4th of May in an unconscious condition, supposed to be due to injury, and had died without recovering consciousness on the 5th. The autopsy showed that she had died of typhus fever. The first case originated on the 30th of March, in the first of the three houses, and it was thus five weeks before the attention of the health authorities was called to the existence of the disease. Sixteen persons in all contracted the fever, three of whom died; while the remainder are either convalescent or doing well. Of course the houses have been thoroughly disinfected and fumigated, and are still closely watched.

— Small-pox, which for some time had prevailed to very slight extent, has lately been somewhat on the increase, and a number of cases concealed in tenement houses have been discovered. Between eight and nine on the evening of May 2d, an unmarried woman, living alone, died of hemorrhagic small-pox in the hall way of a crowded house on Hudson Street. Notwithstanding her condition, she had actually been out to a neighboring saloon to get a drink of liquor, and before reaching her room on her return fell dead in the hall, where, through some oversight of the authorities, her body was allowed to remain, to the imminent danger of the other occupants of the tenement, until nine the next morning. When the sanitary inspector visited the premises he at once recognized the body as that of a woman whom he had seen just two weeks before in a house where there was small-pox, and who had obstinately refused to be vaccinated, although strongly urged to do so.

— The seventy-fifth annual Commencement of the College of Physicians and Surgeons was held at

Steinway Hall, on the afternoon of Tuesday, May 16th, when degrees were conferred by Dr. Alonzo Clark, president of the college, upon one hundred and fifteen graduates. The address to the class was made by Luther R. Marsh, Esq. Prof. John G. Curtis, secretary of the Faculty, read the award of the usual prizes to students, and Prof. Wm. H. Draper, president of the Alumni Association, announced that, owing to the lack of original investigation on the part of the writers, no prizes had been awarded to any of the essays submitted in competition for the Alumni Association Prize of \$500, the Stevens Triennial Prize of \$200, or the Joseph Mather Smith Prize of \$100, open to the Alumni of the College, or for the Cartwright Prize of \$500, open to universal competition.

On the evening of May 17th the annual dinner of the Alumni Association was given at the Hotel Brunswick, and among the invited guests were Prof. Henry J. Bigelow, of Boston, the Rev. Robert Collyer, D. D., and Dr. Fordyce Barker.

#### WASHINGTON.

— The Medical Association of Washington D. C., at a meeting held May 13th, adopted the following:—

*Whereas*, The Medical Society of the State of New York has so modified the rules controlling its members as to permit of consultation with irregular practitioners of medicine.

*Resolved*, That this Association expresses its unqualified disapproval of the course thus taken, regarding it as detrimental to the progress of medical science, degrading to the dignity of the profession, and opposed to the best interests of the public.

*Resolved*, That the science of medicine admits of no sects or schools; its object is the rational study and treatment of disease. Medical knowledge is gained and applied by the same methods as in other departments of science, and the recognition of systems of practice which are committed to any exclusive dogma or whose adherents assume designations implying the adoption of special modes of treatment, is inconsistent with the pursuit of medicine as a science and with the honest and honorable practice of our art.

— The Toner collection of books is likely at last to find a permanent resting place which shall perpetuate its collector's name. This collection is stated to be "a large and valuable collection of books on medical science and historical and miscellaneous subjects," and the United States House of Representatives on May 15th, passed a resolution accepting it as a donation to be placed in the National Library of the United States, to be there set apart as the Toner collection, to be appropriately and distinctively bound and catalogued, and the donor to be allowed to make additions to the collection from time to time as he may desire, and to have liberty to insure the perpetual increase of the collection by the establishment of a trust fund for the purpose. The resolution makes the collection to consist of about twenty thousand volumes, or upward, in number; to which the donor has devoted considerable funds and a large part of his life.

## Miscellany.

## SOME OF THE HEALTH RESORTS OF THE SOUTHWEST.

BY ALBERT N. BLODGETT, M. D.

DURING a recent trip through portions of Kansas, Colorado, and New Mexico, a visit was paid to the various springs and health resorts of this section of country, and some facts were learned in relation to their efficacy as healing agents in disease, as well as to the climatic influences of these regions upon the diseases incident to littoral districts and low altitudes. The facts regarding the localities visited were obtained not only from the residents of the several places, who might be supposed to entertain a certain amount of prejudice in favor of each individual resort, but from those who had repaired to the several places on account of ill health and who narrated their personal experience, and also from physicians of intelligence and candor, who may be considered tolerably accurate judges of the influence of the country upon constitutional diseases. The native populations of each locality were found to be singularly free from all affections of a catarrhal or exudative character, and the prevailing diseases, so far as ascertained among the original dwellers of the several districts, are principally the exanthematic fevers, and the contagiosa, with a certain sprinkling of pneumonia; while the hospital service, as ascertained by personal inspection through the courtesy of the attending physicians, is confined chiefly to surgical injuries, generally cuts and fractures, and the milder febrile and other constitutional diseases. Small-pox is thought to be endemic among the native population, and is treated by seclusion and otherwise much as with us, but I should judge with a lesser mortality. I was unable to learn the prevailing causes of death among the Indian and Mexican residents, no one knowing, or apparently caring, enough about vital statistics to ascertain these important facts: the reply universally given to questions upon this point was "they dry up and blow away." In connection with this statement it is an interesting fact that in a somewhat extended tour I saw not one of the natives who seemed sick, though many were observed so decrepit and wrinkled by extreme age, that the assertion as to their ultimate fate seemed no great improbability. The only case of death occurred to a child in a Mexican family, at Santa Fé, and was thought to have been caused by small-pox; the funeral, however, took place in the usual public manner, the body being borne through the streets by the friends, without a coffin or other sepulchral investment. The Governor of New Mexico, whose guest I chanced to be at the time, remarked that this was the second native funeral he had seen during his residence, of many months in that city, thus indicating a rarity of that event, which is certainly unknown in our vicinity.

The entire section of country visited consists of a high, level, or rolling plateau of an average elevation of from six to seven thousand feet above the level of the sea. The atmosphere is everywhere remarkably clear, the air is very dry, clouds are seldom visible, and rarely obscure the sun; rain scarcely falls except during the short wet season, and is not then accompanied by the same depressing effects as to sensitive constitutions as is common near the sea-coast. Breathing is accompanied by a peculiar exhilarating effect, and

a pleasant sensation, which I think is universally experienced by persons accustomed to a lower altitude, which incites the effort to deep inspiration, and a more complete expansion of the chest. A moderate degree of activity is not uncomfortable, though violent exercise soon causes a panting respiration owing to the rarity of the atmosphere, but is not associated with feelings of bodily fatigue. The appetite is generally keen, the assimilation is improved, sleep is easy and refreshing, and all the natural functions of the body seem to be invigorated.

The first place which was visited was the Hot Springs at Las Vegas in New Mexico, situated near the mouth of a romantic cañon, at an elevation of 6400 feet above the level of the sea. Here a stay of several days was made. This section of country forms a part of the southern border of the great central elevated plateau which extends along the eastern base of the Rocky Mountains through Colorado and the northern half of New Mexico. The springs are about six miles from the city, and are the ancient, Los Ojos Calientes of the natives, who have long entertained a high regard for the curative properties of these waters, which are known to every tribe and nation in the Rocky Mountain region. They are twenty-two in number, and range in temperature from 115° to 145° F. They are situated within the compass of a few feet of each other, some of them boiling up immediately from the bed of the Rio Gallinos. The volume of water which issues from the principal outlet is estimated at about one and a half gallons per minute. All the springs show more or less of a calcareous deposit about their basins, but none, so far as was observed, are sparkling waters. They are all alkaline, the chief chemical ingredients being the carbonates, sulphates, and chlorides of the various alkaline bases. In medicinal properties they much resemble the celebrated thermal springs of Arkansas, to which they must prove formidable rivals. They are preferable to the latter springs in respect to their higher elevation, purer atmosphere, and absence of malarial infection.

The arrangements for the reception and care of visitors to this resort are admirable. A railway has been constructed from the city of Las Vegas to the very threshold of the hotels, to which a broad bridge from the railway station forms the entrance. Two hotels, built upon the very banks of the river, and situated only a few rods from the baths or from each other, furnish an aggregate of about five hundred rooms for guests. The buildings are surrounded by broad, covered verandas, and are so planned that the sunshine enters every room, thus adding materially to the cheerfulness of the place and to the comfort of its occupants. The larger of these hotels was opened the present season, and is furnished with a degree of comfort and luxury which is an agreeable surprise to the weary pilgrim traveling from afar.

The halls and corridors are wide and lofty, and are carpeted throughout with heavy crimson Axminster fabric; fire-plugs, with hose attached, are located at three points in each corridor on the several floors, although there is no fire in the building. The house is heated by steam generated in boilers situated in a separate building, and lighted by gas manufactured on the premises. Electric bells from each room communicate with the office. The dining-hall is very large and pleasant, the table excellent, and the service throughout unexceptionable. The water-closets are of the most ap-

proved models, the water supply constant and abundant, and the sanitary arrangements apparently perfect. The water for household purposes is derived from a reservoir situated at an elevation of several hundred feet above the hotel, and conveyed thither in three-inch cast-iron pipes. The sewage is conducted in large pipes to a considerable distance from the hotel, where it is discharged into the current of the river.

The facilities for baths are very complete. A bath-house, two stories high and built of stone, two hundred by forty-two feet, stands near the principal hotel, with which it is connected by a graceful span bridge. Here six hundred guests can be accommodated in a day with douche, spray, tub, and vapor baths, and the house also contains shampooing and cooling rooms, comfortable dressing and waiting rooms. In addition to these, hot mud baths are given, and the presence of earth as mud is thought to add materially to the efficacy of the bath in the treatment of rheumatic and neuralgic cases.

Thirty miles away as the crow flies, but seventy-five miles by rail over the high Glorietta pass, lies the city of Santa Fé, said to be the most ancient town in the United States, and the central point of a large district full of interest to the student of natural history, and valuable in the study of prehistoric civilizations on this continent, and the evolution of the present native peoples. Not far away is the pueblo of Taos, celebrated for its mediæval pottery, which is still fashioned and made in the ways peculiar to the mound-builders and other peoples who once lived in various portions of the central part of the United States, but have long since become extinct, leaving colossal mounds and the contained relics as the only record of their existence. Here the Indians are said to still religiously maintain the sacred fire kindled by their deified Montezuma centuries ago at the time of his transfiguration and ascension at Pecos, some miles away. At the latter place may be seen extensive ruins of places of worship erected by his followers. In the neighborhood of Santa Fé is also the secluded pueblo of the Zuni Indians, some of whom have recently awakened much public interest during their visit to the Atlantic sea-board. In various directions are the descendants of still other tribes of ancient peoples, to whom a visit must be a source of pleasure and instruction.

The city of Santa Fé is located on the incline of a high sloping table-land, having a general direction toward the southeast, and draining its waters into the Rio Grande River. The elevation is very nearly the same as at Las Vegas, and the climatic conditions are similar, excepting that the absence of near mountains and forests makes the atmosphere less exhilarating, and the heat is somewhat oppressive. The objects of interest in the town itself are soon exhausted, and unless the visitor can make excursions into the neighboring country the place must soon become wearisome. There are but few public buildings, no desirable places of entertainment, and the best hotel, although very clean and comfortable, is not a place for prolonged residence, as the table is very ordinary and not adapted to the capricious tastes of an invalid. The water-supply is uncertain, if the observations of a few days may be assumed to be correct, and drainage is unknown. I was told that the sewage is retained in vaults and allowed to percolate into the soil. The extreme dryness of the atmosphere prevents decomposition to an extraordinary degree, so that offensive odors were not

noticeable, even when unsanitary objects met the eye. The house-drainage flows through the streets in shallow open gutters, and, finally, that which is not absorbed or evaporated finds its way into the "river," which at the time of our visit was a modest rivulet two or three inches in depth, passable at any point dry-shod by means of the pebbles of its bed. The houses are, with a few recent exceptions, of adobe construction and seem very comfortable.

There is an air of business and enterprise observable in the streets which seems strangely incongruous with the surroundings. From an elevation just outside the town not a human habitation could be seen in any direction in the surrounding country, so isolated is the location of the city and so contracted its boundaries. In five minutes, from any part of the city, one is upon the open table-land.

Passing northward to Colorado the first accessible stopping place is Pueblo, the key to the intricate railroad system of this flourishing State. The growth of this town in the last few years has been something phenomenal, and borders on the marvelous. In no other part of the State perhaps are there such evidences of activity in all the industries pertaining to mining and the products of mining. Poundries, forges, mills, smelting and other large establishments, are crowded together, and the city has far outgrown the expectations of its most sanguine friends.

Fifty miles further by rail, at the foot of Pike's Peak, is Colorado Springs. This is a most delightful place, situated at the very edge of a level prairie where the action of water has furrowed out a broad shallow valley, in which a small stream finds its way southward to empty into the Arkansas River. The village is regularly laid out in broad streets at right angles, there are fine parks and trees, the buildings are attractive and tidily kept, and there is a total absence of any objectionable features. Thrift and industry are everywhere apparent, and a spirit of public enterprise is plainly noticeable. The greater number of the inhabitants are those who in former times repaired thither as invalids, but have received such benefit from a residence there that they have made the place their permanent abode, often engaging again in the same business which they had formerly been obliged to renounce. This place seems to be admirably adapted for cases of pulmonary disease. Many persons now in apparently good health describe their condition as having been very critical on their arrival, but under the uniform temperature of the region, the constant sunshine, the absence of dew or fog, the pure air, the high elevation, and the rarer atmosphere, they have almost invariably been restored to their previous health. Only one person was encountered who did not show marked improvement, but this was a case of phthisis so advanced a stage that recovery was entirely out of the question, and the patient should never have been allowed to leave his home. Death was evidently imminent at the time of his arrival.

Six miles from the village is Manitou with its beautiful private residences and large summer hotels. The springs are some six or eight in number, and are scattered over a considerable area. They are chiefly alkaline, the sulphates of magnesia and potassium being present in unusually large amounts. Free carbonic acid gas is constantly escaping in large volumes. The waters are all sparkling and very pleasant, and exert a mild laxative and diuretic action, which is said to

gradually induce a marked alterative effect in the general system. Nearer the base of the overhanging peak is a strongly ferruginous spring, said to be a powerful tonic, which is doubtless true, as its taste is very similar to that of dialyzed iron, and two competent chemists who were present assured me that the metal was contained in the water in remarkable quantities.

Of all the places visited Colorado Springs would seem to be the one combining more of the beneficial qualities of a sanitarium with the minimum of objections. It has good society, churches, opera, beautiful drives, hunting, mountain climbing, constant sunshine for months in succession, a dry atmosphere without dew or night dampness, a gentle, invigorating breeze almost continuously, and magnificent scenery in the immediate neighborhood. No better location could be chosen for study in certain departments of geology or natural history, and the region abounds in extensive and romantic views. Added to all these is the important factor that several skilled physicians from the eastern States reside here, having "come to cough but remained to practice," so that competent medical advice is always obtainable in case of sickness.

#### SIXTH ANNUAL REPORT OF THE JOHNS HOPKINS UNIVERSITY.

We have received the Sixth Annual Report of the Johns Hopkins University. The work during the year seems to have gone on quietly and successfully. We understand that necessary improvements and developments have absorbed the entire income of the university this last year, whereas the year before about \$60,000 was added to the principal. The president reports that the number of associates has been increased by the appointment in Biology, of Henry Sewall, Ph. D., formerly an assistant there, and recently a student in the University of Leipzig; in Sanskrit, of Maurice Bloomfield, Ph. D., who continued the study of Comparative Philology at Leipzig and Berlin after graduating there two years ago; in Mathematics, of Thomas Craig, Ph. D., who has been connected with the university since its opening and has also, of late, been an adjunct of the United States Coast and Geodetic Survey; in Biology, of William T. Sedgwick, Ph. D., and in English, of Henry Wood, Ph. D. (Leipzig), recently one of the teachers in the Friends' School, Providence.

#### THE VETO BY THE GOVERNOR OF MASSACHUSETTS OF A BILL TO REGULATE THE PRACTICE OF DENTISTRY.

The following is the text of the veto by the Governor of Massachusetts of a bill to regulate the practice of dentistry in the State:—

*To the Honorable Senate:* I herewith return to the senate, in which it originated, a bill to regulate the practice of dentistry, with my objections there to.

A controlling objection is, that by force of it the whole system of dentistry is made a possible monopoly in the control of a few corporations with restrictive by-laws, consisting of less than a hundred members, most of whom are in Boston, while the whole number of dentists in the Commonwealth is reported to be about one thousand. Under this act no person could hereafter enter the practice of dentistry except by consent of the corporation, which is put under no obligation to examine or accept of any person, nor would it may examine whom it pleases, and none

else. It may set any standard it sees fit. The diploma of any other dental or medical society is nothing, unless such society is "recognized" as "respectable" by the Massachusetts Dental Society. But there is no standard of such respectability or means of compelling such recognition. How and when is an applicant in Nantucket or Berkshire to get into the profession? Suppose the society fall into the hands of those who desire no more competition. Grant, as is true, that the purpose of the bill is well meant and that the Massachusetts Dental Society would of course have no other purpose than to keep the profession clear of impostors; nevertheless a wrong principle is involved, and the precedent is bad. If there must be a certificate of qualification, let it come from a board required to sit at stated times and in convenient places throughout the State and to pass upon the qualifications of all who apply. Such a board, too, should spring from a broader basis than a single society, however worthy. This would obviate the special objection to the present bill. I am persuaded the bill should be more carefully drawn before it becomes a law. It is not easy to see why there should be special legislation concerning dentists only. Why not concerning apothecaries, physicians, oculists, aurists, surgeons, cooks, plumbers, and the other businesses which involve life and health? It would perhaps be better worth while to consider the expediency of a general statute to the effect that any person pursuing a business or profession without sufficient skill therein shall be punished. Such a statute in the hands of judge and jury would never work injustice, and yet would be ample for those exceptional cases of imposition, on the strength of which various special statutes are urged from year to year.

JOHN D. LONG.

#### COMBINED AND SEPARATE SYSTEMS OF SEWERAGE.

In discussing the relative advantages of the combined and separate [such as that at Memphis] systems of sewerage, Mr. Eliot C. Clarke arrived at the following conclusions in a paper published in the Report for 1880 of the Massachusetts Board of Health, Lunacy, and Charity:—

"The result of this discussion appears to show that a separate system of sewerage is only necessary where cellars are so low that they must be drained by pumping; that in other cases its only merit is its cheapness; that the saving in first cost of sewers will be about three fifths, depending on the character of the soil; that the final economy will depend on circumstances; that the system would only be advisable where the branch sewers could incline not much less than one in one hundred; that surface drainage for rain is attended by a varying amount of inconvenience and damage, which increases with the growth of a town."

These conclusions Mr. Geo. E. Waring, Jr., in a paper contributed to the *American Architect*, states would, according to his experience, be more correctly given thus:—

"The result of this discussion appears to show that a separate system of sewerage is *necessary* where cellars are so low that they must be drained by pumping, and where the cost of a combined system cannot be afforded; that its economy is always very great; that it is entirely efficient with a fall of one in five hundred; that surface drainage can be prevented from causing inconvenience or damage worth considering, no matter what the size of the town, for an outlay, which, compared with the extra cost of a system of combined sewers, would be trifling; and last and most important, that while combined sewers cannot possibly meet the necessary sanitary requirements, separate sewers can be made absolutely safe, affording the only means now known for the perfect sanitary drainage of a town of any size, and that for these reasons the separate system is always advisable."

## REPORTED MORTALITY FOR THE WEEK ENDING MAY 13, 1882.

| Cities.                         | Population by Census of 1880. | Reported Deaths in each. | Deaths under Five Years. | Percentage of Deaths from         |                |                       |                |            |
|---------------------------------|-------------------------------|--------------------------|--------------------------|-----------------------------------|----------------|-----------------------|----------------|------------|
|                                 |                               |                          |                          | The Principal "Zymotic" Diseases. | Lung Diseases. | Diphtheria and Croup. | Scarlet fever. | Small-Pox. |
| New York.....                   | 1,206,590                     | 777                      | 329                      | 26.75                             | 20.46          | 7.85                  | 6.82           | .51        |
| Philadelphia.....               | 846,984                       | 356                      | 116                      | 12.35                             | 10.39          | 3.37                  | 1.97           | 1.69       |
| Brooklyn.....                   | 566,689                       | 303                      | 141                      | 29.70                             | 22.77          | 3.96                  | 2.31           | —          |
| Chicago.....                    | 503,304                       | 297                      | 99                       | 30.91                             | 10.00          | 9.17                  | 9.66           | 4.83       |
| Boston.....                     | 362,535                       | 167                      | 51                       | 13.77                             | 15.56          | 8.97                  | —              | —          |
| St. Louis.....                  | 350,522                       | 119                      | 42                       | 21.01                             | 8.40           | 7.52                  | 5.04           | —          |
| Baltimore.....                  | 332,190                       | 152                      | 49                       | 25.00                             | 11.84          | 7.24                  | 2.63           | 4.61       |
| Cincinnati.....                 | 255,708                       | 154                      | 64                       | 55.81                             | 6.49           | .64                   | 4.54           | 42.19      |
| New Orleans.....                | 216,140                       | 114                      | 48                       | —                                 | —              | —                     | —              | —          |
| District of Columbia.....       | 177,638                       | 76                       | 18                       | 6.58                              | 19.74          | —                     | 1.31           | —          |
| Cleveland.....                  | 160,140                       | —                        | —                        | —                                 | —              | —                     | —              | —          |
| Pittsburgh.....                 | 156,381                       | 61                       | 25                       | 16.39                             | 18.63          | 8.20                  | —              | 3.29       |
| Buffalo.....                    | 155,137                       | 85                       | 40                       | 35.29                             | 15.29          | 3.53                  | 3.53           | —          |
| Milwaukee.....                  | 115,578                       | 53                       | 32                       | 22.64                             | 13.21          | 3.77                  | 5.66           | —          |
| Providence.....                 | 104,857                       | 40                       | 6                        | 7.50                              | 12.50          | 2.50                  | —              | —          |
| New Haven.....                  | 68,822                        | 26                       | 9                        | 3.85                              | 26.92          | —                     | —              | —          |
| Charleston.....                 | 49,999                        | 40                       | 18                       | 22.50                             | 20.00          | —                     | 2.50           | —          |
| Nashville.....                  | 43,461                        | 24                       | 7                        | 12.47                             | 4.16           | 4.16                  | —              | —          |
| Lowell.....                     | 59,485                        | 22                       | 7                        | 9.09                              | 4.55           | —                     | —              | —          |
| Worcester.....                  | 58,295                        | 19                       | 5                        | 5.26                              | 42.08          | 5.26                  | —              | —          |
| Cambridge.....                  | 52,740                        | 16                       | 9                        | 18.75                             | 18.75          | 12.50                 | 6.25           | —          |
| Fall River.....                 | 49,006                        | 24                       | 5                        | 12.47                             | 8.32           | 8.32                  | —              | —          |
| Lawrence.....                   | 39,178                        | 11                       | 1                        | —                                 | 27.27          | —                     | —              | —          |
| Lynn.....                       | 38,284                        | 12                       | 1                        | 16.66                             | 8.33           | —                     | —              | —          |
| Springfield.....                | 33,340                        | 16                       | 3                        | 18.75                             | —              | 6.25                  | —              | —          |
| Salem.....                      | 27,598                        | 12                       | 2                        | —                                 | —              | —                     | —              | —          |
| New Bedford.....                | 26,875                        | 8                        | 4                        | —                                 | —              | —                     | —              | —          |
| Somerville.....                 | 24,985                        | 10                       | 3                        | 10.00                             | 30.00          | 10.00                 | —              | —          |
| Holyoke.....                    | 21,851                        | 8                        | 3                        | —                                 | —              | —                     | —              | —          |
| Chelsea.....                    | 21,785                        | 10                       | 2                        | 10.00                             | 10.00          | 10.00                 | —              | —          |
| Taunton.....                    | 21,213                        | 6                        | 2                        | 33.33                             | —              | 33.33                 | —              | —          |
| Gloucester.....                 | 19,329                        | 5                        | 1                        | —                                 | —              | —                     | —              | —          |
| Haverhill.....                  | 18,475                        | 10                       | 1                        | 10.00                             | 40.00          | 10.00                 | —              | —          |
| Newton.....                     | 16,995                        | 6                        | 1                        | 16.66                             | 16.66          | —                     | —              | —          |
| Brookton.....                   | 13,608                        | 3                        | —                        | —                                 | 33.33          | —                     | —              | —          |
| Newburyport.....                | 13,537                        | 5                        | 0                        | 20.00                             | —              | —                     | —              | —          |
| Fitchburg.....                  | 12,405                        | 3                        | —                        | —                                 | —              | —                     | —              | —          |
| Malden.....                     | 12,017                        | 2                        | 2                        | —                                 | —              | —                     | —              | —          |
| Twenty Massachusetts towns..... | 165,095                       | 55                       | 11                       | 10.91                             | 5.45           | 1.82                  | —              | —          |

Deaths reported 3017 (no report from Cleveland): 1160 under five years of age; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and fevers) 707; lung diseases 460; consumption 395; diphtheria and croup 174; scarlet fever 112; small-pox 109; measles 70; diarrheal diseases 57; whooping-cough 47; typhoid fever 39; cerebro-spinal meningitis 35; malarial fevers 28; erysipelas 21, puerperal fever 15. From *measles*, New York 25, Chicago 16, Brooklyn nine, Baltimore and Cincinnati four each, Pittsburgh, Buffalo, and Milwaukee three each, St. Louis two, Philadelphia one. From *diarrheal diseases*, New York 14, New Orleans nine, Brooklyn eight, Chicago, Boston, St. Louis, and Buffalo four each, Baltimore three, District of Columbia and Milwaukee two each, Cincinnati, Nashville, and Lynn one each. From *whooping-cough*, New York 24, Brooklyn eight, Charleston six, Boston three, Philadelphia and Cincinnati two each, Chicago and Buffalo one each. From *typhoid fever*, Philadelphia 11, Brooklyn five, Chicago four, New York three, Cincinnati, Charleston, and Lowell two each, St. Louis, Baltimore, District of Columbia, Providence, Nashville, Lynn, Springfield, New Bedford, Newton, and Amherst one each. From *cerebro-spinal meningitis*, Buffalo 11, New York eight, Chicago five, Philadelphia, St. Louis, Baltimore, Cincinnati, New Orleans, Fall River, Springfield, New Bedford, Chicopee, Woburn, and Spencer one each. From *malarial fever*, St. Louis eight, New York seven, Brooklyn six, Baltimore and New Orleans three each, District of Columbia one. From *erysipelas*, New York and Baltimore four each, Philadelphia, Brooklyn, and Buffalo three each, Chicago, Providence, Newburyport, and Quincy one each. From *puerperal fever*, Cincinnati three, Chicago, Buffalo, and Milwaukee two each, New York, Philadelphia, Brooklyn, Boston, New Orleans, and New Haven one each.

One hundred and sixty-seven cases of small-pox were reported in Cincinnati, Baltimore 25, Pittsburgh 21, Lawrence six, St. Louis three; diphtheria 21 cases, scarlet fever 13, typhoid fever two in Boston; scarlet fever 24, and diphtheria four in Milwaukee.

In 41 cities and towns of Massachusetts, with a population of 1,108,631 (population of the State 1,783,086), the total death-rate for the week was 20.17 against 20.34 and 22.27 for the previous two weeks.

For the week ending April 22d, in 173 German cities and towns, with an estimated population of 8,450,305, the death-rate was 27.5. Deaths reported 4468: under five 2024; pulmonary consumption 694, acute diseases of the respiratory organs 633, diarrheal diseases 148, scarlet fever 84, whooping-cough 57, typhoid fever 42, measles and *rubella* 30, puerperal fever 29, small-pox (Essen four, Berlin, Strasburg, Leipzig, Darmstadt, Bamberg, Benthien each one) 10, typhus fever (Königsberg, Danzig, Posen, Benthien each one) four. The death-rates ranged from 17 in Erfurt to 46.2 in Darmstadt; Königsberg 31.6; Breslau 29.8; Munich 34.8; Dresden 25.5; Berlin 23.7; Leipzig 21.7; Hamburg 28.4; Bremen 23.7; Cologne 29.8; Frankfurt a. M. 23.4; Strasburg 30.7.

In the 28 English towns, with an estimated population of 8,457,514, for the week ending April 29th, the death-rate was 21.7. Deaths reported 3343: acute diseases of the respiratory organs (London) 311, whooping-cough 211, measles 183, scarlet fever 84, diarrheal 54, fevers 47, small-pox (London sixteen) 20. The death-rates ranged from 13.7 in Derby to 29.4 in Manchester; Sheffield 18; Bristol 19.9; Birkenhead 19.9; London 20.4; Birmingham 23.4; Leeds 25.6; Liverpool 25.7. In Edinburgh 20.9; Glasgow 28.5; Dublin 30.3.

For the week ending April 29th in the Swiss towns, population 494,390, there were 55 deaths from acute diseases of the respiratory organs, pulmonary consumption 42, diarrheal diseases 23, diphtheria and croup eight, typhoid fever four, scarlet fever two, puerperal fever two, whooping-cough one. The death-rates were, at Geneva 24.8; Zurich 22.3; Basle 31; Berne 36.8.

The meteorological record for the week ending May 13th in Boston, was as follows, according to observations furnished by Sergt. O. B. Cole, of the U. S. Signal Corps:—

| Date.            | Barom-eter. |       | Thermom-eter. |          | Relative Humidity. |            |             |       | Direction of Wind. |            |             | Velocity of Wind. |            |             | State of Weather. <sup>1</sup> |            |             | Rainfall.             |                   |
|------------------|-------------|-------|---------------|----------|--------------------|------------|-------------|-------|--------------------|------------|-------------|-------------------|------------|-------------|--------------------------------|------------|-------------|-----------------------|-------------------|
|                  | Mean.       | Mean. | Maximum.      | Minimum. | 7.23 A. M.         | 3.23 P. M. | 11.23 P. M. | Mean. | 7.23 A. M.         | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.        | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.                     | 3.23 P. M. | 11.23 P. M. | Duration, Hrs. & Min. | Amount in inches. |
| May, 1882.       |             |       |               |          |                    |            |             |       |                    |            |             |                   |            |             |                                |            |             |                       |                   |
| Sun., 7          | 30.393      | 47    | 54            | 40       | 42                 | 47         | 50          | 46    | N                  | SE         | SW          | 6                 | 12         | 11          | F                              | C          | C           | —                     | —                 |
| Mon., 8          | 31.240      | 54    | 70            | 38       | 63                 | 12         | 59          | 45    | W                  | S          | SW          | 7                 | 16         | 15          | C                              | O          | C           | —                     | —                 |
| Tues., 9         | 29.804      | 60    | 73            | 46       | 93                 | 34         | 34          | 54    | W                  | NW         | NW          | 8                 | 16         | 6           | O                              | F          | C           | —                     | —                 |
| Wed., 10         | 29.957      | 51    | 60            | 46       | 43                 | 59         | 56          | 53    | E                  | E          | SE          | 5                 | 16         | 7           | C                              | O          | C           | —                     | —                 |
| Thurs., 11       | 30.163      | 41    | 50            | 37       | 73                 | 73         | 77          | 76    | NE                 | NE         | E           | 24                | 23         | 14          | T                              | O          | F           | —                     | —                 |
| Fri., 12         | 30.117      | 40    | 43            | 38       | 73                 | 82         | 100         | 85    | NE                 | NE         | NE          | 25                | 28         | 20          | R                              | R          | R           | —                     | —                 |
| Sat., 13         | 29.862      | 42    | 44            | 38       | 96                 | 93         | 96          | 95    | NE                 | NE         | NE          | 20                | 16         | 10          | R                              | R          | R           | —                     | —                 |
| Means, the week. | 30.077      | 48    | 73            | 37       |                    |            |             | 65    |                    |            |             |                   |            |             |                                |            |             | 45.40                 | 1.56              |

1 O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; X., clearing.

#### DEATH: JAMES MORISON, M. D.

JAMES MORISON, M. D., died at his residence in Quincy on Saturday morning May 20th. He was born in Peterborough, N. H., June 20, 1818, graduated at Harvard University in 1844, and received his medical degree from the University of Maryland in 1846. He was nearly five years resident physician of the Baltimore Infirmary. From 1850 to 1867 he practiced his profession in San Francisco, with the exception of about two years spent in Paris attending medical lectures and the clinics of the hospitals. In addition to an extensive medical practice, he assisted in the organization of the first medical school on the Pacific coast, and for five years filled the office of professor of the theory and practice of medicine and pathology in that school. He was one of the trustees of the University of the Pacific and vice president of the California Medical Society. He left California in 1867, and in June, 1869, removed to Quincy, where he has practiced his profession for thirteen years. He had just been chosen president of the Norfolk District Medical Society, to which he belonged.

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM MAY 13, 1882, TO MAY 19, 1882.

LIEUT. COLONEL GLOVER PERIN, surgeon, Major WILLIAM C. SPENCER, surgeon, and Captain PHILIP F. HARVEY, assistant surgeon, directed to represent the Medical Department of the Army at the annual meeting of the American Medical Association, to be held in St. Paul, Minn., on June 6, 1882. S. O. 114, A. G. O., May 17, 1882.

MAJORS C. T. ALANVANDER and J. H. JANESWAY, surgeons, and Captain R. H. WHITE, assistant surgeon, detailed as members of a board of medical officers to examine into physical qualifications of members of the graduating class, and of candidates for admission to Military Academy. S. O. 110, A. G. O., May 12, 1882.

LIEUT. W. R., captain and assistant surgeon. Assigned to duty at Fort Bliss, Texas. S. O. 95, Department of the Missouri, May 8, 1882.

MASSACHUSETTS MEDICAL SOCIETY. — One hundred and first anniversary. Boston, June 13 and 14, 1882. Programme for the day, June 13, 1882. Twelve o'clock, m. Meeting in Horticultural (upper) Hall, 109 Tremont Street, Boston, to hear papers read as follows: (1) Cottage Hospitals, by Lucius W. Baker, M. D., of Baldwinville. (2) Disease Germs, by James W. Henshaw, M. D., of Ludlow. (3) The Compendium of Anal Fistula and Pithia: a Clinical and Pathological Investigation, by Walter Eli, M. D., of Cambridge. (4) Obscure Menstrual Symptoms of Disease, by Charles F. Tolson, M. D., of Boston. Appointment at two o'clock. Four o'clock, p. m. An address (under 102 of the Society) will be held for the transaction of business. Dinner, Tuesday and the morning of Wednesday, June 14, 1882, an exhibit of surgical appliances in lower Horticultural Hall. Programme for Wednesday, June 14, 1882.

Nine o'clock a. m., the one hundred and first annual meeting of the Society will be held in Horticultural Hall, Boston. (5) American Dyspepsia, by James H. Robbins, M. D., of Hingham. (6) A Study of the Action of Iron, by Francis H. Williams, M. D., of Boston. (7) Relation of Mould Fungi to Disease, by William W. Gannett, M. D., of Boston. Twelve o'clock m. precisely, the annual discourse, by James P. Lynde, M. D., of Athol. The hall doors will be closed at twelve o'clock precisely, and will remain closed during the delivery of the discourse. One o'clock p. m., the annual dinner will be served in Music Hall.

GEORGE S. OSBORNE, M. D., Anniversary Chairman.

No person will be admitted to the dinner without a ticket. The dinner ticket (not transferable) may be obtained on Tuesday and Wednesday, in lower Horticultural Hall, on presentation of evidence that the dues for the current year have been paid.

Councilors' meeting. The annual meeting of the Councilors will be held at the Medical Library, No. 19 Boylston Place, Boston, on Tuesday, June 13, 1882, at seven p. m. precisely.

Censors' meeting. The Censors for Suffolk District, officiating also for the State Society, will meet for the examination of candidates for fellowship, on Thursday, June 8, 1882, but they cannot examine any candidate who is already a resident, or in practice, in any district other than Suffolk.

THE SECTION FOR CLINICAL MEDICINE AND PATHOLOGY OF THE SUFFOLK DISTRICT MEDICAL SOCIETY will meet at 19 Boylston Place, on Saturday, May 27th, at 7.45 o'clock. The following subjects will be presented: Ernest W. Bowditch, Esq., Sanitary Engineer, The Sanitary Aspect of Nahant, Mass. Dr. S. H. Dargatz, chairman of the Boston Board of Health, The Sanitary Work of the City Board of Health. Dr. J. H. McCollum, city physician, The Small-Pox Epidemic in Boston. Dr. Alfred B. Heath, port physician, The Work at Quarantine. His honor, the mayor, Dr. S. A. Green, is expected to be present. This is the final meeting for this year.

ALBERT N. BLODGETT, Secretary.

BOOKS AND PAMPHLETS RECEIVED. — Medical and Surgical Reports of the City Hospital of the City of Boston. Third Series. Edited by David W. Cheever, M. D., Oliver F. Wadsworth, M. D., and A. L. Mason, M. D. Boston: Published by the Trustees. 1882.

Observations on Filaria Sanguinis Hominis in South Formosa. By W. Wykelan Myers, M. B., Surgeon to David Manson Memorial Hospital. Shanghai: Printed at the Statistical Department of the Inspectorate General of Customs. 1881. (For private circulation.)

Carotid Compression and Brain Rest. By J. Leonard Cornig, M. D., Member of the New York Neurological Society, etc. New York: Anson D. F. Randolph & Co.

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## Lectures.

### MEDICAL HIGHWAYS AND BY-WAYS.

A LECTURE DELIVERED BEFORE THE STUDENTS OF THE MEDICAL DEPARTMENT OF HARVARD UNIVERSITY, MAY 10, 1882.

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I PROPOSE to point out some of the stepping-stones and some of the stumbling-blocks which have helped or hindered the progress of the Art of Healing. When I look at the long array of the volumes of Sprengel; when I remember the stores of learning contained in the eight quartos of Haller's *Bibliotheca*; when I notice the space occupied by the condensed accounts of Bostock and Alison, all now antiquated and constituting a mere prelude to the medical history of the last generation, I smile to think of the task before me and the scanty hour allotted for its performance. Evidently I have little time to waste in the way of introduction.

But in looking back over the past history of medical science and art we find the prospect like that of the forest settler with a burnt district behind him. Here and there a tree may be standing, but the eye ranges over charred and lifeless trunks with their feet in the ashes of their leafy raiment. Why should we linger among the blackened stumps and the desolate scenery?

Everywhere the stumps of old theories, the ashes of futile experience, fill the landscape, and we feel tempted to turn away from a view so barren and hopeless. Yet we must remember that these wrecks of old beliefs have in their time furnished shelter and shade to the generations that knew them living. We must not forget that they ripened the seeds of growths yet vigorous with deeper roots and stronger branches. But still we shall find a few rapid glances over the burnt district of the past enough for our purpose.

There must have been a time when human beings had nothing but their instincts to guide them to the means of relief when suffering from accident or disease. Animals know enough to rest an injured part and to lick their wounds. An idiot girl, mentioned by Dr. Carpenter, gnawed the umbilical cord to separate herself from her new-born child. There is a popular notion that instinct directs some animals to the natural antidotes of poisons. But instinct in the human race is so soon replaced by experience that a very brief chapter disposes of it. It is enough to say that it is a guide always to be listened to and sometimes to be trusted. Cold drinks and cold affusion have often been asked for, and proved useful to the patient who longed for them. But a draught of cold water has frequently caused sudden death. A promising youth, son of a former President of Harvard College, put his head under the stream from the nose of a pump one hot day, and died of sudden peritonitis in consequence.

The first lessons of experience must have been often painful and sometimes fatal. Poisonous berries would look tempting; various kinds of dangerous food, or what was taken for food, would play false with those who ventured upon it. When our Pilgrim Fathers first landed on Cape Cod they found certain mollusks on the sandy shore which looked desirable, and were naturally inviting to the half-starved wanderers, long

caged in the little Mayflower. They indulged freely in the unknown mollusks, which, in the expressive words of the old chronicler, did cause them "to cast and to scour," and thus gave them one of those medical lessons which must have been common in the early history of mankind. In this way food, poison, helpful drugs, were first discovered. One notable drug, *nepenthes*, a narcotic, perhaps opium, or hyoscyamus, or hashish, it may be, was known before the days of Homer, for our old friend, handsome Helen of the Iliad, an erring sister, but now reclaimed, as we find her in the Odyssey, and living with her much-enduring husband, mingles it in the draught she gives her guests as a night-cap to ensure their peaceful slumbers.

The next stage of medical history finds the treatment of disease in the hands of priests and sorcerers. How the idea of good and evil supernatural agents springs up in every human tribe I need not attempt to show. But if malignant beings are believed to exist nothing can be more natural than to attribute disease to them. Then the evil spirit must be driven off, — by smoking him out, as in the Apocryphal story of Tobit, or by howling and "making a hellish noise" about the sufferer, as our Indians were wont to do.

Next to the supernatural or magical period would follow in due order that of physical theories. As the phenomena of the macrocosm or outer world were first philosophically studied, the generalizations arrived at would not unnaturally be applied to the microcosm or lesser world of the living human system. So it came about that as four elements, air, earth, fire, water, were recognized in one, four corresponding elements were recognized in the other. These were blood, phlegm, bile, and a fourth less definite fluid known as black bile. Changes in the quality and in the quantity, absolute or relative, of these four fluids were assumed to be the cause of the different diseases to which man is subject. This was the doctrine known as the humoral pathology, that of Hippocrates and Galen, the most prominent one in medical history, and kept in constant preservation to this day by its unconscious emulators, who insist that they are *bilious* whenever their digestion is out of order.

By and by it would be felt that the solid parts of the body, as well as its fluids, must be concerned in disease. Then would come into existence a school of *solidists*, such as the sect known as the *Methodics*, who found the cause of disease to consist chiefly or largely in spasm or relaxation; the *strictum* and *laxum* of Themison, — the physician satirized by Juvenal in the familiar line

Quot Themison agros autumnis occiderit uno.

Behind all these phenomena it would necessarily be felt that there was some *power* at work of which these were the effects; what we should call the vital force; a form of agency which, whether seen in the acts of the individual cell, or the coordinated working of the entire organism, is phenomenally distinguishable from the movements of brute matter. This force, which Hippocrates recognized as *phôris* or *phôresis*, nature or natures, would assume more and more importance as the living actions in health and disease were studied. In this way we arrive at last at the metaphysical stage of the *animists*, which culminated in the *Archæus* of Van Helmont, a conscious agent governing the bodily actions, natural and morbid, and requiring to be man-

aged, to be conciliated, to be governed, without knowing it, as a sharp-witted woman manages, wheedles, and eventually subjugates a refractory husband, and in her turn is bridled, harnessed, and driven by her petted offspring. Whatever other theories we may hold, we must recognize a *ris mediatrice* in some shape or other. "*Je le pensay et Dieu le guarit*" (I dressed his wound and God healed it), was the saying of Ambroise Paré, which you may read to-day on the walls of the lecture-room of the *École de Médecine* in Paris. The operator amputates a limb and leaves a bleeding wreck after him. What surgeon who looks on the rounded and cushioned stump a few weeks later can help owning

"There 's a Divinity that shapes our ends,  
Rough hew them how we will?"

No matter what theory prevails, or has prevailed, physical, metaphysical, humorist or solidist or animist, there always are and always have been those who are content to study disease as they see it, without regard to any *à priori* opinions or deductive generalization. So there is one broad division running through medical history, sometimes, as in the school of Alexandria, separating medical practitioners into hostile camps; that of the Dogmatists and that of the Empirics,—the believers in "*It ought to be, because my theory says so,*" and the believers in "*It is, because I see it.*"

If you wish to know something of these, and of the various theories which have prevailed in ancient times,—I will refer you to the Preface of Celsus to his work *De Medicinis*. Let every student learn enough of Latin to read this, for its clear narrative, its philosophic breadth and dignity, its lesson of simple style and elegant Latinity. Then let him read the treatise of Cabanis on the Revolutions of Medicine,—in French if he can, in the translation if not in the original,—and he will have an outline of the earlier history of his calling which he can fill up at his leisure from the larger histories of medicine. There is a small volume, published within the last year, which contains much that may be found in the two authors I have mentioned, and a good deal more which will prove interesting. Its title is *Medical Heresies*, its author Professor Smythe, of the college at Indianapolis, its publisher Presley Blakiston, of Philadelphia.

I must leave all these, and come to the two modern periods.

The new birth of anatomy dates from the great work of Vesalius, first published in different editions about the middle of the sixteenth century. From the study of normal anatomy arose in natural order of succession the knowledge of the organic changes effected by disease or constituting it. In 1679 Bonetus published his *Spulchretum, sive Anatomia Practica*, a great collection of more or less imperfect accounts of fatal cases, with autopsies and comments, the cases having been gathered from a vast number of authorities. With all its imperfections, this massive work was the foundation for after-builders. From this time speculation about the cause of disease was more and more regulated by the observed changes in the parts affected. The science of Medicine had started on a new career. The publication of Morgagni's work, three quarto volumes, entitled *De Sedibus et Causis Morborum*, established the reign of pathological anatomy, founded by Bonetus. One of the most intelligent of my fellow students, as I remember, read through the three volume of Morgagni, doubtless under the

advice of an instructor. He might have done worse then; to-day he can do better.

Another century passed before the art of healing found a new teacher in the person of a physician who was born with that power of observation, that tact and sagacity, which are the supreme gifts of the practitioner. In the words of the illustrious Dr. Thomas Young, "Physic is one of those departments in which there is frequent necessity for the exercise of an incommunicable faculty of judgment, and a sagacity which may be called transcendental, as extending beyond the simple combination of all that can be taught by precept." This "incommunicable faculty" is the same quality which Cabanis speaks of as that tact which alone can render available at the bedside all the stores of knowledge and all the powers of reason.

The Father of common-sense practice in England was *Thomas Sydenham*, "the restorer of true physic," as Hume calls him, a man whose name is coupled with exalted praise in the pages of Johnson and Macaulay, and gives its title to one of the most useful and distinguished British Medical Societies. He had his hypotheses like others of his time,—he talked about the humors as preceding generations had done, but he kept his eyes open, he watched the progress of disease, he noted the influence of times and seasons, he recognized the meaning of the efforts of nature in the cure of disease. He ordered free ventilation for diseases in which the patient had been "stilled in bed;" he directed horse-back riding for consumptives; he prescribed a roast chicken and a pint of canary for a nervous young man whom the pedants and the pathologists of his day would have probably bled and drenched,—in short, he was a man of excellent judgment and much more than common sagacity, and did not allow his theoretical speculations to blind him to the facts of disease before his eyes. It is almost two hundred years since Sydenham died, but there is wisdom in his writings which never grows old. Many among you know of the late Dr. John Brown, of Edinburgh, by his charming story, "Rab and his Friends." I fear that fewer of you have read his "Locke and Sydenham," and I commend to your special attention this most interesting account of the great English philosopher, who was also a physician, and the great English physician, who belonged to that best class of philosophers who, in the words of an old hymn I half remember,

Not only know,  
But always practice what they know.

You may be surprised that I have not devoted some considerable space to the wonderful discovery of Harvey. But it has been said, and I think with some truth, that no great change in medical practice was effected by this physiological discovery. I will not attempt to investigate the indirect influence it may have had on medicine, and especially on surgery. It is a part of that connected series of ascertained data of the laws of life which, when it does not lead directly to practical consequences, often points the way which experiment is to follow, and on which it remains for experience to pass its judgment.

The last half of the last century was rendered illustrious in medical history by the names of John Baptist Morgagni, Albert von Haller, and John Hunter. Of the first I have already spoken. Haller was the most learned of medical scholars, the stateliest figure in our historical portrait gallery, a man of civic dignities and of literary celebrity, a botanist, a physiologist whose the-



ories have had wide influence, whose work on that branch of science is monumental; a scholar whose three Bibliothecæ, — Anatomica, Chirurgica, Medicinæ Practicæ, — are precious storehouses of medical bibliography, enriched with brief, enlightened criticisms, conveyed in a style at once clear and elegant. Not to know and value his works implies a somewhat narrow horizon of instruction.

John Hunter, unscholarly, obscure in expression, uncouth in diction, bears for all that the greatest name since Harvey's in the annals of English anatomical and physiological science. Two generations ago English and American practitioners held the name of Hunter in such reverence that they almost paused in their speech before mentioning it, as Robert Boyle is said always to have done before uttering the name of the Deity. A great comparative anatomist, a great physiologist, the creator of a vast museum, the author of innumerable original observations of interest to medical science, a surgeon of distinction, a man of powerful native genius, insatiable in thirst for knowledge, indefatigable in accumulating it, his works have been treated as quarries by those who came after him, as the Coliseum was used to build up palaces for the Roman nobles of later ages.

When we come to the broad field of medical practice we shall find that nothing was felt so widely all over it as the jar of that fierce battle between the adherents of Cullen and Brown in the last quarter of the last century. William Cullen had his theories like other teachers, but he was not the less a sound and sensible practitioner. John Brown, the father of the so-called Brunonian system, was essentially a theorist, and deduced his practice from his theory. His doctrines of sthenic and asthenic diseases and the treatment based on his doctrines had a very wide, if a temporary, influence. He had got hold of a truth, but there is nothing more dangerous than a truth allied with a falsehood, a fiction, an illusion, and applied without regard to the language of experience, which the false prophet always interprets to suit himself.

We find ourselves brought down to the close of the eighteenth century and the beginning of that which is now in its last quarter. We have reached a period with the history of which you are supposed to be better acquainted than with that of the long succession of preceding ages over which we have been casting our hasty glances. I need only indicate the leading lines along which the steps of medical progress have passed within the range of our more immediate vision.

The great discovery of the protective power of vaccination against small-pox, made at the close of the last century, came into general recognition in the first years of the present one. *Inoculation*, introduced into England from the East, first into America by Zabdiel Boylston, of Boston, — encouraged, let it be remembered, by Cotton Mather, — had been practised since 1721. In Dr. Waterhouse's collection of papers on vaccination may be found the following table: —

| NATURAL SMALL-POX.<br>A Contagious Disease.  | INOCULATED SMALL-POX.<br>Contagious.  | KINE-POCK.<br>Non-contagious. Never fatal.               |
|--|---|--|
| One to six who take it dies. It is like an attempt to cross a dangerous stream by swimming, where one in six perishes! | One in 300 dies. It is like crossing the stream in an old, leaky boat, where one in 300 perishes. | It is like crossing the stream on a new and safe bridge. |

Next to this, among the grand discoveries which irradiate not merely the foot-path of Medical Science and Art, but the great highway of humanity, is that of

induced anæsthesia. Its cradle was the Massachusetts General Hospital, as surely as Faneuil Hall was the Cradle of Liberty. Not that the earliest hint of either of them was first breathed under those roofs. The Messiah was long promised and expected, but he was born and cradled at Bethlehem. In spite of the not infrequent attempts to appropriate elsewhere the credit of this Heaven-sent gift to mankind, of which the most extraordinary is that of the late Sir James Simpson in the eighth edition of the *Encyclopædia Britannica*, quietly superseded, I am pleased to say, in the ninth edition of the same work, Boston is the Bethlehem of this divine birth, and will, in the light of that fact, remain one of the sacred shrines of humanity as long as the waters wash her feet and the winds blow over her dwellings.

Next in importance to the practical application of anæsthesia we may mention the introduction of physical methods of exploration, — auscultation, formally brought before the world by Laennec in 1819, and percussion, revived by him after more than half a century of comparative neglect. Of this I can speak with some confidence, for I was once well acquainted with it practically, and I have made many an ante-mortem autopsy with my stethoscope and pleximeter. There is no need of insisting on the value of a method of ascertaining the existence of disease so obviously of great assistance. But it may be carried too far, and I am afraid sometimes is so. I have often felt, when seeing hospital patients worried by hammering and long listening to their breathing, in order that the physician might map out nicely the diseased territory, the boundaries of which he could not alter, as if it was too much like the indulgence of an idle, and worse than idle, curiosity. A confessor may ask too many questions, — it may be feared that he has sometimes suggested to innocent young creatures what they never would have thought of otherwise. I even doubt whether it is always worth while to auscult and percuss a suspected patient. Nature is not unkind in concealing the fact of organic disease for a certain time. What is the great secret of the success of every form of quackery? *Hope kept alive*. What is the too frequent fatal gift of science? *A prognosis of despair*. "Do not probe the wound too curiously," said Samuel Sharp, the famous surgeon of the last century. I believe a wise man sometimes carefully worries out the precise organic condition of a patient's chest when a very wise man would let it alone, and treat the constitutional symptoms. The well-being of a patient may be endangered by the pedantic fooleries of a specialist.

Perhaps the medical use of the thermometer is the next in importance of the medical improvements of our century. But of this I have nothing to tell you which you do not know or will not soon learn. Of the ophthalmoscope and laryngoscope I can say nothing of my own knowledge.

With the beginning of the present century we have entered upon a new era, that of General Anatomy or Histology. For an exalted, perhaps extravagant, estimate of Bichat, its illustrious originator, I must refer you to the well-known work of Mr. Buckle. The *Anatomie Générale*, given to the public in the year 1801, changed the whole character of anatomical and pathological investigations. Tissues were studied where organs only or chiefly had been considered, and a new light was thrown on the laws of health and disease.

But General Anatomy was working mostly with

naïved senses, as the astronomers before Galileo explored the heavens. The improvement of the compound microscope, — say rather its new creation, — by rendering its object-glass achromatic, was destined to make a far wider and deeper transformation in anatomy, physiology, and pathology than even the splendid and fertile generalizations of Bichat. Between 1830 and 1840 the results obtained through the use of the perfected instrument began to appear in the great work of Ehrenberg on infusoria, the treatises of Schleiden, Schwann, Henle, Gerber, and many others. From that day to this the microscope has been the Urim and Thummim of the priesthood of biological science.

Its largest revelation has been that of showing the history of the cell and its relation to the organism in health and in disease. We have learned that the law of life in a complex animal organism is local autonomy, with universal suffrage; the individual cell being the citizen of a federal republic; the various departments being distributed among the different viscera, its senate and legislature in the nervous centres, the chief of which is under the dome that crowns the living structure. Here was prefigured what we Americans consider the adult and completed development of civic order.

I cannot resist the temptation of a moment's digression.

Already in the first man who trod the soil of our planet the great mechanical and chemical discoveries of uncounted comings were anticipated. His tissues were woven in a loom no Eastern fingers, no Western machinery, could rival. Where strength was needed a power of resistance like that of iron was given to strands of fibres finer than the spider's thread, seen only as it glistens in the sunbeam. Where elasticity was wanted a substance like caoutchouc exuded and solidified. The pillars which support his frame would crumble under it were they not many times stronger in substance than the columns which support his temples. The leverage of his limbs is adjusted to his needs with an audacity which no engineer would venture. The hydraulics of the circulation are but clumsily imitated in our aqueducts and their distribution. And what are all the flood gates of human contrivance compared to those delicate translucent valves which we were so recently studying, which stand guard at the mouth of the great artery, and arrest the solid column of blood coming back upon them like the blow of a hammer day and night, seventy times a minute, for seventy years; and so many more as life may spare us? Man is more than a machine, but as a machine he is an ever-present miracle. His heart is a time-keeper which counts the seconds for a century with one winding up. The heating apparatus of our dwellings in the surfaces of its radiators and the pots of its furnaces only repeats the valvular connivances and the villi of our own mucous membranes. — No telephone conveys a message so faithfully as the membrane of the tympanum transmits it to the listen in the recesses of the labyrinth. No steam-engine can work with so little fuel as the human organism; no dye house can reproduce the glow of a youthful cheek; no laboratory can manufacture a gram of albumen; no musical instrument can reach the human heart like a woman's voice; no lens can adapt it self to light like the human eye. And so we come back to the microscope, the perfection of which was developed by imitating as it best might those achromatic arrangement, the darkening pigment, the diaphragm, the adjustment for distance, which were all

complete in the first man who opened his eyelids on creation.

The latest great accession to the list of the gains we owe to the microscope is the discovery of the part played by different microscopic organisms in the production of disease and the preventive and curative methods growing out of that discovery.

You must permit me to enumerate in the briefest possible manner some others of the changes that mark the progress of the time over which my own knowledge extends, and which belong to the history of medical science.

The treatment by hypodermic injections has enabled the physician to stay the anguish of dyspnea and arrest the thrills of neuralgia, as the harper stills the quivering cords of his instrument by laying his hand against them. Old measures of treatment have fallen into disuse. Bleeding is almost a lost art, so rarely is it employed. Medicines once in daily request, such as antimonials and mercurials, have taken the back shelves, and left others, the iodides and bromides, especially, in the foreground. Sulphur, "once so prominent," says Mr. Metcalf, "in medicine and theology [is] now almost eliminated from both." "Fifty years ago," he says, "it came at this season into almost every family, like any other form of spring cleaning, and with the same disagreeable results." I need not say how much has been effected in the way of rendering drugs less odious to the smell and taste. Happy the child born since the days of "brimstone and molasses;" who has not sickened in anticipation at the very name of ipecac, and felt his whole life embittered by the flavor of rhubarb!

If I should do more than allude to the subdivision of medical practice into specialties; if I should do more than hint at what the Gynecologists, the Dermatologists, the Laryngologists, and the other long-established specialists have accomplished in their several departments, I should be at the beginning of a volume instead of beyond the middle of a lecture. In surgery the *felix audacia* of ovariectomy has achieved the greatest triumph of operative art. I know by report something of what has been accomplished by antiseptic treatment. American ingenuity has been conspicuous in the departments of plastic surgery and mechanical dentistry. You know what the distinguished Professor of Surgery in this School has done for his art; the world knows it too. How many living surgeons, how many living or dead American surgeons, can claim to have done so much for their branch of the Profession as the man who rekindled the torch of Sir Astley Cooper, and flashed his electric light on the path of Sir Henry Thompson? I may remind you also of the employment of paracentesis, with aspiration, of the thorax in acute disease, the introduction of which has added the names of Bowditch and Wyman to those of the benefactors of the race.

There are many memorable events in recent medical history. Yet there is one gain so vast that we can hardly compare any curative measure with it for importance; I mean the knowledge which has been gained in the art of *preventing* disease; the hygiene of cities, the construction of hospitals, the better study of all those conditions, including climatic influences, which favor health in the two sexes and at different ages.

Leaving the practical side of medical science for a moment, I will barely allude to the results obtained in physiology by the invention of instruments of precis-

ion, like those of Marcy, for instance, and the skilful use of vivisection, a mode of acquiring knowledge justifiable in its proper use, odious beyond measure in its abuse, but not a proper subject of censure to the sportsman who mangles the bird he does not bag, to the fisherman who takes a hundred trout when he does not want more than a dozen, to the huntsman who runs down a fox or a hare until, when he can drag himself no further, he is torn to pieces by the hounds, nay, to the man who asks the blessing of God on what is before him and swallows a dozen living oysters, unless he prefers them as they come from the gridiron, where they have died by the martyrdom of the broiled Saint Lawrence.

It only remains to speak of new methods and theories which have been the product of our century. I will briefly allude to two: the doctrines of Broussais, and the numerical system of Louis. "Broussaïsism" is obsolete, almost forgotten, at the present day. Louis, Andral, Chomel, Trousseau, and others, better observers, and less run away with by theory, killed it. I have heard Broussais lecture often: savage, virulent, a powerful old man, who did more perhaps than we give him credit for to localize diseases which had been considered general; to get rid of what he hated in medicine, *ontology*, and substitute local *irritation* for its ideal diseases, especially to recognize inflammation of a mucous membrane in the place of essential fever.

Of Louis and the numerical system I could say much. He was my loved and honored instructor, and has had a great effect on the medical science of this country through his numerous American students. But I prefer to leave too tempting a subject, only saying this, that the numerical system can teach a wise and honest and diligent man a great deal, and that it can make a foolish, dishonest, careless man a greater fool, impostor, blunderer, than nature ever intended him to be.

In touching upon the subject of Homœopathy I shall find it hard to be very ill-natured. For it so happened that once, on the occasion of delivering a literary lecture, I found myself unexpectedly assigned to the hospitality of a homœopathic practitioner. If my host had consigned me to a chamber in one corner of a compartment of a hollowed-out mustard-seed; if he had offered me the ten millionth dilution of a drop of coffee on a globeule of sugar of milk, and a microscopic fragment of a muscular fibril, with a fraction of a starch cell, and a smell at a pat of oleo-margarine, I might have felt as a patient ought to feel who has been insulted with pharmaceutical infinitesimals equally preposterous and absurd. But I was courteously entreated and handsomely entertained, and in remembrance of that open door and soft bed and well-spread table, I will try to speak of homœopathy, not exactly as Isaac Walton says the angler should treat his frog, "as if he loved him," but at least as kindly as frogs are treated in our physiological laboratory.

The only excuse I can offer for devoting any time to the subject is the fact that it has a certain hold on the community, that it has organizations and institutions which present themselves to the medical student as having a better doctrine and a more effective treatment than what it is pleased to call "the old school," for which "old school" Hahnemann invented the nickname, sometimes used by those who ought to know better, of "allopathy." I require this excuse for introducing the subject, for homœopathy has no *status* among the biological sciences, and has nothing of any

practical value, so far as I know, to offer the Medical Profession. It began by promising to prevent scarlet fever, which it miserably fails to do, and from that day to this it has been a romance of idle promises slipping through the fingers like quicksilver, evaporating without residue like ether from the palm of the hand. If any one of these promises had been fulfilled, if any single remedy brought forward by homœopathy had proved trustworthy and efficacious, it would have been thankfully accepted by the Medical Profession, which welcomes every method of help unless it shows itself with false pretences, and even then will appropriate any fraction of truth which underlies the deception or delusion. *Sanabilia sanantibus curantur*. If a drug is proved to be a remedy for any disease or symptom it is no objection to it that it is capable of producing similar symptoms in a healthy person. It seems to be forgotten that the *Materia Medica* has long recognized a class of remedies under the name of *alterants* or *alteratives*. Under this general head every so-called homœopathic remedy would find its place if any proved really valuable. We might expect that half a century of experience would have something tangible to show for itself.

Forty years ago I delivered and published a Lecture entitled Homœopathy and its Kindred Delusions. The three dogmas with which I had chiefly to deal were these: I quote from the Lecture as published during the year of its delivery:—

(1.) "The one great doctrine which constitutes the basis of Homœopathy as a system is expressed by the Latin aphorism '*Similia similibus curantur*,' or *like cures like*; that is, diseases are cured by agents capable of producing symptoms resembling those found in the disease under treatment."

(2.) "The second great fact which Hahnemann professes to have established is the *efficacy of medicinal substances reduced to a wonderful degree of minuteness or dilution*. The dilution of the original millionth of a grain of medicine contained in the grain of powder operated on is carried successively to the billionth, trillionth, quadrillionth, quintillionth, and very often much higher fractional divisions. A dose of any of these medicines is a minute fraction of a drop, obtained by moistening with them one or more little globules of sugar, of which Hahnemann says it takes about two hundred to weigh a grain."

(3.) "The third great doctrine of Hahnemann is the following: *Seven eighths at least of all chronic diseases* are produced by the existence in the system of that infectious disorder known in the language of science by the appellation of *PSORA*, but to the less refined portion of the community by the name of *TRICH*." "*PSORA* is the sole true and fundamental cause that produces all the other countless forms of disease, which, under the names of nervous debility, hysteria, hypochondriasis, insanity, melancholy, idiocy, madness, epilepsy, and spasms of all kinds, softening of the bones, or rickets, scrofula, and cyphosis, caries, cancer, fungus, hematodes, gout, yellow jaundice and cyanosis, dropsy, — gastralgia, epistaxis, hæmoptysis, asthma and suppuration of the lungs, megrim, deafness, cataract and amaurosis, paralysis, loss of sense, pains of every kind, etc., appear in our pathology as so many peculiar, distinct, and independent diseases." Can you believe that I am not imposing on your credulity when I say that I translate these words literally from Jourdan's French version of Hahnemann's *Organon*?

What has become of the first of these three dogmas? The Encyclopedia Britannica, in its 12th volume, published in 1881, quotes the following confession from a Homeopathic journal called the *Medical Investigator*, of the date of 1876: "How many claiming to be homeopaths are daily disregarding the law of *similia*? It is getting to be quite a rare thing to hear of a homeopathic practitioner conducting a serious case from beginning to end without using as such cathartics, sudorifics, diuretics, etc., in direct opposition to our law; not only are these drugs used in this way, but there are some also go so far as to say that they cannot be dispensed with."

As to the second grand principle announced by Hahnemann, there is abundant evidence that many, if not most, homeopathic practitioners make use of various remedies in their ordinary doses. I have had interesting revelations of this kind from my friend the late Dr. Edward Hammond Clarke. But I was hardly prepared for the statement of Dr. Wilde, Vice-President of the British Homeopathic Medical Society, that "although many believe that the action of the infinitesimal in nature can be demonstrated, its use in medicine is practically by a large number in this country all but abandoned."

The discovery of the *acarus scabiei*, the little insect which proves to be the true cause of itch, has sufficiently disposed of the third of the homeopathic dogmas which I passed under consideration in 1842.

What there is left of a three-legged stool after one of its legs is pulled out, and the other two are sawed half or three quarters through, seems hardly worth sitting down upon.

So far as I can take account of the stock, the present assets of homeopathy consist of a pleasing and sonorous designation, a nomenclature of symptoms, with sets of little pills, containing globules, which are the prettiest and most fascinating of annulets, arranged to correspond with the nomenclature, a collection of "proving" which prove more about the prover than about the questions to be proved, and a doctrine which slips on or off like a kid glove, according to the company in which the practitioner finds himself. Why homeopathy should have so much popular currency in this country as compared with the land of its birth, or with Great Britain, is a curious question. It has been attributed to the state of medical education, but it might be found, I suspect, to be in intimate relations with another very interesting matter, too delicate for me to meddle with here, namely, the potential influence in our community of the imaginative sex, and its psychological leaders and followers.

A few words with reference to Hahnemann, whose vagaries still lie in the way, to be stumbled over by here and there one whose mental twist or imperfect scientific training has betrayed him into the misfortune of taking the wrong direction.

Hahnemann was not an ignoramus, by any means, but something a great deal worse. He was a hopeless subject of cerebral strabismus, beyond all medical, all surgical, treatment. A squinting eye can be set right, but a squinting brain is too much for the art of gods or men. Whether the strabismus involved the moral as well as the mental faculties of Hahnemann, I will not stop to discuss. But when a man misinterprets all that he reads; when he borrows the most foolish things from the most foolish or erratic writers that he can possibly get hold of, then the less he knows about

books the better. In mentioning the authorities from whom Hahnemann probably borrowed his two best known dogmas, I do not mean to say that doctrines originating from unworthy sources *may* not be worthy of confidence. A rogue may have good money in his pocket; but his bills are more likely to be counterfeit than those carried by an honest man.

We know well enough what a braggart and pretender was Bombastus von Hohenheim, who called himself Paracelsus. Even his defenders would recognize him as the very type of the swaggering boasters who profess to work miracles by their wonderful skill and knowledge. Those who are curious will find the distinct statement of the *similia similibus* doctrine in his words quoted in an article in a recent volume of the Encyclopedia Britannica. Whether Hahnemann borrowed it from Paracelsus or not is of no very great consequence, but it is just the kind of hint a shrewd system-maker would be like to find in just the kind of author he would be like to be searching; and its source lays it open to suspicion.

The history of the probable origin of the infinitesimal medication is more interesting, and, so far as my limited reading has extended, has not been unearthed until I happened to strike the burrow the doctrine is likely to have come from.

I chanced to be looking through the *Ortus Medicinæ* of Van Helmont about a year ago, reading here and there as the titles of the chapters attracted me more or less. It was the Elzevir edition of 1652, and had stood on my shelves for many years. Among such titles of chapters as *Blas Humanum* and *Vis Magnetica*, I noticed one with this odd-looking prefix: BUTLER.

I found this was the name of an individual, an Hibernian, a great personage formerly, as he represented, at the court of King James the First of England. At present, however, this distinguished stranger was provided with lodgings at the public expense in the jail of Vilvoorden, a town of Belgium. Here it was that Van Helmont, a very credulous, very whimsical man of genius, a believer in the sympathetic ointment and other nonsense of the kind, became acquainted with the distinguished stranger, who bore the family name of the Duke of Ormond. This captive wrought some wonderful cures, which Van Helmont reports. The first case was that of a monk suffering from erysipelas. The Irishman dipped a certain pebble quickly into a teaspoonful of oil of almonds, and instantly withdrew it. The patient took the oil, or some of it, and was cured at once. Second case: a washerwoman; complaint, hemicrania. He dipped the same pebble quickly into a teaspoonful of olive oil, gave it a lick with his tongue, and put it back in his waistcoat pocket. He poured that teaspoonful of oil into a small vessel of oil. One drop of this to be rubbed on the old woman's head. Immediate and permanent cure. Stupefied astonishment of Van Helmont; — to whom the son of Erin, "My darling, if you don't get on so far that you can cure any disease with a single remedy you will remain a greenhorn (*in tyrocinio*) till you are a greybeard." The next patient was a nobleman; a bad case of gout, as it would seem. He was to touch the pebble every morning with the tip of his tongue, wash the lame parts with a cheap lotion, prepared in the laboratory of nature, and be well in three weeks. If he will make me well, says the count, I will pay him his own price and deposit it, so that he shall be sure of it. Our friend with the pebble

takes this in high dudgeon: will never help the miserable creature; does not want his money; is as good as he is. Van Helmont could not prevail on him to treat the case, and became sceptical. But not long afterwards a fat friend of his wanted to be rid of his obesity. Butler gives him a small fragment of the pebble, which he is to lick once, or touch swiftly with the tip of his tongue, every morning. In three weeks he was a span narrower around his thorax. Van Helmont begins to have faith again, and being himself ill, as he thinks from poison, sends a flask of oil to Butler, who is still in jail, and who dips his pebble in it. One drop to be applied externally in one or more places. Entire failure of relief. Sceptical once more,—our inquiring philosopher. But, next, his wife is relieved of a dropsical swelling, and a servant-maid of an ill-fured erysipelas, and a widow of a stiff arm, all by one or more drops of the oil, and an abatement of loss of power in her right arm by only touching her tongue to the pebble. "Then I asked Butler," says Van Helmont, "why so many women were cured at once, while I, at sword's point with death and full of pains in all my joints and organs, got not the slightest relief." The Irishman gave a plausible answer, which silenced if it did not satisfy the learned simpleton.

The essence of the infinitesimal doctrine is in this most curious chapter of the *Ortus Medicinæ*, which is well worth reading. Hahnemann mentions the name of Van Helmont in his *Organon*, and I have little doubt that he borrowed his infinitesimal doses, smelling of remedies, and other inventions from this chapter. And though such an origin does not prove their falsity or worthlessness, yet we are less disposed to yield our confidence to the pretensions which can be traced to the paternity of so questionable a personage as this exile of Erin.

Van Helmont, I may add, entirely anticipated Hahnemann in insisting upon the use of simple uncompounded remedies. "I believe," he says, "that simple remedies, in their simplicity, are equal to the cure of all diseases." "And consequently," he adds, "the Dispensaries, wishing to compound and correct many ingredients, lose everything, and by a hidden blasphemy, as it were, undertake to supply the divine insufficiency."

Where Hahnemann got his third great dogma, that itch is the cause of seven eighths of chronic diseases, I do not know, but I notice that Van Helmont has a good deal to say about that disease, from which he himself suffered for some months, and what he says may very probably have set Hahnemann thinking about it.

If Homœopathy has made any valuable contribution to therapeutics, of which I do not see the evidence; if it has been of indirect service, like the Unguentum Armarium and the Sympathetic Powder, in showing the public what professional men of common sense have always known, that most diseases can get well without active interference, it has done a vast amount of harm in another direction. I have in my possession one of those foolish little cases of little phials of minute pellets,—homœopathic amulets,—formerly belonging to a friend, now deceased. One at least of its amulet-holders has been largely drawn upon. Its owner watched himself for symptoms, and attacked each as it appeared with what his book told him was its specific. What is the consequence of this daily and hourly self-inspection by all the nervous and crochety owners of these little

seed-capsules of hypochondriasis? They think themselves into every morbid condition they can find a name and a pellet for. These petty engines of great mischief stimulate into consciousness the very symptoms they pretend to subdue, like the rider displaying his horsemanship

While his left heel insidiously aside  
Provokes the caper that he seems to chide.

It is a serious charge to bring, but I appeal to those who know the history of these cartridge boxes charged with imaginary maladies, to say if they have not called into and kept in existence an army of professional invalids.

There are *malades imaginatives* as well as *malades imaginaires*. Such are many of those who have recourse to the globe box as their fetish. The same class of persons, usually, however, in a somewhat different social sphere, have confidence in, and are fond of consulting the *quasi*-supernatural practitioners. A patient of my acquaintance, who died not very long ago while under the care of a homœopathic practitioner, was urged by some who were about her to call in a clairvoyant female. Why not? Would the disciple of Hahnemann have refused to consult with the seeress?

There is little to be done with the *malades imaginaires*; there is nothing to be done with the *malades imaginatives*. All plausible, large-promising false doctrines seize, like epidemics, on their predestined, because predisposed, victims. You will lose a patient now and then to a homœopathist or a clairvoyant; they go where they belong. "Ephraim is joined to idols; let him alone." But do not allow yourself to believe because this new country is the favorite breeding-place of Mormonism, of Homœopathy, of Clairvoyance, that polygamy is going to break up the sanctities of the American household, or the fancy practitioner displace the educated, scientific, rational physician in the abiding confidence of the great American public.

The other pseudo-scientific excrescences growing from the body medical are the systems belonging to the so-called *Eclectics* and to the *Claïrvoyants*. After these come the advertising philanthropists who conduct "medical institutes," and who leave their doors ajar like the covers of so many box-traps.

The Eclectics are the lineal descendants and heirs of the Thomsonians of a past generation, whose botany, as Professor Asa Gray informs me, included not only *lobelia*, but also "*highlobelia*." The eclectic writers and teachers seem to be a sort of half-armed medical militia, of the class that spells inflammation with one *m*, and whiskey without the *e* in the last syllable. I do not suppose their practice differs very much from that of those whom we call regular physicians. One of their "Professors," who recently left the eclectic for the regular ranks of the profession, gives as his reasons that the original and cardinal doctrines of the eclectic school,—opposition to blood-letting and certain mineral remedies on the one hand, and the use of various new remedies on the other,—have been largely adopted by the regular school of medicine. Whatever credit belongs to Samuel Thomson and his successors, the eclectics, let us not deny them. But the real change of medical practice, so far as it can be traced to any individual sources, may with a good show of reason be laid at the door of such teaching as that of Louis on blood-letting, of Dr. Jacob Bigelow on "Self-Limited Diseases," and of Sir John Forbes's "Nature and Art in Disease."

As to the clairvoyants, it seems probable that more patients consult them than we are aware of. Persons who carry horse-chestnuts about with them to keep off rheumatism do not care to have their pockets turned inside out before their neighbors and friends. So the patients of the wise women who see into simpletons, and are seen into by persons of ordinary sagacity, are shy, it may be suspected, of openly entering the sibyl's cave, and follow the example of Nicodemus, the same who came by night to visit his Master.

Do not let the existence of these outgrowths of science disturb your equanimity. The largest and most sensible part of all educated communities will always choose its physicians among those who have the highest mental and personal character, with the most complete training, and who are sure to find each other out and stand united as what we know as the regular medical profession.

The public can form a tolerable opinion of its physicians, — of such men as the late Dr. James Jackson, Dr. Jacob Bigelow, Dr. John Ware, Dr. Edward Hammond Clarke. This is the kind of men in whom the best part of the community always did and always will put its trust.

Of medical theories and practice the community is not a competent judge. Listen to the immortal sentence which stands first among the Aphorisms of the Father of Medicine: —

"Life is short, art is long, opportunity is fleeting, experience is deceptive, judgment is difficult."

If experience is deceptive for the trained practitioner, if a decisive opinion in cases of disease is difficult for him, of what value are the experiences and conclusions of wholly untrained individuals?

Any remedy, any plan of treatment, no matter what it may be, — by rain-water, by Butler's pebble, by homœopathic globules, — which can get itself tried by a thousand persons will be sure of formidable evidence, or what seems like it, in its favor. Of the thousand patients, nine hundred, we may say, will certainly get well, however they are treated. One hundred will begin taking the remedy somewhere near the time when they were to become convalescent. Fifty, or twenty, if you will, will happen to find themselves almost immediately relieved after taking the remedy or beginning the plan of treatment, and this on the supposition that the remedy is absolutely without virtue, and has nothing to do with the cure. How can you argue with these fifty or twenty people? They answer exactly in the same way with the blind man restored to sight, told of in the Gospel of Saint John. Whether this be a quick remedy, or no, I know not; one thing I know, that whereas I was sick, now I am well. And this argument, utterly fallacious as proof, will prove a sure defence to every form of quackery until the end of time. The underlying fact is that the great proportion of diseases tend to get well spontaneously, and a considerable crop of striking coincidences, looking like cause and effect, will spring up in any large field where any alleged remedy has been sowed broadcast.

Homœopathy, like every other system, true and false alike, has the advantage of this kind of deceptive evidence. The best thing it has effected has been to diminish the quantity of odiously-smelling and tasting drugs with which patients, especially children, who could not help themselves, were by too many old-fashioned practitioners often unnecessarily dosed. This

one good influence we may in some measure, at least, attribute to the inoffensive, inert, utterly useless "globules," having all the virtues a name can give them, and no others. Not the less is homœopathy a system of false pretences. Who had not rather see "little Jack Horner" and similar myths in the nursery than books like the Newgate Calendar, full of true stories which would frighten the poor children out of their senses? But if a man comes along professing to teach history on the basis of Mother Goose; if he alleges as a scientific fact that a man did really scratch out his eyes by jumping into one bush, and did really scratch them in again by jumping into another similar bush, and takes this fact for the corner stone of ophthalmic surgery, I do not think the Professors of Harvard University would feel themselves called upon to recognize him as a scientific and professional fellow-worker.

Again, we must not deny that there is such a thing as the *faith-cure*, quite independent of any special divine intervention. Every form of medical imposture can shew such cures, for the imagination is a very powerful physiological agent. They are numerous just according to the impressibility and the credulity of the class to which the impostor appeals. Women are oftener cured than men; nervous diseases oftener than others; peasants oftener than princes; poets oftener than men of science; clergymen more frequently than lawyers; Catholics are more favored than Protestants, — see the "collection of crutches" at Mount Ste. Anne figured in *The Century* for May. Such are the incidental good effects which the worst cheat who ever sold rain-water as a precious remedy for all evils may challenge as the result of his mendacity and impudence.

Let me illuminate the closing passages of my lecture with some words from three great authorities, whose names will add weight to its utterances: —

"Whatever efforts," says Cuvier, "have been made in the course of long ages by the men of genius who have practiced medicine, none of the doctrines which they have proposed under this name [medical theory] has obtained lasting assent. Young persons adopt them, each time as they come up, with enthusiasm, because they seem to abridge study, and furnish the clue to an almost inextricable labyrinth; but the briefest experience disabuses them."

And Helmholtz says, speaking of old theories, "If I were called upon to designate in one word the fundamental error of that former time, I should be inclined to say that it pursued a false ideal of science in a one-sided and erroneous reverence for the deductive method."

No, gentlemen, there is no exclusive *a priori* method which leads to the successful treatment of disease. You begin in the priuorse paths of knowledge which are only preliminary to your real work. Anatomy is no more medicine than a child's dissected alphabet is literature. Physiology and chemistry throw gleams of light here and there on curative methods, but are apt to lead their votaries far away from practice. Pathological anatomy teaches a great deal, but it is, after all, like inspecting what is left of the fireworks on the morning of the fifth of July. It is very pleasant to dissect a muscle, to make a precipitate, to watch a contracting heart, to study a translucent slice of a healthy or diseased organ. These pursuits, sisters of her who pre-

<sup>1</sup> Hist. des Prog. des Sc. Nat., 1, 150.

sides over health and disease, are the sirens that won over Agassiz and Huxley and Helmholtz to their flowery realisms. But just as zoölogy, chemistry, physiology, histology, are not the science of medicine, so neither is the science of medicine the same thing as the art of healing. To go hastily from the library of old books and the laboratory of new experiments to the bedside of disease is imitating the presumption of those rash profligates who, as Thomas Boston says, think they can take a "leap out of Delilah's lap into Abraham's bosom."

The medical student is in little danger now from the old theories which blinded the eyes of observers in former ages. He is more likely to forget his practical work,—which means giving his whole thought to the lesser as well as the greater needs of his patient, to all the little details of the sick-room,—in the fascinating pursuit of his scientific investigations. I would not undervalue the branch I teach. I recognize the incidental importance of all the subsidiary branches which form a part of the curriculum of this and other schools. Do full justice to them, or you will not probably do justice to your more immediately practical studies. But your hardest study must be at the bedside. Your real business will be to save life, to avert disease, to manage it so far as manageable, to save your patients all unnecessary suffering. And so doing may each of you be able to repeat the noble words of Thomas Sydenham, with which I will close this lecture. Two hundred years have passed since they were written, and they still speak in accents that can never grow old:—

"And, in truth, when I come to die, I trust I shall have the satisfaction of being inwardly assured that I have not only endeavored, with the utmost diligence and integrity, to recover the health of all those who have been my patients, of whatever rank or condition they were, none of whom have been otherwise treated by me than I desire to be, if I should be seized by the same distempers; but also that I have contributed, to the utmost of my abilities, that the cure of diseases might, if possible, be prosecuted with greater certainty after my decease; being of opinion that any accession to this kind of knowledge, though it should teach nothing more pompous than the cure of the toothache, or corns, is of much greater value than all the vain parade of refinements in theory, and a knowledge of trifles, which are perhaps of as little service to a physician in removing diseases, as skill in music is to an architect in building."

## Original Articles.

### CASES OF WRY NECK.

BY E. H. BRADFORD, M. D.,

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CASE I. L. T., nine years old. The patient presented herself for treatment, with the following history: Nine months before she was suddenly seized, without known cause, with pain in the head and neck. On the following morning her head was permanently drawn to one side. After a while the pain disappeared, but the distortion of the head remained the same.

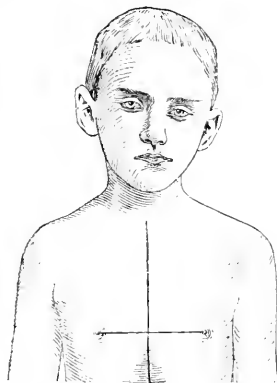
The child's general condition was good, and she complained of no suffering or trouble in respiration; the position of the head was so fixed and the distortion was such that in walking in the street she occasionally ran into people, being unable to see them on account

of the abnormal position of the face. From the line of the spinous processes in the cervical region it was evident that the spine was twisted to a marked degree. The head was movable to the right but not to the left. The muscles of the neck were not contracted, except the posterior muscles.



From photograph just before operation.

The patient was etherized, her shoulders were steadied by assistants, the head grasped between two hands placed on each side, and the deformity slowly rectified by manual force. The tendon of the sternomastoid was brought into prominence and divided by tenotomy, without evident advantage, however. Fibrous adhesions were felt to give way in the region of the spine, and after a time the axis of the face was brought in line with the axis of the trunk. It was found that a great deal of force would be required to correct the deformity, and it was not thought prudent to attempt this. In moving the head back toward the line of deformity it was felt to slip suddenly, as if returning to a position natural to the altered articular facets: on correction, however, the normal position was retained.



From photograph two weeks after operation.

A plaster-of-Paris jacket was placed around the trunk, covering the shoulders, and a steel rod secured in it reaching above, and bent so as to partly encircle the head. Silicate-of-potash bandages fastened the

head to the steel support and kept the axis of the face in the normal position. No disturbance followed the operation, and three weeks later the patient was again etherized, in order to gain, if possible, still farther motion in the neck to the left. But little, however, was accomplished in this direction.

The patient subsequently wore for three months a steel collar adapted so as to hold the head in a proper position, and since then has been without apparatus. At the present time, ten months after operative interference, the patient has shown no evidence of a relapse, the position of her head being that indicated in the picture. She has enjoyed the ordinary activity of children. Motion at the atlas-axoid articulation is perfect. Motion in the cervical spine below that is somewhat limited.

**CASE II. II.<sup>1</sup>** The patient was a boy, nine years old, suffering from wry neck of three months' duration, which was said to have begun with pain and swelling behind the right ear. The face was turned to the right, and the left shoulder was raised higher than the right. Any attempt to turn the chin to the left of its position was unsuccessful and caused pain, but the chin could be moved farther to the right. The posterior muscles of the neck on the right side were hard on palpation. The sterno-cleido-mastoid muscles were flaccid.

After various unsuccessful attempts to correct the deformity by means of poultices, leeches, embrocations, and appliances, the boy was etherized, and the head placed in a normal position and fixed by the use of silicate-of-potash bandages, strengthened by a steel strip (holding the trunk and the head). The bandage was worn for a month. After its removal the head remained straight.

Two years later the boy was heard from, and reported to have remained without relapse.

**CASE III. M. G.,** a girl nine years old, was affected with torticollis, the chin being turned to the left; the right sterno-cleido-mastoid muscle was contracted, but there was no evidence of the implication of any other muscle. The deformity had come on gradually, and had persisted for the past two years.

The patient was etherized, and the insertions of the sterno-mastoid muscle were divided. The head and trunk were immediately encased in a plaster-of-Paris bandage, firmly fixing the corrected position. In a week a modification of Mr. Swan's method (to be described later) was applied and worn for two months. There has up to the present time, five months after the operation, been no tendency to relapse.

**CASE IV. S. C.,** a boy six years old. This case resembled the preceding, except that the deformity is stated to have persisted since birth. A marked depression is to be found over the left eye in the frontal bone, which was said to be due to the blade of the forceps used at birth. The mother is led to attribute the deformity to this. The patient is perfectly healthy.

Tenotomy of the sterno-mastoid was performed, and the head placed immediately in a corrected position, a plaster-of-Paris jacket being applied to the trunk, and adhesive plaster and straps applied to the head and, by means of buckles, fixing the correction. This appliance was worn six weeks. At the present time there has been no tendency to relapse.

**CASE V. K.,** delicate girl six years old, came under treatment for a slight distortion of the head, which had,

without known cause, persisted for six months; the chin was turned to the left, so that the axis of the face deviated from that of the trunk twenty degrees. The head could be turned in every other direction, but it was impossible to bring it to the normal position. The sterno-mastoid muscles were not affected, those at the back of the neck causing the deformity. One shoulder was held higher than the other, and a marked curve in the upper dorsal region of the spine was to be seen.

After four weeks' persistent treatment with various appliances, including, among others, the excellent arrangement of Dr. Shaffer, of New York, the head was brought to a normal position; the motion became perfect, and the curve in the back was corrected. No anæsthetic was used, the head being corrected by the use of apparatus alone.

The greatest amount of improvement was gained by the use of an appliance which supported the chin, and thereby took the strain caused by the weight of the head from the posterior muscles of the neck. This was readily accomplished by the wire collar of Dr. Buckminster Brown. The child wore this appliance for two months, to prevent relapse, and continued to be perfectly free from deformity after its discontinuance. At the present time, one year later, she is reported to be in perfectly normal position.

**CASE VI. M.,** a gentleman, forty-five years of age, of exceedingly nervous temperament, who for many years was an active stock-broker in New York, was, on account of increasing nervousness, obliged to give up his business, which had been a prosperous one. He had been affected for some time with clonic spasm of the muscles of the neck, which twisted the chin to the right side. This was most noticeable when he walked, and at times his head remained perfectly straight. Steadying his head by applying a cane to the side of the face prevented the twisting of the head. A compensatory curve of the spine was noticed. Thorough treatment by the application of plaster-of-Paris appliances and section of the spinal accessory was declined.

**CASE VII. K.,** a woman twenty-eight years of age, of slight build and nervous temperament, became, without known cause, afflicted by a contraction of the muscles of the neck, which turned her head to the side, so that her chin was nearly above the right clavicle. This was most marked when the patient walked; some days it would be worse than others, and the deformity was worse as the patient was noticed or became nervous. Electricity and medical treatment were tried without benefit. Appliances were worn constantly for one month, and for three months regularly, which held the head in position, but no permanent benefit followed. Section of the spinal accessory or a plaster-of-Paris bandage was declined. The muscles most noticeably contracted were the posterior muscles in the neck; the sterno-mastoid muscles were not affected.<sup>2</sup>

**CASE VIII.** Healthy boy, nine years, whose sister had, one year before, been cured by tenotomy of a torticollis of several years' duration, was noticed by his parents to twist his head slightly. This gradually increased, and at the end of six months a marked persistent torticollis, with contraction of the right sterno-mastoid, was to be observed. No evidence of neuro-mimicry was to be noticed on watching the patient, and tenotomy is to be done.

<sup>1</sup> The New York Medical Journal, January, 1880.

<sup>2</sup> For a similar case vide Boston Medical and Surgical Journal, April 27, 1882, page 336.



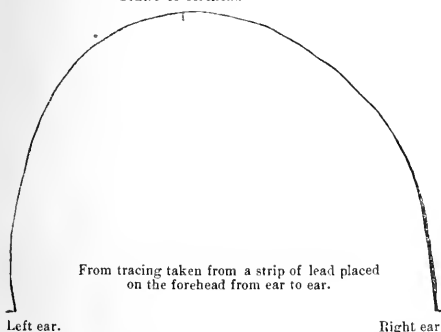
**CASE IX.** Healthy child, six weeks old, was brought for treatment with well-marked torticollis, the chin being turned to the right. This had appeared since birth, which had been a difficult one. On palpation the left sterno-mastoid was found to be ruptured three quarters of its entire width, the untorn fibres were spasmodically contracted. The child did not return for treatment.

**CASE X.** A girl, ten years old, while in bed, after an attack of what was termed febricula, was pulled by the head, in play, by her sister, and on the following night suffered great pain in the head and side of the neck; the head was pulled to the side so that the ear rested nearly upon the shoulder. After a week a slight rectification of the deformity took place, and an enlarged gland could be felt in the region between the sterno-mastoid and the trapezius. The pain, which had been severe, suddenly disappeared, the tumor formed by the enlarged gland became larger, and fluctuation was felt, and incision advised, but not done. The swelling, however, was gradually absorbed, and the head slowly rectified itself, and at the end of three weeks the position and motion was perfectly normal, and has remained so for the past eight months. The sterno-mastoid muscle was not involved in this deformity. At the present time, six months after recovery, the patient has remained perfectly well.

**CASE XI.** A case seen in consultation with Dr. Doe, the patient being a woman of about twenty years of age, recovering from typhoid fever. The distortion was quite marked, and the head was well fixed in the distorted position by a spasm of the posterior muscles of the neck. Recovery slowly took place, the rectification occurring spontaneously.

**CASE XII.** P., healthy child, six months old, was

Centre of forehead.



born with a lack of symmetry of the cranium, affecting the frontal bone on the right side in such a way that from the orbital region upward the face appeared to be flattened, the frontal eminence, the supraorbital ridge, the malar bone being all less prominent on the right than the left side. The face and head in every other respect was symmetrical. The child appeared to be healthy, and was as intelligent as children of its age. The trunk and limbs were normal.

Position usually assumed by the child. The shaded portion indicates the region of flattening.

The head was carried habitually in the position of wry

neck, with the chin turned to the right, exactly in the position to suggest the explanation by the mother that the left side "was heavier than the right, and the head was held crooked." No paralysis existed, and the child could move the head in all directions voluntarily, no contraction being present. The usual position, however, was the one described; a slight secondary curvature of the spine was present, and in consequence the shoulders were held one higher than the other.

The cases illustrate the variety of causes<sup>1</sup> which produce the deformity called wry neck, and also the fact, overlooked in many of the text books, that the sterno-cleido mastoid muscle does not always play the most important part in the production of the deformity, a fact clearly shown by Delore,<sup>2</sup> who claims that "posterior torticollis" is the more common form.

In wry neck from caries of the spine in the cervical region, the posterior muscles of the neck are those chiefly involved. Any irritation, however, at the base of the head will produce a similar deformity, as in Case II. and Case X. The distortion appears to be sometimes due to a neurosis, as in Cases III., VI., VII., and VIII. Of these three were affected in the sterno-mastoid alone, and two in the posterior muscles of the neck. In Case IV. a connection between the indentation of the skull and the wry neck is of course possible, but, in view of the facts presented by Case IX., hardly probable.

It would be difficult to class Case V. under any head unless that of a neurosis, and possibly Case XII. could be considered in the same way.

A variety of wry neck has been described by French writers as due to an inflammatory affection of the articulations in the cervical spine. It is possible that Case I. could be classed in this category. The patient had suffered from some process which affected the spinal column in the cervical region, as was evident from the fibrous adhesions, which gave way on rectifying the deformity. It might be otherwise considered a rare form of cervical caries where the process had undergone a spontaneous arrest after a short course. For nearly a year after the original seizure until the time of the operation no symptoms were present indicating caries, and up to the present time, ten months after operative interference, no evidence of caries is to be found.

The treatment employed in the cases which were treated was, in Cases I. and II., that advised by Delore, namely, rectification under an anæsthetic, and immediate fixation. Silicate of potash bandages recommended by him for fixation were used in Case II., but subsequent experience showed the advantage of plaster-of-Paris. In Cases III. and IV. a modification of the arrangement described by Mr. Swan<sup>3</sup> was used. This consists of a plaster-of-Paris jacket to hold the trunk and shoulder, into which buckles are fastened. A hold on the head is secured by applying the ordinary head bandage, encircling the head from occiput to forehead, and from vertex to chin. As this would slip, a piece of rubber adhesive plaster is first applied on the forehead, and the beginning of the bandage is sewed to the end of the adhesive plaster. After the bandage is applied in the ordinary way it is to be stitched at the points of crossing, and webbing is sewn on at such

<sup>1</sup> Cases of wry neck occurring in the ordinary course of cervical caries are not referred to in this paper.

<sup>2</sup> Gaz. Hebdomadaire, March 15, 1878.

<sup>3</sup> Dublin Journal Medical Sciences, August, 1879, page 114.

places as will, when fastened to the buckles on the jacket encasing the trunk, twist the head in the direction desired. The exact places for the buckles and straps can be determined only by experimentation in each case. Perineal straps to hold the jacket from rising are of use.

As a portable appliance to be used as after-treatment to prevent relapse, the wire collar devised by Dr. Buckminster Brown leaves little to be desired.

# REMARKABLE CASE OF SACCULATED OR OF CIRROID ANEURISM OF THE SECOND INTEROSSEOUS BRANCH OF THE DEEP PALMAR ARCH TREATED BY EXCISION.<sup>1</sup>

WITH EXHIBITION OF THE SPECIMEN.

BY JOHN B. ROBERTS, M. D.

*Lecturer on Anatomy and on Operative Surgery in the Philadelphia School of Anatomy.*

The specimen which I exhibit this evening and its accompanying history are interesting, I think, because of the extreme rarity of the condition. I know of no similar case reported; but I have not had an opportunity to search for such in medical literature, because the operation was performed only a few hours ago. The specimen is fresh, and is exhibited now before the appearances have been changed by any preservative fluid.

Dr. Charles H. Thomas requested me a few days ago to assist him, at an early date, in operating upon a tumor of the hand in a boy, aged sixteen years. From his earliest childhood he had been under Dr. Thomas's observation, and had had a small elongated tumor upon the dorsal surface of the first phalanx of the left ring-finger, while in the palm, at the junction of the bases of the middle and ring-fingers, was a larger swelling. These were considered masses of dilated veins, as they had a spongy feel, and at times showed a bluish color. There was no very definite connecting band of swelling between the dorsal and palmar enlargements. No special pain was experienced unless the parts were struck, and no marked growth occurred. Hence the child's mother was advised to have nothing done. As the boy grew, the hand and tumor increased, but held the same relative proportions. When the boy began work in a machine-shop, the skin became thickened and soiled, and the bluish tint was no longer discernible.

About two months or less ago, the growths seemed to enlarge and to be accompanied by considerable pain, and Dr. Thomas advised the use of a compress in the palm and a bandage around the finger. This the boy wore at nights, and usually from Saturday to Monday morning when he returned to his work. Recently there was noticed pulsation in the palmar tumor and a lobulated feel; and Dr. Thomas feared that an arterial aneurism existed.

When I examined the boy last evening, I found on the back of the third finger a hard fibrous-like tumor, as large as a watermelon seed, with the long diameter corresponding to the length of the phalanx. In the palm was an illy defined swelling covered with thick skin, very sensitive to pressure, and occupying about the area of a silver half-dollar. No swelling was evident connecting the two tumors. On the ulnar side of

the palmar mass moderately distinct pulsation could be felt, which quickly stopped when the radial artery was compressed at the wrist, but merely decreased in force when the ulnar was pressed upon with the finger. No pulsation was felt in the dorsal tumor.

The boy had severe pain even when no pressure was made upon the growth in the palm.

I gave it as my opinion that the growth was an arterial angioma connected with the second interosseous branch of the deep palmar arch, having anastomoses with the digital branches of the ulnar artery. Dr. Thomas considered it possibly this, but probably a sacculated aneurism. His diagnosis has proved to be the more correct.

It was determined to employ the Esmarch elastic bandage, and to make a free incision over the tumor and dissect it out, whether it be angioma or aneurism. As Dr. Thomas was disabled by a painful boil on his right hand, he requested me to operate. The boy was etherized and the elastic bandage applied.

I made an incision from a point a little in front of the superficial palmar arch to the commissure of the fingers, and came upon a mass of fat and small vessels, in the centre of which was a bluish nodule, resembling larger vessels containing blood not driven out by the elastic bandage. Keeping close to the skin, and going down to the sheaths of the flexor tendons, I dissected the mass free. Lying alongside of the palmar interosseous muscle going to the ring-finger (second interosseous) we saw a comparatively large vessel which seemed to be the main feeder of the mass. I then extended my incision, making a straight cut along the side of the ring-finger, dissected up the skin, and enucleated the hard nodule lying on the back of the first phalanx. This seemed connected with the other mass by some fibres or small vessels, and both were removed as one piece. The wound was then plugged with dry muslin to stop the general oozing that occurred after removal of the bandage, and a tight bandage applied. No ligatures were required, because my incisions were made at a distance from the tumor.

Dissection of the palmar mass showed that I had removed a small body, about three quarters of an inch in diameter, containing clotted blood, and surrounded by adipose tissue and nerves. Small collapsed vessels in large numbers may perhaps be found in this adipose tissue by microscopic examination. Only a few larger ones were recognizable by ocular inspection because of the absence of blood from the interior. The tumor, as is seen on the plate, consists of three lobules of rather unequal size, arranged somewhat as a trefoil. The largest one of them, which has been punctured, allows the escape of soft clot; this sac is about one half an inch in diameter. The three sacs seem to be separate, because the head of a pin introduced into one does not pass into the others. The two smaller sacs or lobules are hard, as if the clot was old. One has been laid open, and shows a white centre, or nucleus, of cartilaginous consistence surrounded by a layer of red clot. On the surface of this three-lobed tumor runs a nerve, which probably was the seat of pain from pressure, and parallel to it a small artery. Both of these become lost in the mass, at the upper end of the tumor, which was thought to contain the main supply of the aneurism, and around which a string was tied and left for identification.

The tumor from the back of the finger is hard, and on section shows an irregularly colored red surface.

<sup>1</sup> Read May 3, 1882, before the College of Surgeons of Philadelphia.

I believe the tumors, therefore, to be small sacculated aneurisms evidently allied to or identical with the variety called cirroid aneurism. The one on the back of the finger and the two smaller lobules in the palm are undergoing cure by coagulation, induced in the dorsal one undoubtedly by the pressure from the bandage used at intervals during the last six weeks or two months.

If the diagnosis had been more certain as to aneurism, I believe that digital compression of radial and ulnar arteries, or the use of an Esmarch elastic bandage to the forearm, would have been proper treatment before excision was attempted.

The early period of life (about three years) at which the trouble was noticed primarily renders it probable that the aneurisms were not originally traumatic. It is possible, I suppose, that the vessels of an arterial angioma may have become so dilated as to resemble these multiple aneurisms.

The similarity to cirroid aneurism is certainly very great, though there are some points which differ somewhat from the usual clinical history of these growths.

[After the reading of the preceding paper:]

Dr. W. W. Keen called attention to the danger of using coagulating agents in such cases, and spoke of a case of traumatic origin he had seen in consultation, in which a few drops of Monsell's solution had been injected into the aneurismal sac, and gangrene had followed, necessitating amputation of the hand. He thought compression of the radial and ulnar arteries would probably have accomplished a cure, and the risks of an operation would have been avoided. With regard to the small tumor on the dorsal surface of the ring-finger, he thought it unlikely to be an aneurism. Nothing short of a microscopical examination would determine its nature.

## RECENT PROGRESS IN OPHTHALMOLOGY.

BY O. F. WADSWORTH, M. D.

### THE NATURE OF TRACHOMA AND SOME OTHER DISEASES OF THE CONJUNCTIVA.

SATTLER<sup>1</sup> considers the trachoma granules to be a specific product, and the most characteristic anatomical sign of the trachomatous process. He denies that they arise from an enlargement of lymph follicles normally present in the conjunctiva, or that any such exist in the normal conjunctiva. Instead of the granules being lymph follicles, they consist, aside from a network of capillaries, of round or oval nuclei, imbedded in a finely granular substance, and of fragments of nuclei. These nuclei are not surrounded by protoplasm as are the nuclei of the lymphoid cells of the conjunctiva.

In the secretion from the various stages of trachoma, Sattler found a single form of microbion, a circular micrococcus, somewhat less in diameter than the micrococcus found in blennorrhœa, but which in its forms of growth, as shown by cultivation, agrees with the latter in all essentials. Always in active movement, the micrococci were seldom single, occasionally in pairs, but more often three or four together, arranged in the form of a triangle or quadrangle of nearly equal sides. This arrangement seemed characteristic both in the trachomatous and blennorrhœic secretion. They were often

attached to the surface of epithelial and pus cells, also within the latter in contact with the nucleus.

If trachoma be, as generally assumed, a local disease, caused by infection, and the micrococci be the bearers of the infection, and determine by their action the character of the disease, they should be found not simply in the secretion of the mucous membrane, but in the tissues of the conjunctiva itself. A trachoma granule was excised under antiseptic precautions, its contents carefully removed and placed in the conjunctival sac of another individual, and in seven days evident signs of the disease appeared. It is of interest to note that in this case, in the earlier stages of the disease, and up to a certain point, no clinical distinction between it and the so-called follicular swelling or follicular conjunctivitis could be seen. Further, the contents of a granule were placed in sterilized solutions and in isinglass jelly, and the development of the microbion watched. Inoculation from a well advanced cultivation of this sort also produced the disease after a time of incubation of eight days.

Anatomically the micrococci were found in the granules, both in sections and in the spread-out contents, attached to nuclei and fragments of nuclei. The nuclei showed changes, particularly in their size and behavior toward coloring matters. These changes were not only regressive but also progressive; there were plain indications of division. But besides pathological alterations in the granules, these occur also in the surrounding tissue; nuclei, isolated or in small collections, were seen, which were larger, and colored less readily than normal, and were beset by micrococci.

In the older granules of trachoma there is often a thickening of the adventitia of the vessels, which may go on to an obliteration of their calibre and their transformation into a solid cord, and this, Sattler believes, bears an important part in the so-called connective tissue change. Another source of connective tissue is found in the stationary elements of the "capsule," and in advanced cases, especially in the hypertrophied papillary forms, there are often signs of new formation of connective tissue in the lymphoid infiltrated conjunctiva. He could, however, find no evidence that the elements of the granules themselves underwent this transformation, and thinks that, in general, formation of connective tissue as a result of the trachomatous process has been overestimated, and that in many cases, at least, there is rather, with the gradual disappearance of the granules, an atrophy of the conjunctiva.

The formations described as glands by Iwanoff and Berlin in advanced cases of trachoma, Sattler asserts he has been familiar with for years, but agrees with other writers that they are not new-formed glands, but the appearances seen are produced by infoldings of the surface during the irregular swelling of the tissues.

The follicles in the so-called follicular conjunctivitis also contain micrococci, and are distinguished anatomically from trachoma granules only by their exclusively superficial situation, by a relatively greater number of intact or slightly altered nuclei, and by some unimportant differences in the capillaries and frame-work. Both in this affection and in trachoma there is often an extensive infarction of the lymph vessels with lymphoid cells.

In an instance under Sattler's observation, a mother, suffering from moderate leucorrhœa during pregnancy, gave a light blennorrhœa to her infant, and she herself being infected from the child, developed trachoma.

<sup>1</sup> Bericht der Ophthalmologischen Gesellschaft, Heidelberg, 1881.

From this case, and from consideration of the generally admitted fact that blennorrhœa of infants is caused, under certain conditions, by simple leucorrhœa, he holds that a close relation between the excretors of infection of these different affections is not to be lightly denied, and that it is not improbable that the micrococcus causing trachoma is derived from that which flourishes in the vaginal secretions.

As to the much discussed question of transportation of infection through the air, the micrococci certainly may be carried in the dust arising from powdering of the dried conjunctival secretion. It is probable, however, that the micrococcus is often killed by drying, yet it is possible that under certain conditions its vital energies are weakened, not destroyed, and, as in crowded school-rooms, it may then excite in a number of individuals a disease, which, clinically and anatomically like the early stages of trachoma, does not lead to deeper changes, and, though it may be obstinate, heals of itself when the person affected is removed from harmful influences.

In the discussion which followed the reading of Sattler's paper, Goldzieher mentioned a circumstance corroborative of the idea that all infectious diseases of the conjunctiva may have the same origin. A boy who had lost his eyes from a blennorrhœa was admitted to a blind asylum in Budapest, and an extensive epidemic followed. But among those affected there was observed a great variation in the character of the disease, some contracted a pure blennorrhœa, others true trachoma, while there were also instances of intermediate forms.

#### PROPHYLAXIS OF OPHTHALMIA NEONATORUM.

Crédé<sup>1</sup> has now treated four hundred cases in addition to two hundred previously reported,<sup>2</sup> and with equal success. In consequence of the objection that the continued application of salicylic acid compresses was very probably the important part of the treatment of the earlier cases, the compresses were omitted in more than three hundred of the later ones, and the treatment thus rendered exceedingly simple. On division of the cord the infants were bathed, the lids washed off with a bit of clean rag and water only, then from a glass tube a single drop of a two per cent. solution of silver nitrate was dropped into each slightly opened eye. Nothing more was done. No one of the infants so treated became affected during the first seven days, even in slight degree, nor was there the least harm from the instillation. Children born at term showed practically no reaction, scarce reddening, never swelling. Only in a portion of the prematurely born, whose conjunctiva appears to be more easily irritated, there was after a short time an increased serous, followed by a little mucous secretion, which, however, always disappeared in twenty-four to forty-eight hours. Crédé insists that only direct treatment of the eyes themselves is a certain preventive of infection. Disinfectant cleansing of the maternal genitals before and during labor, though this also was carried out as much as possible, has been shown by experience to be insufficient of itself to prevent infection, and none of the other usual disinfectants has given the same certainty as the silver nitrate.

The mothers of the six hundred infants presented the most varying conditions; there were syphilitic,

gonorrhœal, and catarrhal affections; some were clean, others very dirty, and the latter could not always be properly cleansed because entering the hospital during labor; there were easy labors, and very severe operative cases.

The above treatment, of course, prevents only such disease as is acquired during labor; this, it is generally admitted, appears at latest on the fifth day. Any affection beginning later must be referred to another source. The later cases occur but rarely, and their course is generally short and favorable, although serious cases are sometimes observed. For these a drop of the above solution should be applied at the beginning, repeated once daily, if necessary, and a small ice-bag be kept continuously on the lids.

#### THE MECHANISM OF SYMPATHETIC OPHTHALMIA.

In what way the inflammation of sympathetic ophthalmia is conveyed from one eye to the other has never been satisfactorily settled. The spread of inflammation directly along the optic nerve and through the chiasma or its development from a reflex irritation carried by the ciliary nerves, these are the theories which have been generally held. The latter has had by far the most numerous adherents, while some have believed that both were correct, and that sometimes the optic, sometimes the ciliary nerves were the agents of transmission, or that they might act together in the same case. Recently the lymph spaces have been brought into prominence as furnishing the path by which the morbid process travels to the second eye.

Mac Gillavry, in 1879, at the International Congress at Amsterdam,<sup>3</sup> gave the results of anatomical examination of an eye which had set up sympathetic ophthalmia. He found collections of lymphoid cells blocking the sub-dural lymph space of the optic nerve, and suggested that similar obstruction within the cranium might lead to the transportation of inflammatory products into the lymph space of the opposite optics. Such an explanation of the mechanism of sympathetic ophthalmia he thought more rational than to attribute it to an inflammation proceeding along a perhaps atrophied optic nerve, or to a mere reflex.

In the same year Knies,<sup>4</sup> at Heidelberg, described a case of double iritis serosa in which the arachnoid sheaths of both optics were thickly infiltrated with cells close up to the chiasma. The chiasma itself was not examined, but there could be little doubt that the infiltration was continuous from one nerve to the other. Although this was not a case of sympathetic inflammation, Knies thought it of importance as showing a probable method of transmission of that disease.

Leber<sup>5</sup> not only regards the lymph spaces of the optics as the path, but microbes as the cause, of the affection. The character of the inflammation, the fact that in a great majority of cases there has been a wound of the eye, in others an ulcerative process which has given opportunity for the entrance of germs, that as a rule a definite time, six or eight weeks, is required for the spread of the disease to the second eye, support this view. In the rare instances when the second eye is only inflamed years after the original injury there is an exacerbation of the earlier inflammation or a fresh infection of the first eye. Sympa-

<sup>1</sup> Annales d'Oculistique, T. Lxxix., p. 192.

<sup>2</sup> Bericht der Ophthalmologischen Gesellschaft, 1879.

<sup>3</sup> Archiv für Ophthalmologie, Band 27, Heft 1.

<sup>4</sup> Transactions of the International Medical Congress. London. 1881.

<sup>1</sup> Archiv für Gynäkologie, Band 18, Heft 2.

<sup>2</sup> See JOURNAL, vol. cv., p. 412.

thetic irritation is indeed conveyed by the ciliary nerves, yet this does not of itself excite pathological changes, even if the irritation continue for years. Complete anatomical proof of the theory is difficult to obtain, but he has repeatedly found low organisms in eyes enucleated to avoid danger of sympathetic inflammation, and in an eye removed after inflammation had broken out in the second there were microbes to be seen in the tissue between the nerve sheaths and in the atrophied nerve substance.

Snellen<sup>1</sup> also has found micrococci in the choroid and sheaths of the opticus of eyes enucleated after injury. He thinks for the extension of the inflammatory process some other path must be sought than the nerves, and that that offered by the lymph spaces is the most probable one. Whether the micrococci be cause or consequence of the inflammation he does not undertake to decide, and sums up as follows: The hypothesis that sympathetic ophthalmia is explained by reflex action through the ciliary nerves is devoid of all convincing proofs. Sympathetic ophthalmia may be looked upon as proceeding from a septic choroiditis of definite type, not improbably resulting from an abnormal continuity between the external tissues and the uvea. The morbid changes of the vessels, the increase of lymphoid cells, and perhaps also, the accumulation of microphytoid organisms are the guiding signs that may indicate the direction in which the morbid process is propagated. The path of the transmission is most probably along the lymphatic spaces of the optic nerve.

#### A NEW PTOSIS OPERATION.

The insufficiency of operations hitherto proposed for the relief of complete or nearly complete ptosis, with little or no power in the levator, is well known. Pagenstecher<sup>2</sup> has devised an operation which depends for its effect on bringing the frontalis to act directly on the upper lid, and thus substituting the action of this muscle for that of the levator. This is accomplished by producing a superficial vertical cicatrix connecting the frontalis with the edge of the lid. A needle is entered about a finger's breadth above the supraorbital ridge and carried downward beneath the skin to emerge at the level of the lashes; a thread is drawn through, and the ends tied together without much dragging. Each day the thread is pulled on till it finally cuts its way out. The reaction is very moderate; the disfigurement caused by the scar is very little, and much more than made for up by the improvement in appearance obtained by relief of the ptosis. Pagenstecher has found one suture suffice in the cases operated on, but suggests that two may sometimes be necessary. For incomplete ptosis a modified form of procedure is advised. A thread armed with two needles is used. One needle is passed under the skin of the lid, parallel to and near the lashes, for a distance of one or two millimetres, drawn through, reentered at the point of exit, and carried upward beneath the skin to a finger's breadth above the supraorbital ridge. The other needle is then carried from the point where the first needle entered, also upward, to emerge at the same place as the first, above the brow. The two ends of the thread are drawn moderately tight and fastened. The loop thus formed may be removed after a longer

or shorter time, or allowed to cut itself through, according to the indications of the individual case, and in this way a wholly subcutaneous cicatricial cord is produced. Care should be taken not to sink the needles so deeply above the brow as to wound the periosteum, lest a connection between the skin and periosteum might occur and prevent movement of the vertical cord.

#### HYOSCINUM HYDRIODATUM AS A MYDRIATIC.

According to experiments of Emmert<sup>6</sup> on himself and others a drop of a one tenth per cent. solution of this drug acts on the pupil and accommodation more quickly and strongly than a drop of a one half per cent. solution of atropine; it also resists eserine for a time more than atropine does, but its effect is not so lasting. In cases of infiltration of the cornea, leucoma adhaerens, and various forms of iritis, in which neither a one half per cent. solution of atropine nor of eserine dilated the pupil or ruptured synechia, this result was brought about by the hyosine solution in a strength of one tenth to one half per cent. Slight and temporary toxic symptoms (dizziness or unsteadiness of gait) were frequently observed from its use, but no serious general disturbances. Generally a solution of one tenth per cent is sufficient, and this produces greater effect on the pupil than any other mydriatic known.

### Reports of Societies.

#### PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL OBSERVATION.

BY W. H. RICHARDSON, M. D., SECRETARY.

REGULAR meeting November 21, 1881.

#### SPONGES FROM FARM POND.

DR. J. O. GREEN reported briefly the result of Professor Remsen's investigations into the cause of the bad taste of the Boston water, and showed specimens of the sponges taken from Farm Pond. These specimens were found after drawing off the water from the pond. They have the same taste and odor as the water as nearly as can be made out. The color is partly green, while some of the specimens are black from a deposit of mud. It grows attached to rocks, and is not found on the muddy or low part of the pond. The growth covers one fifth of the bottom of Farm Pond, and is found in masses one to two feet in length. It decomposes very rapidly, twenty-four hours causing it to rot completely. Professor Farlow pronounces it a true sponge, and not a vegetable growth.

DR. H. W. WILLIAMS asked if there was any theory to account for the existence of this growth in Farm Pond alone.

DR. GREEN said that Farm Pond had been for ages an old pond, and had been utilized for its water supply. He did not know when it had been drawn off before. Professor Remsen found nothing of the kind in Baltimore water. The growth was first discovered on the screens of the pond.

#### TREATMENT OF POSTERIOR HYPERTROPHY OF THE INFERIOR TURBINATED BONES.

DR. KNIGHT read a paper on this subject.

Among the most common causes of obstruction of the nares is hypertrophy of the turbinated bones, espe-

<sup>1</sup> Transactions of the International Medical Congress. London. 1881.

<sup>2</sup> Archiv für Augenheilkunde, xi. 2. Centralblatt für pract. Augenheilkunde, April, 1882.

cially the inferior. This is, strictly speaking, a hypertrophy of the mucous and submucous tissues and not of the bone itself. The removal of these hypertrophies constitutes one of the greatest advances yet made in the treatment of the affections of this region. The hypertrophy may involve the whole bone, or may occur on either the anterior or posterior portions. The symptoms produced by posterior hypertrophy are: (1.) Obstruction to nasal respiration. (2.) Difficulty of removing catarrhal secretion either by blowing the nose or by means of the douche or syringe. (3.) Serious modification of the voice, production of the obstructed quality usually improperly called nasal. (4.) Deafness either by direct pressure upon the orifice of the Eustachian tube or by keeping up the catarrhal condition in the neighborhood. (5.) Impairment of the sense of smell.

The only treatment which has proved at all efficacious for the removal of this condition has been such as would actually remove a considerable portion of the hypertrophied tissue, which is best done by the wire snare of Dr. Jarvis of New York.

The wire loop is passed through the nares and is adjusted in position by aid of the rhinoscopic mirror. On drawing the wire home the tissue is cleanly divided, and, if not too large to pass through the nares, it will generally be drawn out clinging to the snare. Traction should be made very slowly, stopping at short intervals, in order that the hæmorrhage may be as little as possible.

Several questions present themselves to one about to use the instrument for the first time. Is there any danger, after having engaged a mass of tissue in the loop, of being unable to complete the operation? There ought to be no difficulty of this kind, yet some gentlemen have found this difficulty, and their cases should be reported, in order that the least trouble may be recognized and guarded against. There is no more pain than a patient who has suffered obstruction will willingly endure for the sake of a cure. If an hour or two is consumed in the operation, the hæmorrhage is usually slight.

A case was reported to illustrate this method of treatment.

A teacher of singing had suffered from post-nasal catarrh and obstruction for three years. The sense of smell was lost. Various remedies had been prescribed for the relief of her symptoms. Lately the nasal obstruction has become so great as to seriously affect the quality of the voice. Examination of the posterior nares showed them completely blocked by swelling of the turbinated bones, especially the inferior. Radical treatment was imperative. Accordingly, the posterior portions of both turbinated bones were removed by Jarvis's snare at different sittings. The first operation was completed in twenty minutes, and there was considerable hæmorrhage. With the second operation more time was allowed. The relief to the breathing was immediate.

Dr. KNIGHT remarked, in answer to Dr. Wells, that this condition of the turbinated bones is quite common.

Dr. WHITNEY asked whether the reader had seen any preparations of the bones removed in these cases.

Dr. KNIGHT replied that he had found hypertrophy of the mucous and submucous tissue, with no change in the bone itself. The hypertrophy of the mucous membrane is the cause of the obstruction, and not any change in the bone itself.

Dr. WHITNEY said that the question had suggested itself to him while examining the skulls of mound builders, in which he found posterior hypertrophy of the turbinated bones. In one case there was pushing of the septum to one side. He wondered whether these people suffered from catarrh from this cause.

In reply to Dr. Shattuck, Dr. KNIGHT said that he thought it would not be necessary to repeat the operation, for there is a good deal of contraction of the part afterwards. There has not been, as yet, however, enough experience with the operation to say exactly. If only a little membrane is taken off the operation might have to be repeated.

Dr. HOOVER said that any one who had attempted this operation would appreciate the importance of the first step, namely, the application of the noose to the hypertrophied tissue, and of being sure that it is in proper position before tightening it. Although it is not difficult, in most cases, to adjust the noose properly, it is very easily displaced by a little unsteadiness on the part of the operator, or gagging of the patient. In one case the noose was in some manner dislodged, and subsequently became so imbedded that it was impossible to see its position. There ought to be some means of fixing the noose before tightening it. In the operation itself there is also difficulty. In cases where a deviation of the septum exists it is almost impossible to adjust the noose, especially where the deviation is anteriorly and towards the diseased side. Hæmorrhage may be a serious complication. At an operation a few days ago on a small boy, with complete occlusion of the posterior nares, removal of the right side was attended by no hæmorrhage at all. On the other side, however, there was considerable bleeding, though about the same time was taken for each side. Dr. Wynne says that by the finger he can assure himself of the condition of the Eustachian tube, fossa of Rosenmüller, the presence of polypi, or of an adventitious growth. Were it possible to put the finger back, and feel the position of the snare one great difficulty would be overcome. Dr. Hooper could feel the Eustachian tube with the finger, but could not reach either the septum or the turbinated bones. Dr. Wynne says it is a procedure which never fails, and which dispenses with the rhinoscopic mirror. Dr. Hooper did not see how this could be the case. On that morning he had found by measurement the distance from the septum naris to the outside of the lip to be in no case less than twelve centimetres, and in one fourteen.

Dr. LANGMAID said that only specialists know the agony and suffering caused the patient by occlusion of the posterior nares, reflex dyspnoea coming on suddenly, sometimes in violent paroxysms during sleep; alteration in the voice; then the pain in the forehead is sometimes tremendous, so that minute investigation into this disease is important from a humanitarian point of view. With regard to hæmorrhage during the operation, Dr. Langmaid said, quoting from Dr. Bosworth, this is sometimes alarming. In one instance the patient became exsanguine. The amount of bleeding depends on the time taken in cutting through the tissues. When prolonged to three hours there has been none. In operations of two hours the hæmorrhage has been considerable, and in some cases very dangerous. The old treatment was very ineffectual for this condition of hypertrophy. Strong chromic acid was used as a local application. In some cases where the hypertrophy was limited to the mucous membrane

or the mucous glands, one was constantly baffled. Certain conditions of the atmosphere would bring the whole trouble back again. With regard to the examination by the finger, this depends on the configuration of the pharynx, and on the distance from the velum to the posterior wall. In some cases it will be found very easy to slip the finger behind the soft palate, and make out a good deal, but in a large number of cases, according to his experience, the attempt to examine by the finger is very unsatisfactory.

DR. KNIGHT added, in regard to the respiration, that real attacks of spasmodic asthma are sometimes due to this condition of the turbinated bones, and may be completely relieved by the operation. Digital examination of the pharynx and posterior nares is sometimes necessary where we wish to ascertain the condition of parts which we cannot see, or where it is necessary to get information as to density, hardness, etc. It seems ridiculous to say that this method should supersede rhinoscopy. In making a digital examination at the hospital, putting the finger into the posterior nares caused a good deal of pain and hemorrhage for some time after. Though exceptional examinations may be made by the finger, rhinoscopy should be the rule.

In reply to Dr. Bowditch the reader said that in the case of a certain professional singer, where the obstruction in the nose altered the quality of the voice, it was very necessary to do something. As soon as part of the turbinated bones had been removed the voice became as good as ever.

DR. BROWN showed a diagram, and MR. FREDERICK TIBOR explained the ventilation of the new Children's Hospital.

### Recent Literature.

*Student's Manual of Diseases of the Skin.* L. DUNCAN BULKLEY, M. D. New York: G. P. Putnam's Sons. 1882.

The classification used, Dr. Bulkley's modification of Hebra's System, is a very good one, and the different diseases of the skin are considered in the order therein designated. The main defects of the book are caused by the endeavor to handle the etiology, diagnosis, prognosis, and treatment of one hundred and twenty odd diseases, in a little over twice the number of 16mo. pages. Pathology, the only basis of a correct understanding of dermatology, is conspicuous by its absence, and the small size of the book compels a lack of the minuteness and fullness of direction necessary to instruction. A useful chapter on diet and hygiene, useful in impressing upon the student the need of attention to these things, and a collection of various recipes conclude the book.

— An inquest has been held at Preston, England, on the body of a boy, aged ten. It was stated that the deceased was brought to the house of a dentist at Preston, to have some teeth extracted. Seven teeth were taken out, the lad being placed under the influence of nitrous oxide gas. While unconscious he changed color, put his hand to his throat, and died. It was afterwards found that one of the teeth had fallen into the windpipe and choked him. A verdict of "accidental death" was returned.

## Medical and Surgical Journal.

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### THE MEETING OF THE AMERICAN MEDICAL ASSOCIATION AT ST. PAUL.

THE approaching meeting of the American Medical Association at St. Paul, which will be held June 6th, 7th, 8th, and 9th, notwithstanding the time required and the length of the journey, offers many attractions, directly and indirectly, to Eastern physicians. The season of the year, following on the anxieties and labors of a winter's work, invites to a vacation, an invitation which the freshness and joyousness of nature in her spring dress warmly emphasizes. To reach the place of meeting, the traveler from the East traverses many States, and passes through many cities representing in agriculture, in manufactures, and in commerce the richest, the most prosperous, and the most rapidly developing portion of this continent. A section in which the visible realities of to-day serve merely to stimulate the imagination to speculate on the promises of a near future.

St. Paul itself, a town of over 40,000 inhabitants, is at once a picturesque and agreeable place of residence, and a most thriving centre of trade of one of the very largest and most rapidly growing States of the Union. A State, moreover, whose climate and soil, from the favorable effects of life within its borders upon certain classes of invalids, are of peculiar interest to the physician as well as to the farmer, the railroad manager, and the merchant.

At the conclusion of the meeting those who are able to prolong their vacation will find themselves very favorably situated for making acquaintance with the prairies, and visiting some of the remarkable natural curiosities and points of interest of the farther West—among which may be especially mentioned the valleys of the Yellowstone and Red Rivers; or if one wishes fine scenery and capital fishing at a somewhat less distance there remains the north shore of Lake Superior.

The railroads connecting Chicago and St. Paul, as well as those connecting the latter city with various points North, South, and West, offer peculiarly favorable rates of fares not only for delegates, but for members of their families accompanying them. For details our readers are referred to the announcement upon the last page of the JOURNAL, which supersedes that made in our issue of May 18th.

If any Eastern physician has ever contemplated going temporarily West, and we repeat Horace Greeley's advice to both old and young, now is the favor-

able moment, when the season of the year, the railroad ticket agents, and professional discussion all unite in one appeal.

## THE QUESTION OF MEDICAL ETHICS AT ST. PAUL.

THE NEW YORK STATE MEDICAL SOCIETY *versus* THE AMERICAN MEDICAL ASSOCIATION.

THE question of medical ethics will undoubtedly be brought up at the approaching meeting of the American Medical Association at St. Paul, apropos of the recent action of the New York State Medical Society, when, under the guidance of a small section of the profession in that State, the Society voted to sanction consultations on the part of its members with men pretending to practice medicine according to a dogma or system.

We expressed our views as to the wisdom and propriety of this step on the part of the New York Medical Society at the time it was taken, and are glad to find ourselves in accord with the great mass of intelligent and honorable physicians throughout the country and with nearly all the respectable representatives of the medical press of the country.

On another page will be found an extract showing what is thought of the action of New York by our professional brethren across the Atlantic, who have themselves been compelled lately to consider this question pretty carefully.

There is no occasion, therefore, to say more about the matter at the present time or to anticipate the course of discussion and action at St. Paul, although those who engineered the late legislation in the New York Society expressed themselves openly and boldly, we may even say lightly heartedly, as ready to "run the Empire State alone," apparently for "what she is worth!"

## DR. OLIVER WENDELL HOLMES ON MEDICAL HIGHWAYS AND BY-WAYS.

HAVING been led, though very reluctantly, to refer again editorially to the homoeopathic delusion, a delusion meriting from the profession at large neither persecution nor recognition, but simply to be ignored, or at the utmost ridiculed, we must call our readers' attention to the lecture on Medical Highways and By-Ways by Dr. Oliver Wendell Holmes, which we are fortunate enough to be able to publish to-day. In it wit and wisdom are happily blended, and, after an interval of forty years, the lecturer takes occasion to pay his compliments to homoeopathy in a way calculated to make even the judicious laugh, and not to cause the homoeopathist himself to wholly grieve. Dr. Holmes takes up and develops some points which we do not remember to have seen touched, and certainly not dwelt upon, before.

The regular practitioner, the honest but perhaps enthusiastic physician and scientist are reminded too of their limitations, in phrases which cut but carry

with them the healing of their own wounds. What surgeon will bear a grudge for the quotation

"There's a Divinity that shapes our ends,  
Rough hew them how we will!"

or what anatomist, physiologist, chemist, or pathologist but offers himself a willing victim to the Autocrat of the Breakfast Table, when, as a lecturer to students in medicine, which we all are, he reads them so fine a sentence as the following:—

"No, gentlemen, there is no exclusive *a priori* method which leads to the successful treatment of disease. You begin in the primrose paths of knowledge which are only preliminary to your real work. Anatomy is no more medicine than a child's dissected alphabet is literature. Physiology and chemistry throw gleams of light here and there on curative methods, but commonly lead their votaries far away from practice. Pathological anatomy teaches a great deal, but it is, after all, like inspecting what is left of the fireworks on the morning of the fifth of July. It is very pleasant to dissect a muscle, to make a precipitate, to watch a contracting heart, to study a translucent slice of a healthy or diseased organ. These pursuits, sisters of her who presides over health and disease, are the sirens that won over Agassiz and Huxley and Helmholtz to their flowery realms. But just as zoology, chemistry, physiology, histology, are not the science of medicine, so neither is the science of medicine the same thing as the art of healing. To go hastily from the library of old books and the laboratory of new experiments to the bedside of disease is imitating the presumption of those rash profligates who, as Thomas Boston says, think they can take a 'leap out of Delilah's lap into Abraham's bosom.'"

## THE NEW ANTISEPTIC, BORO-GLYCERIDE, IN OPERATIVE SURGERY.

IN the issue of the JOURNAL for May 4th we gave a short account of a new antiseptic compound, boro-glyceride [ $C_2 H_5 Bo_2$ ], lately brought to the notice of the Society of Arts, of London, upon whose members its practical value evidently made a very favorable impression. The inventor and manufacturer, Professor Barff, has, if we are correctly informed, been experimenting with this compound, and perfecting it for commercial purposes for some years, but we had never heard of its being tested in operative surgery, and in our notice of May 4th, considering its qualities as a tasteless, inodorous, non-irritating, inexpensive antiseptic, we suggested its marked appropriateness for such an application. It was with especial interest, therefore, that we read a short paper on Boro-Glyceride in Operative Surgery in the *Lancet* [May 13th], by Mr. Richard Barwell, senior surgeon to Charing Cross Hospital.

Mr. Barwell states that, like many other surgeons, he had for some time past become dissatisfied with carbolic acid in various forms of wounds, and had also grown skeptical as to the alleged value of the spray. Although previous experiments which he had made with boracic acid had failed, he determined, after Pro-



fessor Barff's lecture before the Society of Arts, early in April, to try the boro-glyceride, attributing, as he did, his former failures with the pure acid to its insolubility, a difficulty removed by the new compound.

He accordingly tried the sample which he obtained from Professor Barff in three very different surgical cases, all well calculated to test the antiseptic value and general effects of the new compound as compared with carbolic acid. The report of the cases and the conclusions drawn from them by the operator are given below in Mr. Barwell's own words:—

**CASE I.** Edmund B., aged nineteen, came under my care in Charling Cross Hospital on April 18, 1882, with a large abscess over the lower right ribs. It appeared to have no connection with either the pleural cavity or the liver. On April 21st I made an incision about an inch and a half long, and let out five ounces of pus. A good deal still remained, for the abscess was not squeezed. Passing in my finger, I found about two inches or two inches and a half of a rib bare, and the upper border of the next lower rib was also denuded to the extent of about an inch. Having ascertained these particulars, I injected the abscess with a watery solution of the boro-glyceride (one in twenty), passed in a drainage tube, covered the opening with four folds of lint steeped in the same fluid, and with a piece of thin mackintosh, securing the whole with a bandage. On the next day, and for ten days, the temperature was normal. May 2d. The temperature rose to 99.2° F. last night. I passed my finger into the wound, and could find no portion of bone bare; that which had been so had apparently become covered by granulations. Temperature 100° F. May 3d. Temperature 102.1° F.; bowels confined. An aperient was ordered. May 4th. Temperature normal. May 8th. Wound all but well.

**CASE II.** James H., aged forty-four, had been for the second time a week or two in hospital, that the cause of pyelitis, hamaturia, and pain in the right loin might be made out. After several consultations with Dr. Bruce, Dr. Colquhoun, and Mr. Morgan, it was agreed that my duty was to explore the kidney. May 4th. I cut down through the right loin to the kidney; hardly any blood was lost; no stone could be detected. Behind the gland was a very unusual amount of fat, a small quantity of which, as it was in the way, was removed. The wound was thoroughly sponged out with a five per cent. solution of boro-glyceride, and sewn up close except about half an inch at the lower end, no drainage tube being introduced. The dressing was simply a fourfold pledget of lint, steeped in the same solution, and covered with thin mackintosh. That night the temperature was 103.4° F. May 5th. The man complained of cough, sore throat, and some headache. Tongue a little furred. Temperature: morning 102.4° F.; evening 103.4° F. An aperient was ordered. May 6th. Still some cough. Temperature: morning 100° F.; evening 100.9° F. May 7th. Temperature: morning 99.4° F.; evening 99° F. Wound perfectly healthy. No redness or swelling, even the edges free from any sign of irritation. At the lower end, which had purposely been left a little open, the tissues beneath were red and fresh looking. There was no trace or sign of pus. May 8th. Temperature: morning 98.6° F. May 9th. Temperature: morning 98.6° F.; evening 100.2° F.

**CASE III.** William L., aged twenty-nine, was under my care for political anaemia. Pressure had failed, and therefore I determined on deligation. May 4th. After dividing the superficial fascia, and turning aside the saphena vein which overlay it, the artery was easily reached, and tied with ox aorta ligature. The wound was filled and sponged with the solution of boro-glyceride, sewn and dressed with pledgets soaked in the same solution. Since the operation there has been no pain and no return of pulsation. The wound has been absolutely painless; it was dressed on the fifth day; it looked perfectly quiescent, and was all but healed. The thermometer has ranged thus:—

|             | Morning. | Evening. |             | Morning. | Evening. |
|-------------|----------|----------|-------------|----------|----------|
| May 4th . . | —        | 98.6°    | May 7th . . | 98.5°    | 99.0°    |
| May 5th . . | 98.6°    | 100.0°   | May 8th . . | 98.5°    | 99.4°    |
| May 6th . . | 98.6°    | 99.6°    | May 9th . . | 98.6°    | 99.2°    |

When these cases are considered it will be observed that in two of them a certain rise of temperature occurred; evidently in neither case was this due to septicæmia. In Case I, it was too late, as also too transient, being removed by a purgative. In Case II, it was too early, occurring six hours after operation; it was probably due to irritation of the kidney, and in part to catarrh, which may have been produced by exposure during operation; it, too, was transient, a purgative hastening its disappearance. In Case III, there was no rise of any significance. In Case I, the large abscess of the side was especially calculated to test the value of this material. Such an abscess, if opened and left unprotected, almost certainly causes pyrexia. If carbolic acid had been used I consider that the ribs would not have become covered with granulations, certainly not in the time. On the contrary, necrosis would probably have occurred. Moreover, to impregnate the walls of so large a cavity with carbolic acid would not have been void of danger. In the third case—the only one of mere wound uncomplicated by any additional possibilities of pyrexia—we have the most perfect act of healing I have ever seen.

Although three cases may be a small number from which to generalize, yet having regard to the diversity in character of those just reported, I think we may conclude that we have in the boro-glyceride an aseptic for wounds safer and less irritating locally than carbolic acid, free also from the danger of constitutional poisoning. It may be that I have not hit on the best strength of solution for the dressing, and certainly some other diluent besides water will be desirable. I am now making experiments in that direction. Nothing, however, can be better than the action of this compound. The intricate and not very safe complications of carbolic treatment—the spray and all the inconveniences belonging to it—may now be laid aside. The method which I introduce is exceedingly simple; in using it it is only necessary to place on the washed and sewn wound a few folds of lint soaked in the solution, to cover them with thin mackintosh, and to secure them with a bandage. Under such dressing healing takes place in the most beautiful and perfect manner.

#### MEDICAL NOTES.

—A reader has called our attention to the fact that although Koch's announcement of his discovery of the bacillus of tuberculosis was noticed editorially in our issue of April 20th, an esteemed contemporary in Philadelphia, which first mentioned the subject April 29th, has been taking credit to itself for its enterprise in having been the first American journal to make the subject public.

—We understand the Prussian authorities still propose to hold the Sanitary Exposition at Berlin in June notwithstanding the unfortunate conflagration some weeks since, which destroyed both the building and many of the articles for exhibition already forwarded.

#### NEW YORK.

—At the instance of a number of prominent medical men the visiting staff of Bellevue Hospital has lately been reorganized by the Commissioners of Charities and Correction. For some years past it has been thought in certain circles of the profession that Bellevue College received the lion's share of the appointments, and this has given rise at times to considerable ill-feeling and unfavorable comment. In the present distribution of places, therefore, an effort has been made to satisfy all parties, so far as was possible, by allowing the authorities of each of the three large medical schools to select an equal number of physicians and surgeons connected with each for service at the hospital. The new board is constituted as follows: Representatives of Bellevue Hospital Medical College: Physicians, — Austin Flint, Jr., E. G. Jane-

way, and A. A. Smith; Surgeons, — E. L. Keyes, J. D. Bryant, and F. L. Dennis; Gynaecologist, — W. T. Lusk. Representatives of the College of Physicians and Surgeons: Physicians, — Alonzo Clark, Francis Delafield, and Abram Jacobi; Surgeons, — R. F. Weir, Charles McBurney and T. T. Sabine; Gynaecologist, — George L. Peabody. Representatives of the University Medical College: Physicians, — Alfred L. Loomis, William H. Thomson, and F. R. S. Drake; Surgeons, — Stephen Smith, L. A. Stinson, and J. W. Wright; Gynaecologist, — William M. Polk. Non-Collegiate Class: Physicians, — James W. Williams, W. Gill Wylie, and Henry F. Walker; Surgeons, — J. W. S. Gouley, William C. Hunter, and Frederick Lange; Gynaecologist, — Walter R. Gillette. By the new arrangement four members of the old board are dropped, and Drs. Lewis A. Sayre and Alexander B. Mott are added to the consulting board. The name of Dr. Stephen Smith, it will be noticed, appears as a representative of the University Medical School. Although in common with the other members of the Post-graduate Faculty he handed in his resignation, subject to the approval of the regular Faculty, it seems that he did not join with the other gentlemen in demanding afterwards that the resignation should be accepted at once, and that since then he has been induced to retain the chair of orthopedic surgery in the college. This is the first time in the history of Bellevue Hospital that gentlemen have been distinctly appointed as gynaecologists in it, (although special attention to gynaecological practice has long been paid by several of the members of the medical board), and this department is now intended to embrace also that of diseases of children. As heretofore, Dr. Jacobi will probably have the principal charge of the children's wards, and in order that this arrangement may be carried out it is thought that he will change places in the board with Dr. Peabody. Among the regulations adopted at the time of the reorganization of the board are the following: Whenever a vacancy occurs in the representation of any college it is to be filled by a candidate nominated by the college and appointed by the Commissioners of Charities and Correction, who will consider no nomination except from that college. Vacancies in the non-collegiate class shall be filled from physicians and surgeons who are not connected with either of the three colleges represented in the medical board, by the commissioners or nominated by the medical board of the hospital. The services of the hospital shall be divided as nearly as possible into four equal parts, which shall be assigned, one for each, to the four classes of physicians and surgeons. The medical board shall have no power to restrict or interfere in any way with the clinical lectures in the hospital, and each college shall have the right to retain the same hours for clinical lectures which it has used for the past year. Each college represented in the medical board shall be entitled to nominate for appointment by the Commissioners, after competitive examination in such college, its proportion of members of the house staff of the hospital; such members to be attached to the division belonging to the college mak-

ing such nominations. The non-collegiate class shall be entitled to nominate for appointment by the Commissioners, after competitive examination by itself, its proportion of members of the house staff; such members to be attached to the non-collegiate division of the hospital. The new board held their first meeting on the 15th of May, when Dr. Alonzo Clark was elected president, and Dr. George L. Peabody secretary of the board, and the various terms of service were assigned.

It is said that some of the older Bellevue College men are not altogether satisfied with the new arrangement. They claim that it was the teachers of their school that gave the hospital all its reputation as a field for clinical study, and that the college is therefore legitimately entitled to a larger representation in the medical board than either of the others.

#### CHICAGO.

— Dr. Isaac N. Danforth having lately resigned his position as professor of pathological histology in Rush College, has been appointed professor of clinical medicine and renal diseases in the Chicago Medical College. Dr. Christian Denger has been made professor of general pathology, and Dr. F. C. Schaffer has become professor of anatomy in the same institution.

— Dr. E. S. Jenks has resigned the professorship of gynaecology in the Chicago Medical College, and Dr. E. C. Dudley has been appointed in his stead.

#### PHARMACEUTICAL NOTE.

— Chlorate of soda, which is now to be found in most pharmacies, is recommended to be used instead of the potash salt, on account of being very much more soluble. At the ordinary temperature, while the one requires sixteen parts of water the other requires but one, and in alcoholic solutions but about thirty parts instead of about one hundred and twenty parts. This last fact is of especial importance when it is to be used in conjunction with tincture ferri chloridi, as it now so often is, in the treatment of diphtheria. The salt has, however, the disadvantage of being somewhat deliquescent.

#### Miscellany.

##### PETITION FOR A STAY OF PROCEEDINGS IN THE CASE OF GUTEAU.

MR. EDITOR, — Your editorial on Guiteau and the petition for a stay of proceedings, in your issue of May 18th, was written so carefully, and contains so much of truth, that, by your permission, I will briefly reply to one or two statements with which I cannot agree. The general question, whether the insane can be legally punished, I propose to answer, in some detail, in a work on the Psychology of Salem Witchcraft, now in press.

The special points to be met just now are these: —

(1.) You say that, inasmuch as Guiteau has been unjustly condemned, society should now have the ben-

effit of the doubt; that the trial which you properly characterize as disgraceful, and a verdict which — from your point of view and mine — is unjust, should be supplemented by hanging; in a word, that one injustice can be corrected by another injustice; that although it was wrong to even try Guiteau, it is right to hang him.

The benefit of a doubt belongs to the accused, not only before and during the trial, but after a verdict, and after a succession of verdicts, and up to and after execution; through all time, hanged or unhanged, Guiteau must be held to be presumably insane.

It was by this benefit of doubt that Cadet Whittaker — with whose case I was professionally connected — lately obtained in Washington, after two unjust verdicts, contrary to the evidence, substantial though tardy vindication.

In the case of Guiteau the interference of the profession is needed now more than ever before. Says your neighbor Lowell: —

"Then to side with truth is noble, when you share its wretched crust."

Of the large number of authorities on the nervous system who have lately published the opinion that Guiteau was insane, only a fraction testified on the trial. Casting aside all the opinions in favor of his insanity presented on the trial, and all others that have since been published by others and myself as of no value, *there has appeared in your journal alone adequate quality and sufficient quantity of evidence for the defense to have saved the assassin from the scaffold, had the case been only one of ordinary interest.*

No lunatic ever hauled before a court in this country, or any other country, so far as I can learn, has ever obtained so much expert testimony of a high order in favor of his insanity as has Guiteau. In making this statement I count my own opinions for naught. If the result of this protest of the profession shall be the substitution of permanent confinement for life for the halter, practical justice will have been gained. Whether the experts that the President should appoint should agree or not is of no moment.

(2.) You say that Guiteau, though insane, is less insane than the evidence seemed to make him.

Some of the worst diseases have no pathology; the type of insanity which, as we all agree, Guiteau represents, has no important physical symptoms that the senses can discover. What cannot be seen, or felt, or heard, the non-expert and non-disciplined mind doubts or denies. A post-mortem examination will probably find nothing in Guiteau's brain to account for his insanity, and yet his craziness is of a terrible and incurable character. It took eight generations of clergymen to make an Emerson; it took, perhaps, half as many generations of philosophers and scholars to make a Darwin; it took, we know not how many generations of fanaticism and degeneration to produce, by the law of the escape of the weakest, a Guiteau; but in this waste product, cast off in the evolution of the race, insanity is organized as firmly as Darwin's science or Emerson's poetry.

Although insanity is a disease of degree, yet such a disease as *mild* insanity has never existed, can never exist, and the popular belief in its existence is as truly a mistake as the belief in witchcraft. By a single delusion the rich and delicate fabric of the mind may be rent in twain beyond repair; a gun cannot burst a little; a single crack is ruin.

(3.) You say that "the assassin has little claim upon the interest or sympathy of the community."

This is quite true; it is quite as true of nearly all assassins and of thousands upon thousands of our fellow beings, sane and insane. Shall we, therefore, slaughter them all to-morrow? Insanity is always a disgusting disease; our first impulse in dealing with lunatics is to knock them down. What is done to Guiteau is of no account; what we do, or allow to be done to him is of all account. Guiteau is as ready for the scaffold as for his breakfast; but is it, therefore, all the same whether we hang him or feed him?

Says Mr. Seward in his defense of the insane negro Freeman: "The execution of a madman is murder." . . . "I am the lawyer for society." Psychology does not plead for Guiteau, but for his would-be murderers. The sufferers from the Salem witchcraft excitement in 1692 were not the twenty victims, but the survivors and their descendants and descendant's descendants, to this hour.

(4.) It may be said, it has been said, that America is the non-expert's land; that the mob will have its way, and that the profession can do little; but for this reason it should do that little. Mobs are not authorities in psychology, and are not to be cruelly censured for their ignorance or even for their passion; but we are to be censured and shall be censured by posterity, — the verdict of which is as sure as the future — for not at least trying to save the mob from itself. Experts are the guardians of non-experts, and in a degree responsible for them, like parents for children.

The conduct of our profession in its relation to these popular delusions is a line of darkness and of blood in our history for more than two hundred years. In Salem it was a physician who mistook the symptoms of nervous disease for the symptoms of possession of the devil, and so started and stimulated the witchcraft trials and executions; in Auburn a physician testified that the demented Freeman, whom Seward defended, was responsible; at West Point it was a physician who declared that the unconscious cadet Whittaker was feigning and conscious; in Washington, what you call "those disgraceful three months," were slightly redeemed by the fact that, for almost the first time in our history, a few authorities in psychology testified against the unanimous opposition of the nation.

If, as has been said of Salem, "the pathway through the court must lead to gallows hill;" if Guiteau is to pay on the scaffold the penalty of his countrymen's non-expertness in psychology; if the principle of expiation is to be transferred from theology to law, and the sins of our people in so often acquitting the sane on the insanity plea are so numerous that only the blood of a lunatic can wash them away; if on this one has the lot fallen to be the last important insane murderer to be himself murdered, as the twenty victims of the witchcraft excitement were about the last who suffered for the imaginary crime, then it will be something to be able to say for this time and for all time, that there were a few at least who, from the first, and with all the force of their natures, consistently and persistently protested against the trial, and that up to the last moment the representatives of American psychology, to whom alone the question belongs, were not unanimously consenting to that colossal crime.

Yours truly,

GEORGE M. BEARD.

NEW YORK, May 20.

## MEDICAL ETHICS IN NEW YORK.

THE New York State Medical Society has taken Medical Ethics into its own hands, and has passed a law that sanctions consultation with any person holding a legal qualification to practice—that is to say, with eclectics, homœopaths, etc.—so long as they are licensed. This idea is not original; it will be remembered by our readers in connection with the addresses of Dr. Bristowe and Mr. Jonathan Hutchinson at the Ryde meeting. These gentlemen knew the sentiment of the profession too well to put the idea into the form of a rule of ethics or of practice. But the New York State Medical Society is more bold, and has passed the law. But it has reckoned without its host. The whole feeling of the profession in the States is against the step taken by the Society, unless it be some New York medical papers, which we may assume to be under the guidance of those who lead the Society. We need not say that the law is against the code of the American Medical Association, which, while enjoining all reasonable liberality in meeting intelligent regular practitioners that will be acceptable to the patient, adds—*“but no one can be considered as a regular practitioner or a fit associate in consultation whose practice is based on an exclusive dogma, to the rejection of the accumulated experience of the profession and of the aids actually furnished by anatomy, physiology, pathology, and organic chemistry.”*

This is the language of common sense and of loyalty to science, and evidently expresses the feeling of the profession in America, as it does that of the profession here. It is important to notice the fundamental error at the root of the Regulation of the New York Society. It assumes that the mere qualification to practice is a guaranty of everything necessary; as if there were no need for a code of ethical principles between medical men. This is a great mistake. The standing of the profession in society and the respect in which it is held by the nations have their explanation as much in the high character of the ethical principles by which the conduct of its members is regulated as in the intellectual and scientific nature of their calling. A great part of medical ethics has always had reference to the mutual relations and obligations of medical men. So that the mere fact of men being equally qualified in the eye of the law does not dispose of the moral questions which arise in practice, one of which is the amount of respect due to those who assume the truth of exclusive dogmas, and swear by one teacher, to say nothing of the absurdity of the dogma and the discredit of the teacher. Our law very properly provides that the holding of any particular theory of medicine by a candidate shall not entitle an examining board to reject him. In free countries men must be allowed to believe things which to most of their fellows seem absurd. But that is no reason why the bulk of the profession should not act in defense of its dignity, or why they should not be at liberty to decline professional consultation with those who would lower the tone of medical science. Rather is it the very reason why medical societies should do what it is scarcely to be expected that the common law should undertake. We are assuming that the case is clear, that the shibboleth adopted is something inconsistent with the broad light of medical experience and common sense. This is the case of homœopathy, which is practiced in its purity now by scarcely any of those who trade upon

the word, and yet which is nothing if it is not exclusive. Its chief disciples have shown a readiness to abandon everything but the name, which has a sort of trade value among a certain section of the public. Such being the discreditable position of homœopathy, we do not wonder that the professional opinion of the United States is strongly against the action and the ethics of the New York Medical Society.—*London Lancet.*

## LETTER FROM VIENNA.

## CÆSAREAN SECTION.

VIENNA, March, 1882.

MR. EDITOR,—A brief account of a Cæsarean section recently performed by Professor Spaeth may not be uninteresting to the readers of the JOURNAL.

The patient, twenty-one years old, had a narrow pelvis, the conjugate diameter of which measured six centimetres, and the outlet only three centimetres. The operation was performed according to the method of Porro, the chief object of which is to avoid the danger of infection from the collection of the secretions of the uterus in the abdominal cavity, which takes place during and after the old-fashioned operation. This is accomplished by the complete extirpation of the uterus and its appendages.

The abdominal incision, commencing four or five centimetres above the umbilicus, was extended to the symphysis pubis. The whole uterus was then turned out of the abdominal cavity, and a clamp applied as far down on the cervix as possible; all circulation to and from the uterus being thus cut off, a longitudinal incision into the body of the uterus was made as quickly as possible, and the child extracted. The uterus was then amputated at a point just above the clamp, and the stump fastened to the edges of the abdominal incision, the clamp being left, of course, in situ. The wound was dressed with iodoform. The patient has done uninterruptedly well, the temperature varying between 36° and 37.6° C. The clamp was removed on the tenth day, and now—twentieth day—the stump presents a granulating surface. The child is also doing well.

Schroeder says, “If the conjugate measures less than six and a half centimetres, all hope of delivering a living child by the natural way must be given up, and the only substitute is the ‘Kaiserschnitt.’” He considers it a much better operation than craniotomy, and that it is to be preferred even with a dead child in a very narrow pelvis. In Germany five and a half centimetres is the limit for craniotomy; Barnes, however, thinks it can be successfully performed with only a diameter of two and three quarters centimetres.

It is thought that this operation of Porro, through its more favorable results, has or will, replace the ordinary operation of sectio Cæsarea,—there are cases though where it is not indicated; notably, one at present in Professor Spaeth's wards, the patient still carrying a living child, having extensive carcinomatous infiltration of the cervix uteri. The disease has so completely involved the cervix, that removal of the growth, with safety to the mother, is out of the question; and delivering by forceps or turning cannot be considered. Here the ordinary operation is alone justifiable, since the life of the child is of more importance than the already surely lost life of the mother.

## REPORTED MORTALITY FOR THE WEEK ENDING MAY 20, 1882.

| Cities.                          | Population by Census of 1880. | Reported Deaths in each. | Deaths under Five Years. | Percentage of Deaths from         |                |                       |                |            |
|----------------------------------|-------------------------------|--------------------------|--------------------------|-----------------------------------|----------------|-----------------------|----------------|------------|
|                                  |                               |                          |                          | The Principal "Zymotic" Diseases. | Lung Diseases. | Diphtheria and Croup. | Scarlet Fever. | Small Pox. |
| New York.....                    | 1,206,590                     | 760                      | 342                      | 26.71                             | 23.55          | 6.58                  | 8.03           | .92        |
| Philadelphia.....                | 846,984                       | 358                      | 119                      | 17.88                             | 14.80          | 6.42                  | 3.07           | 1.68       |
| Brooklyn.....                    | 566,689                       | 283                      | 111                      | 24.73                             | 21.20          | 4.95                  | 8.84           | —          |
| Chicago.....                     | 503,304                       | 247                      | 121                      | 32.79                             | 7.69           | 9.31                  | 1.21           | 8.88       |
| Boston.....                      | 362,585                       | 166                      | 54                       | 15.66                             | 19.28          | 10.24                 | .60            | —          |
| St. Louis.....                   | 350,522                       | 129                      | 57                       | 22.48                             | 17.82          | 4.65                  | 5.42           | .26        |
| Baltimore.....                   | 332,190                       | 154                      | 47                       | 18.17                             | 11.68          | 4.54                  | .26            | —          |
| Cincinnati.....                  | 255,708                       | 170                      | 73                       | 48.23                             | 10.59          | 1.76                  | 2.35           | 33.52      |
| New Orleans.....                 | 216,140                       | —                        | —                        | —                                 | —              | —                     | —              | —          |
| District of Columbia.....        | 177,638                       | 73                       | 21                       | 10.96                             | 12.33          | 1.37                  | —              | —          |
| Cleveland.....                   | 160,140                       | —                        | —                        | —                                 | —              | —                     | —              | —          |
| Pittsburgh.....                  | 156,381                       | 65                       | 25                       | 32.31                             | 15.38          | 6.15                  | 4.61           | 7.69       |
| Buffalo.....                     | 155,137                       | 100                      | 45                       | 38.00                             | 11.00          | 5.00                  | 10.00          | —          |
| Milwaukee.....                   | 115,578                       | 63                       | 30                       | 11.11                             | 14.14          | 1.57                  | —              | 1.57       |
| Providence.....                  | 104,857                       | —                        | —                        | —                                 | —              | —                     | —              | —          |
| New Haven.....                   | 62,882                        | 26                       | 9                        | 7.69                              | 3.84           | —                     | —              | —          |
| Charleston.....                  | 49,999                        | 25                       | 13                       | 36.00                             | —              | —                     | —              | —          |
| Nashville.....                   | 43,461                        | 24                       | 14                       | 20.79                             | 8.72           | —                     | 8.31           | —          |
| Lowell.....                      | 39,485                        | 26                       | 9                        | 11.54                             | 15.38          | —                     | 3.84           | —          |
| Worcester.....                   | 58,295                        | 14                       | 2                        | 7.14                              | 7.14           | —                     | —              | —          |
| Cambridge.....                   | 52,740                        | 15                       | 2                        | 6.66                              | 6.66           | —                     | 6.66           | —          |
| Fall River.....                  | 49,006                        | 16                       | 6                        | 6.25                              | 18.75          | —                     | —              | —          |
| Lawrence.....                    | 39,178                        | —                        | —                        | —                                 | —              | —                     | —              | —          |
| Lynn.....                        | 38,284                        | 10                       | 4                        | 20.00                             | 10.00          | —                     | 10.00          | —          |
| Springfield.....                 | 33,340                        | 12                       | 3                        | 33.33                             | 8.33           | —                     | —              | —          |
| Salem.....                       | 27,598                        | 11                       | 3                        | 9.09                              | —              | 9.09                  | —              | —          |
| New Bedford.....                 | 26,875                        | 13                       | 3                        | —                                 | 23.07          | —                     | —              | —          |
| Somerville.....                  | 24,985                        | 4                        | 2                        | 25.00                             | 25.00          | 25.00                 | —              | —          |
| Holyoke.....                     | 21,851                        | 9                        | 1                        | 11.11                             | —              | —                     | —              | —          |
| Chelsea.....                     | 21,785                        | 10                       | 4                        | —                                 | 10.00          | —                     | —              | —          |
| Taunton.....                     | 21,213                        | 7                        | 3                        | —                                 | 14.28          | —                     | —              | —          |
| Gloucester.....                  | 19,329                        | 5                        | 3                        | 20.00                             | —              | 20.00                 | —              | —          |
| Haverhill.....                   | 18,475                        | 5                        | 1                        | —                                 | 80.00          | —                     | —              | —          |
| Newton.....                      | 16,995                        | 6                        | 1                        | —                                 | 16.66          | —                     | —              | —          |
| Brookton.....                    | 13,608                        | —                        | —                        | —                                 | —              | —                     | —              | —          |
| Newburyport.....                 | 13,537                        | 6                        | 2                        | 33.33                             | —              | 16.66                 | —              | —          |
| Fitchburg.....                   | 12,405                        | —                        | —                        | —                                 | —              | —                     | —              | —          |
| Malden.....                      | 12,017                        | 2                        | 0                        | —                                 | —              | —                     | —              | —          |
| Sixteen Massachusetts towns..... | 115,560                       | 46                       | 14                       | 13.04                             | 17.39          | 4.34                  | —              | 2.17       |

Deaths reported 2860 (no reports from New Orleans, Cleveland, and Providence); 1142 under five years of age; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 697, lung diseases 474, consumption 376, diphtheria and croup 160, scarlet fever 134, small-pox 97, measles 81, typhoid fever 50, diarrhoeal diseases 49, whooping-cough 37, cerebro-spinal meningitis 27, malarial fevers 21, puerperal fever 20, erysipelas 18, typhus fever three. From *measles*, New York 29, Chicago 17, Philadelphia and Brooklyn seven each, Baltimore six, Cincinnati and Buffalo five each, Pittsburgh three, St. Louis and Milwaukee one each. From *typhoid fever*, Philadelphia 10, Chicago seven, St. Louis six, New York five, Boston four, Pittsburgh three, Brooklyn, Cincinnati, District of Columbia, and Charleston two each, Baltimore, Buffalo, Milwaukee, Lowell, Lynn, Springfield, and Peabody one each. From *diarrhoeal diseases*, New York 16, Chicago seven, St. Louis five, Brooklyn, Baltimore, and District of Columbia three each, Buffalo, Nashville, and Springfield two each, Philadelphia, Pittsburgh, New Haven, Charleston, Fall River, and Newburyport one each. From *whooping-cough*, New York 10, Brooklyn eight, Charleston six, Cincinnati four, Chicago and Buffalo three each, Boston, Baltimore, and Lowell one each. From *cerebro-spinal meningitis*, Buffalo eight, New York five, Chicago and Cincinnati three each, Philadelphia two, Baltimore, Pittsburgh, Milwaukee, Worcester, Springfield, and Holyoke one each. From *malarial fever*, Brooklyn eight, New York six, St. Louis and District of Columbia two each, Philadelphia, Baltimore, and Buffalo one each. From *puerperal fever*, New York and Cincinnati four each, Boston three, Buffalo two, Philadelphia, Brooklyn, Chicago, St. Louis, Milwaukee, Westborough and Holliston one each. From *erysipelas*, New York seven, Philadelphia and Brooklyn two each, Chicago, St. Louis, Pittsburgh, Buffalo, New Haven, and Nashville one each. From *typhus fever* New York three.

One hundred and thirty cases of small-pox were reported

in Cincinnati, Baltimore 40, Pittsburgh 14, Brooklyn seven, St. Louis three, Milwaukee, Nashville, and Adams each two, Buffalo one; diphtheria 36, scarlet fever 20, typhoid fever eight in Boston; scarlet fever 17, and diphtheria seven in Milwaukee.

In 35 cities and towns of Massachusetts, with a population of 1,093,905 (population of the State 1,783,086), the total death-rate for the week was 18.21 against 20.17 and 20.34 for the previous two weeks.

For the week ending April 29th, in 173 German cities and towns, with an estimated population of 8,244,037, the death-rate was 27.1. Deaths reported 4299; under five 2014; pulmonary consumption 667, acute diseases of the respiratory organs 552, diphtheria and croup 153, diarrhoeal diseases 121, scarlet fever 73, whooping-cough 58, typhoid fever 40, measles and röteln 29, puerperal fever 19, small-pox (Essen three, Berlin, Heilbronn, Drusberg, and Koblenz each one) seven, typhus fever (Posen three, Elbing and Thorn one each) five. The death-rates ranged from 15.3 in Magdeburg to 41.8 in Königsberg; Breslau 31.3; Munich 33.1; Dresden 25.4; Berlin 24.8; Leipzig 19.7; Hamburg 24.8; Cologne 29.1; Frankfurt a. M. 23.4; Metz 22.7.

In the 28 English towns, with an estimated population of 8,469,571, for the week ending May 6th, the death-rate was 21.9. Deaths reported 3551; acute diseases of the respiratory organs (London) 292, whooping-cough 201, measles 146, scarlet fever 71, diarrhoea 53, fevers 42, diphtheria 21, small-pox (London thirteen) 17. The death-rates ranged from 13.3 in Birkenhead to 29.4 in Preston; Plymouth 17.5; London 20; Sheffield 21; Bristol 24.6; Leeds 25.4; Liverpool 25.8; Manchester 27.8. In Edinburgh 21.5; Glasgow 26; Dublin 27.6.

For the week ending May 6th in the Swiss towns, population 494,390, there were 45 deaths from acute diseases of the respiratory organs, pulmonary consumption 29, diarrhoeal diseases 14, diphtheria and croup 10, typhoid fever six, puerperal fever

and whooping-cough each four, small-pox (Bern) one. The death-rates were, at Geneva 21.7; Zurich 16.2; Basle 25.3; Berne 31.

The meteorological record for the week ending May 20th in Boston, was as follows, according to observations furnished by Sergt. O. B. Cole, of the U. S. Signal Corps:—

| Date.            | Barometer. | Thermometer. |          |          |     | Relative Humidity. |            |             |       | Direction of Wind. |            |             | Velocity of Wind. |            |             | State of Weather. <sup>1</sup> |            |             | Rainfall.              |                   |
|------------------|------------|--------------|----------|----------|-----|--------------------|------------|-------------|-------|--------------------|------------|-------------|-------------------|------------|-------------|--------------------------------|------------|-------------|------------------------|-------------------|
|                  |            | Mean.        | Maximum. | Minimum. |     | 7.23 A. M.         | 3.23 P. M. | 11.23 P. M. | Mean. | 7.23 A. M.         | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.        | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.                     | 3.23 P. M. | 11.23 P. M. | Duration, Hrs. & Mins. | Amount in inches. |
| May, 1882.       |            |              |          |          |     |                    |            |             |       |                    |            |             |                   |            |             |                                |            |             |                        |                   |
| Sun., 14         | 29.573     | 44           | 47       | 41       | 98  | 100                | 100        | 99          | NE    | NE                 | NE         | NE          | 9                 | 13         | 22          | G                              | R          | R           | —                      | —                 |
| Mon., 15         | 29.839     | 40           | 46       | 38       | 100 | 73                 | 82         | 5           | NE    | N                  | N          | N           | 20                | 18         | 5           | O                              | O          | C           | —                      | —                 |
| Tues., 16        | 30.037     | 46           | 55       | 35       | 65  | 60                 | 83         | 69          | NW    | SE                 | SW         | SW          | 9                 | 8          | 8           | C                              | C          | C           | —                      | —                 |
| Wed., 17         | 30.228     | 46           | 52       | 39       | 56  | 45                 | 60         | 54          | N     | SE                 | N          | N           | 11                | 12         | 10          | F                              | O          | C           | —                      | —                 |
| Thurs., 18       | 30.461     | 40           | 47       | 38       | 73  | 73                 | 89         | 78          | E     | E                  | N          | N           | 19                | 28         | 14          | R                              | Sleet.     | O           | —                      | —                 |
| Fri., 19         | 30.269     | 42           | 45       | 38       | 89  | 83                 | 83         | 85          | NE    | E                  | NW         | NW          | 19                | 14         | 10          | R                              | O          | R           | —                      | —                 |
| Sat., 20         | 29.931     | 48           | 53       | 42       | 83  | 93                 | 93         | 90          | W     | NW                 | W          | W           | 4                 | 14         | 11          | O                              | R          | R           | —                      | —                 |
| Means, the week. | 30.047     | 44           | 55       | 35       |     |                    |            | 80          |       |                    |            |             |                   |            |             |                                |            |             | 54.30                  | 2.87              |

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; X., clearing.

### AMERICAN MEDICAL ASSOCIATION.

In anticipating the meeting of the American Medical Association in this city on the 6th, 7th, 8th, and 9th of June prox., the Committee of Arrangements have secured the following rates from the various railroads centering at this point:—

The Chicago, Milwaukee, and St. Paul R. R. offers a rate of \$12.50 for a round-trip ticket from Chicago to St. Paul and return to delegates and ladies accompanying them upon presentation of credentials at general or depot offices in Chicago; also return tickets to all points this side of Chicago for one fifth fare, on certificate from the chairman of the Committee of Arrangements.

The Chicago, St. Paul, Minneapolis and Omaha offer the same rates from Chicago and all points between Chicago and St. Paul, also from Sioux City and all points north. From Omaha and all points south, two cents a mile for round-trip tickets.

The Minneapolis and St. Louis R. R. offer the same rates (\$12.50) from Chicago to St. Paul and return via the Chicago, Rock Island, and Pacific R. R., and at a rate of \$18.00 from St. Louis to St. Paul and return, *via* St. Louis, Chicago, Burlington, and Quincy R. R. (*via* Albert Lea). Also one fifth fare returning to all intermediate points.

All tickets on above roads good till July 10th.

The St. Paul, Minneapolis, and Manitoba R. R. will give passes to every delegate and to ladies accompanying them, over all divisions of its road, good for the entire month of June. Their road runs through the celebrated Red River Valley and the great wheat farms to Winnipeg. It connects Minneapolis and Lake Minnetonka (the largest watering place in the State, with four large hotels) with St. Paul.

The Northern Pacific R. R. will return all delegates for one fifth fare, and offers free transportation for the month of June to delegates and ladies accompanying them to the Yellowstone Valley and return.

The St. Paul and Duluth R. R. offers free passes to delegates and ladies accompanying them, over their line to Duluth on the north shore of Lake Superior and return.

The two lines of river packets, namely, the St. Paul and St. Louis Packet Co., and the Diamond Jo line offer one half transportation rates from all points to or from St. Paul. (They charge full rates for berths and meals.)

The Lake Superior Transit Co. offer the following rates:—

|  |          |
|--|----------|
| Buffalo to St. Paul, one way, . . . . .      | \$27.10. |
| Buffalo to St. Paul, round trip, . . . . .   | 47.20.   |
| Eric to St. Paul, one way, . . . . .         | 25.10.   |
| Eric to St. Paul, round trip, . . . . .      | 45.60.   |
| Cleveland to St. Paul, one way, . . . . .    | 23.75.   |
| Cleveland to St. Paul, round trip, . . . . . | 39.20.   |
| Detroit to St. Paul, one way, . . . . .      | 21.20.   |
| Detroit to St. Paul, round trip, . . . . .   | 35.20.   |

Meals and state rooms on steamers are included in the above rates.

The above company have also offered a complimentary excursion

sion down the lake and return, from Duluth, one day immediately after the meeting.

The hotels of St. Paul are the "Merchants" (\$3 to \$3.50); "Metropolitan" (\$3 to \$3.50); "Wind-or" (\$2.50); "Clarendon" (\$2.50); "Sherman" (\$2.50); "International" (\$2.00); "St. James" (\$2.00); and "Commercial" (\$2.00). The first three are provided with elevators.

The Opera House, in which the general session will be held, seats a thousand persons.

Minneapolis, a city of sixty thousand, lies nine miles from St. Paul, on the line of the St. Paul, Minneapolis, and Manitoba road, and has fine hotel accommodations. Half-hourly trains connect the two cities. Trains run almost hourly to and from Lake Minnetonka. Very respectfully,

ALEX. J. STONE, Chm. Com. Arrangements.  
ST. PAUL, MINNESOTA, May 12, 1882.

### OTOLOGY AT THE BRITISH MEDICAL ASSOCIATION. FIFTIETH ANNUAL MEETING.

HITHERTO at the meetings of the British Medical Association Otolology has been classed merely as a sub-section of Surgery. At the next annual meeting, however, to be held at Worcester on the 8th, 9th, 10th, and 11th of August, 1882, a whole section will be devoted to Diseases of the Ear.

To contribute to the success of the new section papers upon otological subjects are requested, and it is necessary that the undersigned, secretaries of the section, should be made acquainted with the titles of papers to be read not later than the 23d of June, and that short abstracts should be forwarded not later than the 15th of July, addressed to the undersigned at 20 Alva Street, Edinburgh.

J. J. KIRK DUNCANSON.  
P. McBRIDE.

RESIGNATION.—Dr. Thomas Waterman has resigned his position as Assistant in Anatomy in the Harvard Medical School.

BOOKS AND PAMPHLETS RECEIVED.—*Materia Medica and Therapeutics. Inorganic Substances.* By Charles D. F. Phillips, M. D., late Lecturer on Materia Medica and Therapeutics at the Westminster Hospital Medical School. Edited and adapted to the United States Pharmacopoeia. By Laurence Johnson, A. M., M. D. Vol. I. New York: William Wood & Co. 1882. (Wood's Library of Standard Medical Authors. Volume for April.)

*A Manual of Obstetrics.* By A. F. A. King, M. D., Professor of Obstetrics and Diseases of Women and Children in the Medical Department of the Columbian University, Washington, D. C. With forty-eight illustrations. Philadelphia: Henry C. Lea's Son & Co. 1882. (A. Williams & Co.)

Annual Report of the Board of Regents of the Smithsonian Institution, showing the Operations, Expenditures, and Condition of the Institution for the Year 1880. Washington. 1881.

## Lectures.

### THE MAN AS DOCTOR.

AN ORATION DELIVERED AT THE ANNUAL MEETING  
OF THE SOUTH MIDDLESEX MEDICAL SOCIETY,  
APRIL 19, 1882.

BY EDWARD WALDO EMERSON, M. D.

THE learned Professor Meynert, of Vienna, I have been told by one of his pupils, after years spent with patience well nigh past belief in unraveling the complex, matted nerve fibres, and tracing them to their origins in the encephalon, came to this belief: that thought and action were mere reflex phenomena, automatic results of the data, namely, the outward circumstances and the given quality and arrangement of the ganglia and fibres; in short, that free will was not. If, then, fate rules our every act, not, as the Greek thought, from afar, but seated in the very brain, with short hold on the bridle, those subtle white reins that we cannot choose but obey, to inspect ourselves were but an idle amusement. Yet surely this zealous Austrian worker in ordinary moments cannot but feel that *he* chooses and decides, and we, the ninety and nine that have not come to this view, please ourselves rightly or wrongly with the belief that while we are influenced by wind and currents, and even the variation of the compass, and the tricks played by the mirage with the coast and sea-marks, yet that *we* stand at the helm, and may change our course, or even put the ship about at will. Hence it has seemed to me worth while to consider how far we, as men, are changed, by becoming doctors, for good or for ill, and this is the matter which I venture to bring before you, my colleagues, to-day.

The man who has practiced but a few years will hardly make question of the fact that he is other than he can believe he would have been had he surveyed lands, engaged in trade, or modeled statues. It is surely well to look to it what manner of man he is becoming. Granted that the personal equation controls the result, may not the influences of the profession, minutely varying, be broadly viewed as a constant? These silent forces that do what they may with the doctor, constant comrades in his chaise, at his elbow, by the bedside or operating-table, punctual messmates at the family board, of what kind are they? Like the fair and swarthy riders that join the huntsman in Bürger's wild ballad, they, though manifold, work either for or against his larger hopes and interests. They work on all his faculties, intellectual, spiritual, physical, with power to loose or to bind.

If, now, we accept for this whole triple human structure the usual statement with regard to its physical element, that absolute health there is none, only coarse and transient approximations to balance in the ever-flowing and ebbing processes, yet all that tends to preserve the nicest equilibrium in morals and intellect that the fineness of our perceptions will allow us to get is worth the striving for. A rocking boat is worth a hundred capsize ones.

The doctor's patients often pity him, — he sometimes pities himself, — for leading a life so irregular, so anxious, so exposed. We all know that these words describe the life, and yet physicians, as a class, are healthy and cheerful men. Varied activity, the meeting decidedly more trusting and grateful faces than hostile

ones, the washing out the last dismal or irritating impression with what oxygen is to be met in riding three miles against a stiff nor'wester, these help to keep him sound. Experience rapidly teaches him that if he would be a shining example of the survival of the fittest he must feed his engines well. The north wind will keep the draughts clear, and also teach him to diminish radiation and store up heat by wearing two coats. The stout and canny Major Dugally Dalgetty spoke for us, as well as for soldiers, when he said that "it was the duty of every commander of a fortress, on all occasions which offer, to secure as much munitions and vivres as his magazines can possibly hold, not knowing when they may have to sustain a siege or blockade." It is our constant reproach that we do as we wouldn't let others do. Very good, my blanched and nervous friend, but if you will live my life for six months you will be in condition to eat pie and drink coffee and sleep sound after them, hiding them "tight it out among themselves." As Thoreau said to the clergyman who reproved him for Sabbath-breaking, relating the dire mishaps that he had known to befall such offenders, "They forget that it is their own guilty consciences that trip them up, and not the Lord."

Among the faculties of the mind called for and strengthened by daily use in our profession stands rightly first, observation. Here lies the sick man with urgent trouble; what he says may be entirely misleading; the friends stand around, anxious spectators; we are called into the sick-room as if into the arena; time presses; the stakes are the patient's comfort and safety, the family's peace of mind, our own reputation. We learn to note rapidly in this delicate machine the evidences of broken springs, or only broken wheels, clogging dust that can be removed, deep rust, or a whole structure worn out past repair. Next, the most careless person who lives by our craft must of necessity learn method in his examination in mercy to himself, if not to the patient. One of the best instructions to a medical class that I remember was that of the late Dr. Edward Dalton, who said, "After careful and repeated auscultation, percussion, palpation, and even succussion of the patient for twenty minutes, you may not be very tired. He is."

The winnowing out the mass of worthless evidence that the patient and his friends throw in with what is really valuable, the balancing the indications for exercise against the need of rest, the decision whether to give the potent drug that has its clear danger, but may turn the wavering scale of life, the making up the mind how much of the dismal truth to speak out or withhold, — from these duties comes the formation of the judicial habit in our minds. That court must hold hourly session. Rash though we be, we learn to put on, piece by piece, the armor of caution. A learned and philanthropic lady once, in my hearing, pushed a philosopher hard to admit that the teaching of Socrates, of whom he was discoursing, really sanctioned the Kindergarten scheme, of which she was an apostle. "Possibly, partially," was his reply. He was a physician and had learned to keep his rear open.

The generalizing power and keen sight that recognizes in the particular case merely a cunningly muffled member of a well-known band of cut-throats is a brilliant gift that experience may bring us. But all the conditions must be observed if we would not, in striving for this, do injustice to our patients and ourselves. We must try not to be dazzled, then, by the

tale that the bystander so often tells, *apropos* of the careful examination we are making, of some old doctor, in a remote part of Maine, "probably you've heard tell of him," who, the instant he entered the door of the sick-room, would say, "That man 's got rheumatism of the stomach and won't live but just two hours," and he did n't.

What spiritual gifts has the demi-god *Æsculapius* for his sons? It has been said that cowardice is ignorance. Imagination holds up her mirror and doubles the terror. Now our privilege is to become familiar with the worst forms that frighten the race; to learn what we can do, and what cannot be done. It is no mean blessing to know our limitations, the *thus far* where our responsibility ends. Cowards will not remain cowards if they survive being driven to stand at bay once or twice. Our profession is a daily school of bravery of a certain sort. The watchword in a rude old ballad,

"Make courage for life to be capitaine chief,"

might well be ours. The courage of *Fabius the Delayer* is as often called for as that of *Scipio the Sword of Rome*. By hard lessons we are all taught, in some sort, promptness, decision and self-reliance. The necessity of keeping at least an outward show of cheerfulness is good and helps to form a habit of philosophic cheer under stormy skies.

Tonic to the physician's moral fibre is the duty of keeping sacred the confidences of his patients, an astringent tonic puckering up his mouth, perhaps.

The well-known reproach of an earlier age, disclaimed in the sixteenth century by our kindly and quaint brother, Sir Thomas Brown, "*Ubi tres medici, ibi duo athei*," may, perhaps, be thought nearer the truth for our day than for his; but atheism, in any proper sense, will seldom be the goal reached by the man before whose eyes the mysterious sacraments of birth and of death and all sad and tender relations of humanity daily occur, or who, by tender lens, extends his view into the hidden region where cells wander and divide, and crystals form. He will, it is far more likely, be a good pantheist, if he cannot do like those who,

"When age, disease, and sorrow strike 'em,  
Incline to think there is a God or something very like him."

"No man is a hero to his *valet-de-chambre*," said Madame Cornuel. Perhaps because the observer has the soul of a *valet-de-chambre*. We likewise see the race in undress, but, I believe, think well of the race, probably better than the lawyer or even the minister. A sick-room does away with shams; for every weakness calls forth some strength; one poltroon may be the occasion of the appearance of heroes and heroines; one selfish imbecile opens in the family a mine of quiet strength. The moan of a sick child may call an ideal family into being. If we become rude and brusque outwardly, many sick-rooms put us on our best behavior. A child cannot be courted and won by haste or harshness.

I must not dwell longer on the good that may be wrought in us by virtue of our calling. We often do not know of these influences and often miss of them. It is more to my purpose to review the risks that we run; as it were, to put up Tyndall's viscid plates, and hastily, with a low power of the microscope, run over the field, and report the spores that doctors especially, from their calling, breathe in, that pervert our threefold nutrition, and warp us away from our growth to the full stature and symmetry of man.

What physical harm may we take? To be as systematic and unsatisfactory as a "system of medicine" with chapters assigned to different great specialists whose assembled monographs are like a great net with large meshes that let much slip through, I will say that the doctor starts like other men, with locomotor, circulatory, respiratory, digestive, and nervous systems. The first of these he usually supplements with a horse and buggy, through the use or abuse of which artificial aids his own inferior extremities usually atrophy, and frequently are fractured; his superior extremities are well exercised, and his torso is said by the irreverent laity to gradually telescope by long and constant jolting on the roads, the head sinking into the thorax, like a tortoise's, and the thorax into the pelvis, like a toy cup-and-ball. His circulation and respiration are more often helped than harmed by his mode of life if he has reasonable discretion. His digestion is apt to be his strong point in spite of irregular and often hasty meals. He reaches the land of *Eupnesia*, to be sure, by a different route from the one he directs his patients to follow. Cannot China, then, be reached as surely by traveling eastward, though most persons go thither *via* the overland route?

Brain and nerves must be in daily hard use, and well for the physician if they are only kept in perfect function by wise use in his calling, not worn and untuned. Loss of sleep, the strong tension of self-command required in dealing with the nervous invalid or the terrified family, worst of all the habit or worrying and the sudden misgiving with regard to his bolder measures that startles the doctor when the tide of brave confidence ebbs, as the sudden sight of a sharp, black ledge between the long waves appalls the sailor,—these must leave their marks somewhere on the hardiest.

Lastly, the diphtheritic membrane coughed into his very mouth, the malignant blood ferment, or the unsuspected, subtle taint from filth and crime entering by a mere scratch on his finger, the apparent duty to rise and face cold and fatigue when sick himself,—such things may fill out the catalogue of bodily ills that may come to our lot. Every lot has ills as bad. These happen to be ours.

Dr. Cotting, that keen censor of the ways of medical men, in two addresses delivered years apart before the Massachusetts Medical Society, threw strong light on the weak points in the intellectual armor of physicians through the centuries, namely, want of proper logic, jumping conclusions, believing and claiming that the patient's recovery was our cure, when we had never seen how disease, let alone, would behave. To remedy this failing he inculcates a healthy skepticism, and urges physicians to study the natural history of disease.

Another member of the State Society, Dr. Moore, lately reviewed in a careful and courageous paper, entitled, "Old School and New School Therapeutics," the medical field and finds that illogical methods and reasonings are the curse of medicine. He weighs in turn empirical and rational medicine and finds them wanting. Rational medicine is irrational, seldom curative, not even progressive; its theories, founded on sand, will neither secure the safety of the patient nor afford satisfaction to the physician. Empirical medicine has, he claims, accomplished absolutely nothing beyond the accidental discovery of a few clinical facts. These facts have not been set in order and made into a scheme. Our drugs do not deal with the whole disease, they are dangerous,



and we make a mistaken use of them. They only palliate. Since matters are so bad, what better course can he suggest, logical for the physician, curative to the patient? His remedy is this; study drug-action on the healthy and learn it *in its totality*. Study disease let alone, also in its totality, that is, as groups of symptoms, not even slighting the most trivial ones. Then "discover by induction the law that governs the relationship" which, he claims, undoubtedly exists between the two series of phenomena. This, he holds, has been found in homeopathy.

Both these writers, — I have chosen them as in a measure representing two opposite types of mind, — bring the same charge against the doctors, want of logic; but they suggest very different remedies: one would narrow our beliefs, yet hold fast to a few proven things; the other advises shifting ground and adopting a faith truly giving in advance a "substance" to "things hoped for" an "evidence" to "things not seen," and for curatives, so reputed, abandoning much invaluable palliative.

Yes, surely we are often illogical; but why? Because when we would be truly scientific the moral obligation starts up in the way. When the life of a man is trusted to us by his wife and family, few of us are nihilists in medicine enough to hold our hands and watch what Nature alone will do for him or to try an absolutely new course of treatment at a critical moment. It is not a sewing machine but a man with all his idiosyncrasies that is to be repaired; worse than that, we never served our apprenticeship in the workshop where he was made. We were led blindfold through that camp. But the sick man can't wait; we must do something and we must usually defer in part to the medical usage of the day, though if we are students of medical history, we have discouraging recollections while doing so of shifting medical fashions and even axioms.

See how the moral necessity interferes with the logical method of study. We believe in the *vis medicatrix Nature*, yet we remember a time when the *vis Nature* was all exerted in holding an intestinal obstruction in a spasmodic, relentless grasp, torturing the patient and seemingly threatening his life until our opium overcame this natural force, apparently to the signal comfort and saving of the patient; so we dare not wait and see whether Nature, in the end, would have tardily brought the man through by processes with such frightful stages in them. Often we can make out nothing like so clear a case as this of the opium for the use of our drug, or other interference, yet we take the step *because on the whole it recommends itself to us* for reasons that we should hate to be called on to exactly explain and defend before a critical board of censors. The case does wonderfully well, and it is a sore temptation, to us to sing the psalm beginning "*Post hoc ergo propter hoc*," in spite of the indignation that we feel when our sometime patients sing the same strain after taking sugar-of-milk pills labeled "*Apis*" or "*Aurum*," or after going to a clairvoyant. Yes, we certainly are in danger of too easy a belief.

Yet some of us, on the other hand, draw the other moral from such observations and say "We know that patients were bled and starved and recovered; were, a generation later, stimulated and overfed and recovered, and probably more yet would have lived out their days had they been let alone," and therefore will let a person burn in fever or lie awake coughing, saying, "If he dies, I, at least, shall not have it on my soul that I

hurt him by meddling interference." The pits of credulity and skepticism gape on each side, and the sight of those whose natural bias has made them tumble into one or other perplex the medical wayfarer, as the hobgoblins did Christian in the Pilgrim's Progress as he walked his narrow path.

Is not dogmatism as well as carelessness a mental tendency of the physician as well as of the clergyman, resulting from our encountering other minds that we feel must be borne down and convinced on a field and with weapons chosen by us? Do we not too often look at God's Universe as if it were little more than a hospital and forget that there may be — no, certainly are — more things in heaven and earth than our philosophy dreams of?

Last, what ugly traces may the days as they pass leave on the character of the doctor? As I think of them they may be classed under four heads.

That man, whatever his calling, who holds power unchecked in his hands is in danger. Power is a stimulant; it may be used to intoxication. We must often have implicit obedience, so come to insist on it where intelligent action would have been better for the patient. Sometimes we seem to take Fate into our hands, but there is peril in tampering with the ancient landmarks. Even the laity chafe sometimes that custom should forbid the shortening of lives which are a burden and a horror; oftener urge the prevention of life or a hasty choice of that apparently most desirable when one is endangered. The old metes and bounds are of more worth than they always seem. Do we always feel the weight of suffering that our word "incurable" or "hysterical" may bring with it? With us it is the opinion of a puzzled man; to the family the final verdict of profound science.

The second of these moral hurts is the loss of humane feeling. 'Tis the old stock accusation made against the profession, but I must think it far more apparent than real. Yet there is matter enough in the charge to make it well worth every man's thought. Few of us, I take it, get through our week's work without seeming at least rough, possibly brutal. The doctor looks at the sickness or operation humanely enough, but prosaically. To him it is an affair of every-day routine. The patient and his family see the same thing made great with all grizzly terrors of imagination. Yet this chimera is real to them, consequently when the doctor talks with them it seems as if the parties were at cross purposes, they speaking of the death of an only child, he of a cut finger. I don't pretend to tell you any new thing; we all know it when we consider the matter, but that usually comes, if at all, after leaving the house when the harm has been done, the feelings shocked.

When the frightened messenger rings our door-bell on a cold night he thinks life and death hangs on our speedy arrival. We don't believe it and take the rôle of counsel for the defendant. It looks savage to the family, however. In this capacity, too, of counsel for ourselves, we are apt to do a good deal of grumbling, which, after all is said, has n't helped matters, and has left a bad taste in our own mouths. We set forth planning to give the patient sulphate of zinc; we probably quiet down in the starlight and it may be no worse than sweet spirits of nitre. The chances really are that the years will strip off some of our armor and make us more vulnerable in our sympathies. It were a pity if it did not prove so.

To witness the great mystery, stand powerless and see a man

"Go through the strait and dreadful pass of death,  
Not ever to be questioned any more  
Save on the further side," —

is an experience that, however often undergone, brings with it a sense of awe; yet familiarity with the scene robs death of certain terrors. We see some compensations of suffering too; that Nature too has her æsthetics (excitement, use, fainting), and her children are not often called on to bear more than they can. We look at pains as warnings, as safeguards; see short sufferings cure long ills. There is a beast-like inhumanity: is there not too a god-like inhumanity that we should count one of our gains?

The doctor may often cry with Falstaff, "Lord, Lord, how this world is given to lying," when he hears himself quoted in detail as saying amazing things. Yet he is lucky if he can himself escape the charge. A man of quick wits can elude the point where a dull man must own or lie outright. So, O Public, be not hard in your judgments on a doctor of slow wits whose professional honor is pledged to keep secrets sacred from your most alert and pertinacious questionings. To be thus taught indifference to truth, — mere "formal verity," as the philosophers have it, — is a more real danger to us than a loss of humanity. We often have no right to tell the fact to the patient, the family, the public, yet must stand their examination. Plutarch says, in his essay on Inquisitiveness into Things Impertinent, "It was smartly answered by the Egyptian who, being asked what it was that he carried so closely, replied, it was therefore covered that it might be secret." Such an answer, however, seems seldom to give acute pleasure to the questioner.

The demon spreads a more subtle net when undue praise comes to us and our vanity is pleased by having things come out altogether too well. Every one of us I fear occasionally narrowly escapes playing the charlatan. Our brothers of the city may not consider the strain put on the courage and even the honesty of us, the rustic members of the guild, who are consulted, like oracles, on every branch and specialty of medical knowledge. Since the great growth of medical science in the last thirty years the learning that one man can attain must be spread very thin to cover the field. A doctor who attempts to be what the English sometimes call contemptuously a G. P. (not Grateful Patient, my hearers, but General Practitioner) may be likened to a general atlas, which, from the necessities of the case, must show in some sort the whole world, and so has to have large yellow spaces, like the old maps of Africa with perhaps some "Mountains of the Moon," or "Country of the Ethiopians," or even, as in the oldest maps, representations of monstrous beasts or anthropaghi to fill up with. Not every one is ready to write "Unexplored" on tracts which his friends seek to know about; sometimes, too, a hint of the dangerous beasts that may dwell there may seem expedient for the patient.

To us country doctors this temptation to hardness, to which our position educates us, in assuming and conducting all sorts of grave cases, becomes a source of danger inasmuch as we are only judged by an incompetent public opinion, not by good medical standards. We do what seems to us right and justifiable, but, as we are not intelligently criticised, we may become confident and confirmed in ways which are not sci-

tific or defensible, and still receive ignorant praise for it. Faust, in his reaction against his seemingly barren studies, sets forth this possibility with ghastly force, —

"Here was the medicine, — the patients died.  
None asked 'Who took it and remained alive?'  
Thus in these mountains, in these valleys wide,  
Our cure was than the plague a plague more fierce:  
To thousands have I given the poison: — they  
Have withered, they are dead and I survive  
To hear praise lavished on their murderer."

The doctor's honesty is often tried sorely by his desire, suggested by feelings of honor, kindness, and good taste, not to do or say anything injurious to a brother practitioner. If in his efforts to do this he stumbles over the boundary line of truth, usually he falls into one fault in trying to avoid another. The issue is often forced on him by ignorant persons who suppose that blame of the last doctor is incense to the new comer. But there is one point on which it has sometimes seemed to me that too little courage and frankness was shown; I mean the unnecessary assertion, evidently not felt, that the attending physician had done all that could be done; that he and the consultant were entirely agreed as to the nature of the case, and similar gratuitous overstatement. *Esprit de corps* is an excellent thing, but the interests of the patient are what the consultants are paid to consider, and truth is respectable. It is not necessary to emphasize disagreements or disparage the attending practitioner, but courtesy and truth are usually compatible where there is disagreement.

Besides our short-comings in humanity and entire honesty, we may sin against our self-respect. The Patriarch of the land of Uz is recorded to have sat patient and self-poised while the messengers of ill came fast upon each others heels with dire tidings of mischance. Few of us would serve a painter as a study for Job as we sit at the dinner table and the door-bell tolls the knell of our household comfort in troublesome summons to four different scenes of suffering, real or imagined. Our philosophy is shaken. We remember, as we review our conduct on the road that we probably did not appear to advantage to our families. When the physician's flank is turned by sickness at home, the calls of other sick people seem impertinent, and he takes and freely expresses the views of a pessimist.

Moral ills not of the first magnitude, but as it were, cutaneous disorders manifested by great irritability, from which few of us are quite free, are certain pettinesses of conduct, first of which I shall name sensitiveness when a patient leaves us for another adviser. To see the unloveliness of this weakness to advantage it is best to study it in another. Then one sees, until his own time of trial shall come, at least, that if one can't help feeling the mortification, the comeliest thing he can do is to put it absolutely out of sight. Surely, we do not own our patients, and if they seek other advice whom do we hurt by not bowing to them? Another evil of this class is worrying about the success of irregular or incompetent practitioners. This may in rare cases do some good and even be our duty, but usually it is safer to keep the contemplation of these absurdities to our private delectation and amusement.

One matter seems proper to mention here; I refer to the false position not infrequently taken by members of the Massachusetts Medical Society in letting themselves be called, without protest, and even calling themselves, "allopathic" physicians, and denouncing others

as quackish because they use certain drugs and doses, not because they take the name of an exclusive school. If our Fellows do this, how can we expect the laity to believe that our objection to homeopathy is more than class-jalousy.

A disease that only those of us escape whom the gods fashioned of a better clay is the losing sight of the metes and bounds of conventional propriety in conversation at home and abroad. This is only one phase of a wider mischief, the losing the man in the doctor, a matter well worth our heed. It is, I believe, customary among army officers to wear citizens' clothes when on leave of absence. It is a symbol which should be a lesson to all professions. The public shares the blame with us if we don't do this, for they will consider us as doctors wherever we may go when off duty. First, man; second, citizen; and then doctor, is the right order. The man is a loser and to be pitied who is merely "doctor" in the eyes of his own wife and children. The town will be better if he feels the responsibility of a citizen that he owes to it. More than that, wider interests and broader views will make him no worse physician. There is something very dismal, though touching and also heroic, in the old age of some brave practitioners who have given themselves so without reserve to their profession that they have no other resource, cannot stop until death give them their release from a work of which they have ceased to feel anything but the hard duties and fatigues which yet have become an iron fate to them.

Yet this is better than that view of our professional life which regards it merely as a livelihood, a view one often hears maintained. Certainly that is a legitimate and healthy consideration; a leading one, if you will, with most of us, but we cannot stop there. The opportunities, the privileges inseparable from our work assert its dignity, and at once claim the attention of every worthy member. Yet we are too prone to forget the higher perquisites of our calling. The poor, from the very conditions of their lives, as we all know, are the persons most liable to accident and disease, which cuts off their earnings when most needed. Yet we sometimes hear physicians speaking as if a personal outrage had been done them when these facts are taken into consideration and a bill abated or excused. Perhaps we should be more grateful than we are that, while others in hard times begin retrenchment in their charity account, we have the privilege of exercising a compulsory charity all the time, and then especially.

"However hard the hardest diagnosis of disease may be," said Traube, of Berlin, to his pupils in the Clinique, "the question what to do about it is yet a harder one." Yet by the terms of our enlistment we are daily called on to assume this office, and since you have placed me here to-day, and I have gone thus far in stating some of the influences that work for our harm, I must not stop here, but do my endeavor to show how we may best oppose them. First, then, how shall we meet the physical ills which are beyond mere exposure, nervous wear and tear, in the strong English of the Bible, "virtue going out from us"?

The first great remedy is, in most cases at least, given with the need for it. That which the doctor may prescribe as an expensive hygienic luxury to his patient is to him, like his pocket-case, a professional necessity, namely, a horse. The prophet said to the faithful, "Blessings, success, and rich gain shall be hung to the forelock of the horse till the day of resur-

rection."<sup>1</sup> Edward, Lord Herbert of Cherbury, said "A good rider on a good horse is as much above himself and others as the world can make him." Ride your horse sometimes, even at the risk of causing a universal hilarity to pervade the village street. It is easier to carry fluid extracts in a holster than it was for the fathers to carry bark and leaves by the pound in their saddle-bags. A small portmanteau behind the saddle will hold forceps and specula. You can go by new and adventurous paths through woods and on turf, instead of being, like a locomotive, a slave to the graded road. When you know how riding will be easier for the horse and warmer for you than the open buggy, or the sleigh if the snow be deep. If you drive, by no means have a sulky, and, when you can, carry a friend (not a sick one) who is a cheerful talker and good sitter, is well wrapped up, and armed with book or sketching-block. When you emerge from the house of the hysterical patient, and let off the tension of steady and kind professional behavior, and feel with Cullen that "stripes may be occasionally of service in the treatment of the insane," then to have some one with whom you may talk in the sunshine of books, or art, or trees, may save you from suicide. Sometimes leave the highway for the by-ways and go on foot on good days when there is time. The adventurous old doctor is still talked of in this neighborhood who drove on the ice, now on the meadow, now on the river, to the remote farm until he and his horse ran a race with the thaw. His neighbors said that his horses ran away with him; he had never found it out, nor had one that would run faster than he was willing to travel. Once only in a half century he failed to see his patients on account of weather, a day on which his sleigh overset twice in the drifts in the first few rods. He unharnessed, mounted the horse, and set him at the drifts, but slipped over his crump as he plunged in them. Only then did he feel justified in giving up for the day.

We who live beyond the suburb have on our rounds opportunity that the merchant or lawyer may well envy us, to learn to know, which means to learn to love, Nature. From willow-catkins and alder-tassels we may read, if our eyes are trained, through all the sure almanac of May flower, rhodora, pink azalea, arbutus, red lilies, purple grass, rhexia, fringed gentian, to witch hazel and black-alder berries before white crystals and gleams of ice jewels must take their places. An easier study, in a book printed large on purpose that he who rides fastest may read, is, the forest trees and shrubs. You may learn them by their leaves in summer and in winter their barks will be a nicer test of your observation.

One of our Fellows, eminent both as physician and professor, confessed to the practice of trying whether he could hit refuse tomato cans and bits of coal with his wheel as he drove through the suburbs, — a needed relaxation of the faculties, but happy are they who are out of the zone of perpetual tomato can, and have a lovelier equivalent for mental refreshment furnished them by the pine woods or meadows. To cultivate the love of Nature either from a scientific or artistic point of view is a safeguard to nerves, and heals our tempers between patients. It is, after all, a privilege, if we will so regard it, to know what it is like out of

<sup>1</sup> "Les bénédictions, les bons succès, et un riche butin seront attachés au fouet des chevaux jusqu'au jour de la Résurrection," Mahomet, quoted by Abd-el-Kader in "Les Chevaux du Sahara," by Gen. E. A. Dumas.

doors any hour of every day and night in the year; to know

"Clouds and great stars, thunders and snows,  
The blue, sad fields and folds of air."

I have known thus to be acquired a taste for weather as such.—certainly a valuable gift of mind in New England.

It has been shown that the intellectual methods of physicians are open to criticism and I have earlier presented the two extreme views that different classes of mind may reach through contemplating the gaps in medical knowledge so far unfilled. The man who can hold a middle course will not only take more pleasure in his profession, but will help his patients more, a matter of some importance. Is this an unreasonable position? Because we cannot walk shall we refuse to creep? We have not an exact science like mathematics, but there is all the more room for growth, for genius. The fact is that we must not be so illogical as to try to be strictly logical until more data are found. Till then we will admit that we grope, but not without gleams of light on our way, that we believe grow brighter as we advance. Whence come those gleams? Partly from chance bits of touch-wood found by the way. Chiefly from the work-rooms of physiological investigators, to whom our debt is greater than the fox-hunting gentry who are shocked at their work realize. These last would be loth to give up the important knowledge these men have honestly found should tetanus, heart-failure, many forms of poisoning, occur in their own families, and it seems as if another score of years would give astonishing results from the patient investigation of this class into tuberculosis, diphtheria, typhoid, and other blood poisons, the promising field that inoculation seems to open.

Because the rational method has not enabled us to completely meet and vanquish with a drug each disease, shall we therefore despise it, and look round for a complete system and creed to rest, perhaps to slumber, in? Shall the practice of medicine be merely drug practice, and for specifics yet unfound shall we abandon our "mere palliatives," opium, ether, quinine, digitalis, jaborandi, alcohol, the antiseptics? Because the first theories based on studies and experiments in chemistry, physiology, pathology, sciences almost of yesterday, proved crude and not subtle enough, shall we despise the daily waxing light that these are shedding on our work? I am sure I speak for many when I say that each day gives us reason to bless the fathers who proved these "mere alleviations," to feel proud of those, our brothers, who, with sight sharpened and extended by science, push further into the darkness searching for the causes which our associate, above quoted, despairs of their ever finding. It needs but a moment's thought of the advance in medical science, and medical science *directly contributing to the successful treatment of disease*, to convince us that our chosen profession is no pool of stagnation, no hopeless Babel of contradictory voices, but a calling in which we can find more satisfaction in *curing*, which, rightly read, means *caring* for our patients, comforting their pain, enriching their blood, allaying the consuming fire in their tissues, strengthening their weak wills, freeing them from self-forged chains, widening their range of ideas, building up their hope, than in telling them what is good for sore throat or cures Bright's disease, and if this is the true way and ours the false, then I, for one, say with Cicero, "Rather, by Hercules, would I be in

the wrong in such company than in the right with those men."

But look back, says one, your science and the practice following it has, through the ages, swung hither and thither, now to daring interference, now to cautious expectancy; it shifts like a very weather-cock. Rather, we hope, like the compass needle when the box is shaken; it oscillates, now east, now west, but with shorter excursions each time, and, though medical knowledge may never, like that, rest at last pointing for us one way with absolute certainty, yet each time careful minds in healthy action and reaction go over the same ground, new facts will be found, the checks and limitations more carefully considered and recorded to guide those who come later.

"Nay, never falter: no great deed is done  
By falterers who ask for certainty.  
No good is certain but the steadfast mind,  
The undivided will to seek the good.  
'Tis that compels the elements and wrings  
A human music from the indifferent air."

Let us honestly and humbly admit that we know little so far, but enough to make our calling worthy in our eyes. But rightly to use what we have we must take high ground go to the watch-tower, and sweep the horizon, not look through the office window alone. To see vital phenomena with too much of a drug-dealer's eye is one of our faults. Perhaps Marley's ghost was, as Scrooge thought, merely a bit of undigested potato, but we must look deeper would we explain all spiritual experiences. The final causes may be physiological, but to find them we must look to more than the condition of the *prima vie*.

A man's calling, if it be the right one, should confirm his strength and stimulate his growth. What forces shall we call to our side when we fear lest the rushing tides of our busy life wear and sap our moral foundations? To be responsible for his power merely to the community, since they are ignorant of the conditions, will not even satisfy the physician. He must be responsible to himself and to his honored brotherhood down through all the ages.

Should we detect any loss of humanity in ourselves, even in moments, consider that we hold of all others the humane profession; it should be that by the terms of its existence. We can afford no loss there. If the helper is hard and inconsiderate whence shall the help come? Patient then and steady he must be and cultivate the imagination that he may apply the old and safe test, putting himself in the patient's place. Yes, but with a difference too, for by so doing he must endow the sick man with confidence not his own hitherto, and remember but enough of his misgivings to make necessary allowance for weakness, unaltered in his cruelly beneficent purpose as a Fate. He must be well in command of himself to exactly dispense the two grains of sternness to eight of sunshine unalloyed that the case may require. To have gone through in his own person the sickness he treats or the operation he is to perform is a fortunate accident as it may give a tenderness in handling that no other learning can and also sometimes convince him that, were the terrors stripped away from the patient's mind, the real cutting would not be worth a thought.

In smaller matters, if we almost from necessity encase ourselves in a rough coat, this fact in natural history is worth remembering, namely, that, though the porcupine is now acquitted by science of willfully shooting his quills at all who come near him, it is

equally certain that if you touch him they will come off, quite unconsciously on his part, perhaps, but with a fatal facility to pierce the skin they come in contact with. Some material a little rougher than porcupine skin should be chosen for the physician's great coat. "When thou givest a gift, use not uncomfortable words."

The disgust felt at the various petty lies or misrepresentations that he is sure to hear about himself is a healthy influence to the doctor on the side of truth in word and act. Certainly, if it teaches him nothing else, it should teach him with regard to brother physicians the wisdom of the reminder of Ecclesiastics, "Many times it is a slander and believe not every tale." Sometimes it seems our plainest duty to the patient to withhold the truth, at least for a time. To be non-committal or more may be wise and legitimate, but on the other hand, a habit of mystery may be formed which is dangerous to the physician and makes him much less trusted and depended on than should be his right. It must also be remembered that the tendency to mystery is the time-honored badge of quackery. The "wizards that peep and mutter" cannot, with intelligent patients, stand comparison with the blunt and honest doctor. He holds the strong and dignified position. Fear of being deposed from the throne of infallibility is a strong temptation to petty and unworthy deceit that often overleaps itself. Often it happens that the frank and simple admission of his limitations goes farther to win confidence than any other course could; yes, gives the doubtful case into his hands.

When we come in consultation, or a question arises of a change of medical attendant we can't say too often to ourselves, "remember that the interests of the patient rank before every other consideration."

Speech, kindly, strong, persuasive, is a chief article in the materia medica and must be used often in very large doses, but the saving discretion where to stop, when to keep silence and how to guard our right to silence is a great gift, hard to come by.

Failures in humanity or honesty must bring in their train loss of self-respect, but this expression in a narrower sense was the fittest I could find to include some of the remaining adverse moral influences that we feel. The only way to steel ourselves against the expression, if not entirely against the feeling, of annoyance at the sure interruption which comes when we fondly make plans for private comfort and amusement, is the daily consideration of the subject in advance and remembering that sudden interruption of a trying and painful character, the disappointment of our hopes, the failure of our measures, even the desertions of our patients, are among the conditions that we accepted at our enlistment and that, if we would not have our conduct daily unbecoming, we must never allow ourselves to be surprised into impatience:—

"He through the heat of conflict keeps the law  
In calmness made and sees what he foresaw."

To do this we must take large views, stand apart, like the artist, and follow his rule,—look three times at the figure of the ideal physician to once at our poor copy of him. Seize every opportunity that we can to talk with living masters in other walks of life; sometimes when we meet colleagues let shop-talk go and discuss the humanities. More than all, busy though we be, don't spare to medicine all our reading time. Read about the heroes,—our craft has been rich in them,

"We find in our dull road their shining track"

and forget that we are foot-sore.

How can we teach the breaking-down business man or care-worn housewife the folly of his or her course, wearily getting ready to live until all the years of life are gone, if we don't live ourselves as we go, be men as well as doctors? Keep your personal identity, first of all, in the family. Don't be doctor and not husband and father. Insist on your social rights and refuse to be doctor at tea-parties or dances. Claim your right to a vacation and drop medicine like a hot iron. Your patients may grudge it you, but will reap their gain in it.

Prometheus, forethought, in the myth, was the helper, the hero, before whom Zeus, his tormentor, trembled. Epimetheus, afterthought, was a craven and brought no help to man. When the case where we were not prospered and all our thought and work went for nothing and the tragedy that we fought so hard against came steadily on to its fulfillment, rises before our minds,—look at it, give it just so much thought as it should have to see if there is any new light to use again in time of need, but not one thought more. Even in that extreme case where we question whether our well meant act did not help on, instead of staying, the disaster, ask would you not rather know at the end of a long practice that three persons had died through your active treatment, than feel that you had let forty die through your fear of taking the heavy responsibility on your soul. It was a wise counsel that the prophetess Brynhild, in the Norse epic, gave the hero Sigurli,

"Be wise and cherish thine hope in the freshness of the days  
And scatter the seed of thine hand in the field of the people's  
praise,  
And fair shall it fall in the furrow, and some the earth shall speed,  
And the sons of men shall marvel at the blossom of the deed;  
And some the earth shall speed not; nay, rather the wind of  
Heaven  
Shall waft it away from thy longing, and a gift to the Gods hast  
thou given,  
And a tree for the roof and the wall in the house of the hope that  
shall be,  
Though it seemeth our very sorrow and the grief of thee and me.

Wilt thou do the deed and repent it? Thou hadst better never  
been born.

Wilt thou do the deed and exalt it? Then thy fame shall be out-  
worn.

Thou shalt do the deed and abide it and sit on thy throne on high  
And look on to-day and to-morrow as those that never die."

Last, consider the privileges of our high calling. We are spared dealing with crime. A fairer side of humanity, through suffering, is shown to us. We are honored with trust, the fullest that our kind can give. The priest and the man of law may be held at arm's length, but sooner or later the doctor crosses every threshold. He may find beggars in lofty chambers and the saints and princes in the hovels and becomes catholic in his ideas, but I think he would not always think it a gain to place them otherwise. He may eat, like Cæsar, the anointed asparagus and praise the hospitality so unavorily expressed. He has eaten of the tree of knowledge of good and evil, but he does not fear the anger of the God.

In the old legends of our race it is recorded that when hero or demigod pitied man's lot and gave him help, whether fire, or letters, or arts, the Gods never forgave it and brought vengeance on the benefactor,—the gifts they could not take back. If then we suffer, that too is one of the privileges of our class, as many have found.

We have enough then to inspire us in our work.

Can we make it worthy? To admit the doubt is the first step toward failure. The motive is all, whether the soldier falls in the first parallel or enters the square of the city in triumph. Let the outward forces and even the outer inside forces of our dual nature do what they can or must against us, but let the inner force, your proper force, be exerted and it will tell too in the resultant, for that force, whatever, whence-ever it be, even the stern materialist must admit, is as valid, as irresistible, to the extent of its co-efficient, as the lightning spark or planetary motion or primal sunlight with which it is convertible.

## Original Articles.

### CASES OF POISONING FROM DRINKING IMPURE WATER.<sup>1</sup>

BY JAMES H. HUTCHINSON, M. D.,

\* *One of the Attending Physicians to the Pennsylvania Hospital.*

DURING the past three months I have had under my care at the Pennsylvania Hospital a series of cases, which presented a rather unusual set of symptoms, and which possesses so much interest that I feel justified in taking up your time this evening with a brief account of them.

The patients were all Germans, and were all employed in a large sugar refinery in this city at the foot of Bainbridge Street — on the Delaware River front; where, however, none of them had worked more than two, or at most three, weeks before the occurrence of the attack. The cases so closely resemble one another, that the history of one will suffice for my purpose. I have selected that of the first patient admitted, which was, moreover, much the severest of them all.

CASE I. R. R., aged twenty-one, born in Germany, single, shoemaker, was admitted into the men's medical ward of the Pennsylvania Hospital on January 30, 1882. One of his sisters is said to have died of consumption, but with this exception his family history is good. His own health has always been good until two weeks ago, when, without any apparent cause, he was seized with diarrhoea, attended with a good deal of prostration. He has had as many as ten to fourteen stools a day, and has also had at times nausea and vomiting, but is sure that he never has had fever. Yesterday the diarrhoea ceased, and he has had no passage since. Upon admission the patient is anæmic, and complains of excessive weakness, of vertigo, and of pains in his back and limbs. The tongue is dryish, and coated with a thin whitish fur; the appetite poor, and the pulse slow; the temperature subnormal, 97°; there is no tympany. The examination of the heart, lungs, and urine gives negative results only; he was ordered a pill containing nitrate of silver one third of a grain, and opium one fourth of a grain, three times daily, and placed upon a restricted diet.

February 2d. The patient's bowels have not been moved since his admission; he feels less weak than when admitted; his tongue is also less coated, but his temperature is still subnormal. The use of the pill was discontinued, and he was ordered a teaspoonful of Huxham's tincture three times daily.

February 20th. The bowels are now moved regu-

larly; he does not appear to gain strength; he was, therefore, ordered cod-liver oil.

March 6th. Discharged cured.

I confess that when this case first came under my care, I was puzzled how to explain the symptoms it presented. The presence of excessive prostration with a history of diarrhoea lasting for two weeks, seemed to point to typhoid fever as their most probable cause. Against this hypothesis was the fact that the patient was positive in his assertions that he had not had fever at any time since he was taken sick, that none was present at the time of his admission or subsequently, and that there was no tympany or rose colored spots. His condition called, however, for a supporting treatment, and I thought it best to restrict his diet to liquid articles of food.

The other cases came in rapid succession, and presented the same symptoms as the first case. There were in all of them prostration, slow, compressible and often dicrotic pulse, subnormal temperature, diarrhoea, sometimes accompanied by slight pain in the bowels, and absence of tympany. This similarity of symptoms appeared to indicate an identity of cause, and it was soon discovered that in addition to having been employed in the same refinery, they had been all subjected to an influence which seems to me sufficient to explain the symptoms from which they suffered. It was found upon inquiry that water from the river Delaware is introduced into the refinery for use in cleansing the evaporating pans, and that, after being used for this purpose, is returned to the river above the point although at a considerable distance from that at which it is taken.<sup>2</sup> The water is distributed throughout the building, and being more accessible to the workmen than the ordinary hydrant water is freely used by them for drinking purposes. The water, although said to be filtered before being put to the use first referred to, is probably from the presence of organic impurities unfit to drink.

There can be but little doubt that the use of the water of the Delaware River, contaminated as it must be opposite Bainbridge Street by sewage, was the cause of the singular symptoms observed in the six patients who came under my care. Impure as it was, it did not, however, produce typhoid fever, and my cases show that while impure water may produce prostration as great as that seen in this disease, it will not produce the fever itself, unless it contains the specific typhoid germs.

The symptoms presented by these cases seem to have indicated the existence of blood poisoning rather than of irritation of the bowels. The latter could hardly have existed without the presence of a certain amount of fever. The temperature records will show that at no time in any one of the cases was there any elevation of temperature above the normal. The stools, too, indicated the existence of relaxation rather than of inflammation: they were rather dark in color and watery, and never presented the ochrey yellow appearance of the stools of typhoid fever. The cases further show that persons may become accustomed to the use of an impure water, or that at all events it may cease to excite in them after a certain time any active symptoms. It will be remembered that all the patients had only recently been employed in the fac-

<sup>2</sup> The water is taken from the foot of a long wharf projecting into the river; it is returned at the point nearest the factory. These two points are distant from each other about one hundred and fifty feet.

<sup>1</sup> Read before the College of Physicians, Philadelphia.

tory, and the effects of drinking the water had shown themselves very soon after they had entered upon their duties. The older hands drank the water with impunity.

The cases all did well, and required little treatment. Hope's camphor mixture being used in most of the cases to check the diarrhoea, and quinia or Huxham's tincture as a tonic.

It may be well to add that the attention of the proprietors of the refinery has been called to the supposed cause of the illness of their workmen, and they have taken the proper precaution to prevent the occurrence of further sickness among them by cautioning them against the use of this water for drinking purposes.

I have appended to this paper the histories of the remaining five cases, which I had the opportunity of observing. They are drawn up from notes taken by Dr. J. M. Fox.

CASE II. Diarrhoea with typhoid prostration. A. W., aged eighteen; born in Germany, single, baker; admitted March 1, 1882; discharged March 13, 1882, cured. He came to this country last September; has always been very healthy until two weeks ago, when he began feeling weak and miserable, and to have headaches and diarrhoea, which have continued.

Upon admission has no fever; temperature subnormal; appetite poor; tongue slightly coated; some hebetude and slight headache; no fullness of abdomen; a few râles heard over apex of right lung; examination of heart and urine negative. Ordered quinine grains viij and liquid diet.

March 2d. Tongue clean; only one passage from bowels; pulse slow, with a tendency to reduplication.

March 3d. Bowels not moved since; no fever; feels much better, but is still rather dull.

March 13th. Continued to improve, and is now well.

CASE III. Diarrhoea with typhoid prostration. H. S., aged twenty-eight; born in Germany, single, laborer; admitted March 13, 1882; discharged March 20, 1882, cured. Has generally been very healthy; eight days ago he began to have diarrhoea, pain in the stomach and limbs, headache, and vomiting, and these symptoms have continued; has had as many as twelve loose stools a day.

He has been working in a sugar refinery, and is the third patient who has been admitted from there into the hospital within the last month and a half, with much the same symptoms, except that the prostration of the other two (R. R. and A. W.) was more marked. He says that he has been in the habit of drinking the water that is pumped from the Delaware, which is very likely the cause of the trouble.

Upon admission patient feels weak and dull, has headache, vomiting, and diarrhoea; pulse weak and reduplicated (this was also the case with the other two patients); appetite good; tongue clean. Examination of heart, lungs, and urine gives negative results. Hope's camphor mixt. f ʒss. was administered as needed.

March 15th. Bowels are still loose, and passages are light colored; no more vomiting; diet has been restricted; camphor mixt. was stopped, and powdered opium one quarter of a grain, with oxide of silver one third of a grain were given three times daily.

March 19th. Diarrhoea has been checked, and he now feels and looks quite well. His temperature since admission has ranged from 98° F. to 98.5° F.

CASE IV. Diarrhoea with typhoid prostration. F.

S., aged thirty-four, born in Germany, laborer; admitted April 17, 1882; discharged April 25, 1882, cured. Has generally been very healthy. Two weeks ago, while working at a sugar refinery, he was taken with pain in the bowels and diarrhoea, which have continued up to the present time.

Upon admission patient was somewhat prostrated; has diarrhoea and tenderness in the epigastric region; the tongue is slightly coated in centre, moist; appetite poor; pulse slow; no fever. Heart, lungs, and urine normal. Ordered quinine gr. viij. daily. Hope's camph. mixt. f ʒss. as needed, and liquid diet.

April 20th. Diarrhoea has been checked, and he feels much better.

April 25th. Feels very well; bowels regular; appetite good. Temperature has ranged from 98° F. to 98.5° F.

CASE V. Diarrhoea with typhoid prostration. M. Z., aged twenty-nine, born in Germany, laborer; admitted April 17, 1882; discharged April 25, 1882, cured. Eight days ago, while working at a sugar refinery, he began having diarrhoea and pain in the bowels, and these have continued up to the present time.

Upon admission his face is slightly flushed, and he has a typhoid appearance; is somewhat prostrated; tongue coated in centre, moist; pulse slow; bowels were opened six times during the night. He has no fever, and there is no fullness of the abdomen. Examination of heart, lungs, and urine gives negative results. Ordered Hope's camphor mixt. f ʒss. to be given as needed, quinine gr. viij. daily, and liquid diet.

April 23d. Feels very well; bowels regular; no pain; appetite is good. Temperature has ranged from 98° F. to 98.5° F.

CASE VI. Diarrhoea with typhoid prostration. M. W., aged nineteen, born in Germany, single, laborer; admitted April 24, 1882; discharged April 29, 1882, cured. Has generally been very healthy. Came to this country eight months ago; two weeks ago he began working at a sugar refinery; about a week ago he was taken with diarrhoea, which has since become worse; has not had any nausea or pain.

Upon admission patient is slightly prostrated; face flushed; temperature also subnormal, 98° F.; tongue slightly furred, moist; pulse slow; appetite poor; bowels loose. Examination of heart, lungs, and urine gives negative results. Ordered Hope's camphor mixt. f ʒss. to be given as needed.

April 29th. Diarrhoea has been checked, appetite has improved, and he seems very well again.

## RECENT PROGRESS IN OTOTOLOGY.

BY J. ORNE GREEN, M. D.

IN the *Archiv für Ohrenheilkunde*<sup>1</sup> Schwartzke is publishing his second series of fifty cases of perforation of the mastoid process, the complete history of each being given, and the whole article forming a most instructive description of a very large variety of diseases of that part. The series is not yet complete, but the following cases are particularly of interest from the points of diagnosis, pathology, and treatment. The first two cases are specially interesting from the fact that the mastoid was so extensively diseased, and yet there were no external manifestations of the con-

<sup>1</sup> Vols. xvi., xvii., and xviii.

dition, although in one the external table had even been perforated. In the third case the tympanic disease was catarrhal, while the mastoid disease was distinctly purulent. In the fourth case the natural opening of the mastoid inflammation instead of taking place externally was into the meatus.

**CHRONIC SUPPURATION OF THE MIDDLE EAR; FISTULA THROUGH THE BONE OF THE MASTOID WITHOUT ANY EXTERNAL MANIFESTATIONS; PERFORATION OF THE MASTOID WITH THE GOUGE; CURE.**

A boy aged five years had chronic suppuration of both tympana, complicated with adenoid hypertrophies of the naso-pharynx. The right meatus was filled with granulations, and the drum-membrane was largely destroyed; the left tympanum was filled with mucopurulent exudation and the membrana tympani had a fine perforation.

The granulations of the right ear and adenoid hypertrophies in the naso-pharynx were removed, and the otorrhea on that side treated for some five months without improvement. During that time there was never any pain upon pressure, or any swelling in the mastoid region, but as the odor of the pus was very offensive in spite of the most careful cleansing and disinfection, and as there was frequent pain in the ear and head, with occasional attacks of fever and progressive emaciation, a retention of pus was diagnosed, and Schwartz decided to open the mastoid. The periosteum, which was perfectly normal, having been incised and pushed aside, a fine fistulous opening was found in the bone running into the mastoid antrum, which was enlarged with the gouge and hammer, and that cavity freely opened, the walls scraped with the sharp spoon, and a drainage tube inserted. Immediately after the operation irrigation showed a communication with the pharynx, but none was established with the meatus till the douching had been used for six days. Communication with the meatus varied very much, probably from the obstruction of granulations, but when free, caseous pus was washed out in considerable quantities. The only treatment used was irrigation and drainage, and at the end of twenty-one months the otorrhea had ceased, the membrana tympani had healed by cicatricial tissue, the fistula had closed, and the hearing, previously nearly wanting, had improved so that a whisper could be heard several yards away.

**CHRONIC SUPPURATION OF THE MIDDLE EAR; CENTRAL CARIES OF THE MASTOID WITHOUT EXTERNAL MANIFESTATIONS OF ANY KIND; PERFORATION OF THE MASTOID; CURE.**

A boy aged eleven years, of bad constitution, with a decided predisposition to tuberculosis, had had chronic suppuration of both tympana for ten years, with the loss of large portions of both drum-membranes. The otorrhea on the left side was cured by caustic solutions of argentic nitrate, but that on the right resisted all treatment, although faithfully followed for eighteen months. The penetrating odor of the pus remained in spite of all disinfection, and the pus was felt to be filled with osseous sand. During the treatment osteophytes had developed on the posterior wall of the meatus, and it was finally decided to perforate the mastoid, although there had never been any tenderness or swelling. The unusually thick corticalis was opened with gouge and hammer, and the walls of the mastoid cavity, which were covered with offensive pus, were

thoroughly scraped with the sharp spoon, a drainage tube inserted, and twice daily the bone was carefully washed out, the fluid passing out freely through the meatus and nose. At the end of two months the offensive odor had entirely disappeared, and in another month all discharge had ceased.

The fistula was kept open for some eight months, the drainage tube having been replaced by the peculiar leaden tube which is almost always used by Schwartz, but there was no return of inflammation, and the removal of the lead was followed by rapid healing of the wound. One of the most important features in the cases, which shows the ill effects upon the general health of these ear-diseases, was the very great improvement in the health following the cure of the ear-disease. The boy, previously pale and sickly and with a constant cough, became in a few months very robust.

**ACUTE ABSCESS IN THE MASTOID CELLS WITHOUT PERFORATION OF THE DRUM-MEMBRANE; PERFORATION OF THE MASTOID WITH THE CHISEL; CURE.**

A man aged forty-one years was seized with a chill, followed by pain behind the right ear, and soon by some swelling over the mastoid, but without discharge from the ear. Seen after the symptoms had continued for fourteen days the tympanum was found inflamed, and paracentesis evacuated jelly-like mucus; the swelling of the mastoid had gone, but some tenderness remained. The tympanum was readily kept clear, the tenderness of the mastoid diminished, but swelling of its integument increased, and after some weeks, as the fever continued and there was total loss of appetite, it was decided to perforate the mastoid cells. The bone was solid and healthy, except a small spot in the upper part which was discolored, and being opened with a chisel proved to be very porous. On opening the cells thick yellow pus was evacuated. A drainage tube was inserted, daily irrigation used, and the discharge soon ceased, the paracentesis-opening in the drum-membrane healed, and the hearing became normal.

**CENTRAL CARIES OF THE MASTOID, WITH FISTULA INTO THE MEATUS; PERFORATION OF THE MASTOID; CURE.**

A boy nine years old had suffered for over eight years with a fetid otorrhea on the right side, frequent pain, and occasional swelling behind the ear. Examination showed a hard cellular infiltration at the point of the mastoid, with a fistula through the posterior osseous wall of the meatus, which was surrounded by granulations and into which a bent probe passed freely.

At the operation the corticalis was healthy and solid, but the whole cavity of the mastoid was carious, and was scraped thoroughly with a sharp spoon. The lead tube was inserted and daily irrigation used, with the result of a cessation of the otorrhea in the course of a few months, and complete recovery from all inflammation and great improvement in the hearing.

**POISONING FROM THE INSTILLATION OF ATROPINE INTO THE HEALTHY AUDITORY MEATUS.**

Knapp<sup>1</sup> reports a case of transient poisoning from two instillations of a few drops each of a one-half per cent. solution of sulphate of atropia into a healthy meatus for the relief of pain. The solution was used once in the evening and again the next morning. Four and a half

<sup>1</sup> Archives of Otolaryngology, March, 1882.



hours after the last application the hands and fingers began to swell and become stiff, the eyes became swollen, and the face scarlet, the throat dry, tongue thick, lower lip swollen and hanging down, violent palpitation, and feeling of intense heat, which could not be relieved by cold water. These symptoms increased steadily for four and a half hours; they then began to abate, and in one hour had entirely disappeared. The family physician reported that the patient, a lady, had previously shown an unusual susceptibility to atropine.

## Reports of Societies.

### MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

#### THE SURGICAL TREATMENT OF NASAL CATARRH.

At a stated meeting of the Society held May 22d, Dr. WILLIAM C. JARVIS read a paper entitled *The Surgical Treatment of Nasal Catarrh, with Practical Demonstration*. After a few introductory remarks, Dr. Jarvis said that he recognized five tissue formations in chronic nasal catarrh which were as follows: (1) Hypertrophy of the tissues overlying the turbinated bones; (2) thickening of tissues over the septum; (3) deviation of the septum; (4) adenoma of the vault of the pharynx, and (5) gelatinous polypi.

Congestive hypertrophy, he said, was, as a rule, readily recognized; but in many cases of so-called hypertrophy the condition present was due to a loss of retractile power (a species of paresis) rather than to true hypertrophy. The tissues over the lower turbinated bone were more liable to become hypertrophied than those over the others on account of their inferior position, and the hypertrophy was more apt to be posterior than anterior. He made a distinction between anterior and posterior hypertrophy, on account of the difference in the surgical treatment called for in each. *Second*. Thickening of the tissues over the septum. By the classification adopted a large number of cases of so-called deviated septum were at once done away with. There was a certain amount of turbinated hypertrophy always found in this second class of cases; and thickening over the vomer was also not infrequently met with.

Deviation of the nasal septum might, of course, be either osseous or cartilaginous. This was an exceedingly common cause of catarrh, and was therefore a condition of great practical importance. The trouble frequently dated from a blow, and as it usually occurred in those who were otherwise in good health, the happiest results were apt to follow the removal of the source of difficulty. Deviation of the cartilaginous septum was of two varieties, localized and general. The first variety did not always set up catarrh, as the seat of deviation might be entirely without the nares; but in that case it was generally desirable to operate on account of the more or less marked deformity present. The general variety was apt to be of a sigmoid character.

Gelatinous polypi formerly were considered as independent growths, and they often bore a peculiar resemblance to the mucous membrane seen in hypertrophic nasal catarrh. To adenoma of the vault of the pharynx he would assign only a place of secondary importance. The different conditions of which he had

been speaking were illustrated by large colored drawings copied from actual cases.

Dr. Jarvis next described and exhibited the various instruments and appliances which he was in the habit of employing in his various operations. The first of these was the *éraseur* which he introduced some time ago to the notice of the profession, one of the prominent characteristics of which was the finely tempered steel piano wire used in connection with it. The next was a combined mirror and tongue-depressor, the advantage of which was that it could be held with one hand while the other was operating with the *éraseur*. The other apparatus mentioned consisted of some convenient tape-holders, two varieties of septum scissors, and a set of transfixion needles, which varied in size, and in general resembled ordinary glover's needles, except that they were curved at different angles.

He then went on to describe his methods of treatment in more or less detail. For posterior hypertrophies he was in the habit of using the *éraseur*, as there was always somewhat of a constriction at the point where the mass of tissue protruded beyond the nares, about which the wire loop could be readily retained. The laryngoscopic mirror might or might not be used according to circumstances; but there were many cases in which the wire could be satisfactorily adjusted without such assistance. Smooth and firm sessile hypertrophies were not amenable to this method of treatment; but if they were soft, notwithstanding their sessile character, the operation was generally successful. In firm non-pedunculated hypertrophies he was accustomed to insert his transfixion needles before applying the *éraseur*; and if the hypertrophy were posterior there was great danger of hemorrhage, so that it was necessary to proceed with caution. The localized hypertrophies over the vomer were sometimes quite difficult to remove.

Thickening of the tissues over the septum (which had the effect of distorting the nasal gutter) constituted one of the most frequent causes of chronic nasal catarrh. In such conditions all treatment by means of washes and sprays afforded only temporary relief, and failed of a permanent cure as long as any deviation remained. In such cases he employed a transfixion needle with a very marked curve with the *éraseur*, and by this means he was enabled to perforate even an imperforate nostril. His experience justified him in urging the adoption of this method as vastly superior to the now generally received practice of perforating the septum. Dr. Jarvis then described his manner of removing polypi by means of the *éraseur* and concluded by summing up some of the advantages claimed for his methods, among which were the comparatively slight pain and inconvenience to the patient, the ease with which the operations could be performed, the small amount of hemorrhage incident to them, and the very successful results to be obtained. The surgical procedures which he advocated, he contended, were, therefore, greatly superior to the barbarous method of evulsion as he termed it, the application of the ligature and injection of strong acids, which sometimes left a sloughing mass which was most offensive to a sensitive patient, and operations by means of the galvano-cautery, which were very complicated and not infrequently unsatisfactory in their results.

The subject now being open for discussion, Dr. ELLSBERG stated that he believed the surgical treatment of nasal catarrh to be entirely of American origin.

About twenty years ago he had first tried the method of scarification at the suggestion of the late Dr. Horace Green. Finding, however, that there was apt to be excessive bleeding, and that he did not cure a very large proportion of his cases, he abandoned this, and resorted to the use of strong acid for the destruction of hypertrophic tissue. He soon gave this plan up, and then he attempted the mechanical removal of such tissue. He commenced by using the forceps, and he supposed that altogether he had devised as many as twenty or twenty-five different kinds of forceps and scissors for the purpose. Some twelve years ago, while in Dublin, he had first employed a wire snare, which was lent him by Sir William Wild, who had used it for removal of what he supposed to be a nasal polypus, but which he (Dr. Ellisberg) believed to be really a polypoid hypertrophy. Since then he had resorted to evulsion to a considerable extent, and he could not agree with Dr. Jarvis that it was such a barbarous, cruel, and bloody procedure if it were performed by a careful and prudent surgeon with the parts properly illuminated and well dilated. Dr. Jarvis's snare he thought a very excellent instrument. It was, no doubt, quite as good as any other; but he did not see any special superiority about it. In regard to the transfixion needles he had found that there was very great danger of lacerating adjacent tissues in introducing them, and he had now come to use thin-bladed transfixion forceps instead of these, especially in anterior hypertrophy. By allowing the forceps to project a little he could get the wire over the part to be removed much more readily than when he used the needles. The tape-holders, he thought, were not much of an improvement, as he had found that he could loosen the tape when desired more readily by simply untying it in the ordinary way. The little clips were apt to become covered with vaseline or other mucuous substance used for facilitating the operation, and thus so slippery that it was almost impossible to unfasten them. As to the scissors exhibited he did not think they differed materially from those in general use.

Dr. GOODWILLIE said that the nostrils had been well termed the gateway of the lungs, and that the immense quantities of air which passed through them were modified to a certain extent in the passage. It was the important function of the muciparous glands to keep the nostrils moist, and in any operation in these parts, therefore, he thought that great care should be taken to preserve as many of these glands as possible for the supply of the secretion to moisten especially the posterior nares. If the growth to be removed was pedunculated, he considered the *écraseur* the best means to employ, but if it were not, he preferred scarification by means of the galvano-cuttery knife. In deviation of the septum he believed it was generally necessary to remove a portion of the septum, and that nothing short of this would afford the desired relief. There was exceedingly apt to be exostosis in such cases, and when this was present the use of other instruments than the *écraseur* was demanded.

Dr. BOSWORTH remarked that for a considerable time past he had had a growing conviction, which was now a positive one, that the only common sense and satisfactory method of treatment of the conditions described in Dr. Jarvis's paper was by means of surgical procedure. The hypertrophy met with was largely made up of connective tissue, and it was useless to attempt

to get rid of it by any less radical means. He had personally used the *écraseur* exhibited, and had secured better results with it than with any other that he had ever tried. He was disposed to differ somewhat with Dr. Goodwillie in regard to the frequency of exostosis. In his experience he had found it of extremely rare occurrence, but when it was present the *écraseur* would remove the bone with the greatest possible ease. In fact, the steel wire of Jarvis's instrument made it applicable in a large number of cases in which it had heretofore been impossible to use the *écraseur* successfully.

Dr. ANDREW H. SMITH said that he also had used this *écraseur* with success, and that he considered it a great addition to our means of treatment. He thought that neither Dr. Jarvis or Dr. Bosworth had laid sufficient stress upon the very great advantage of the rigid steel piano wire, which seemed to him the distinguishing characteristic of the Jarvis instrument. In the discussion to-night a fact of considerable importance seemed to have been lost sight of, and that was one to which he had referred in a recent paper of his read before the American Laryngological Society. When the nasal passages were obstructed, and the patient continued to breathe through the nose, the result was that there must be a lessening of the pressure behind the point of obstruction. In other words, a partial vacuum would be formed with every inspiration, and wherever there was a vacuum there would be of necessity a flow of blood toward it. There would be, consequently, a constant hyperæmia of the part, and from hyperæmia to hyper-secretion was only a short step. In many cases of hypertrophy he preferred the application of mono-chloro-acetic acid to any other treatment. The special advantage of this caustic was that the eschar made by it remained until complete cicatrization had taken place. He applied it by means of a narrow, flat probe of hard rubber, which was wrapped with cotton, on one side of which cerate was smeared, so that the acid should touch only the parts desired.

Dr. BOSWORTH, speaking briefly a second time, said that whenever it was possible to use the snare, he preferred it to any other means of treatment; but if this was not available he agreed with Dr. Smith that the acetic acid was a most excellent application.

Dr. M. J. ROBERTS thought that from the standpoint of the general practitioner the instruments and methods of Dr. Jarvis commended themselves for their simplicity, and believed that any physician of average intelligence would be able to use them successfully in cases where the trouble was located anteriorly. If the posterior nares were affected, of course a greater amount of special skill was required in their application.

Dr. LINCOLN thought that the instruments and methods under discussion afforded a striking illustration of the progress which had been made in this department of medical science during the last few years. He had employed them himself and considered them infinitely preferable to some of the measures formerly in vogue. At the same time, he did not think that the opinion ought to go forth that these were the only efficient means of treating the class of cases alluded to in the paper. The procedures advocated by Dr. Jarvis were most excellent, and were no doubt to be preferred in a certain proportion of cases; but it ought not to be forgotten that there were other methods which were equally successful and which were indeed better in some instances. No one method was of universal ap-

plication, and among those agents which he had found of the greatest service were the galvano-cautery and chromic and acetic acids.

DR. BEVERLEY ROBINSON was inclined to think that the use of the snare was somewhat more difficult, as well as painful, than its advocates would have us believe, and said that he had found that in order to remove a growth by this means without much hemorrhage required quite a long time, — from half an hour to an hour. Even when this long time was occupied, the hemorrhage was very considerable, and in one case that he had had he thought it proper to keep the posterior nares plugged for twenty-four hours in consequence of this. The snare in his hands had also proved more painful than the galvano-cautery, so that he was scarcely willing to admit that this instrument was so greatly superior to the latter.

DR. JARVIS, in bringing the discussion to a close, remarked that in neither Hilton's nor any other of the snares previously in use was there employed the finely tempered steel piano wire of his instrument. He had found that all wires which were simply annealed gave way with the strain which it was necessary to impose upon them, and said that it was about three years ago when it occurred to him that it would be well to try the piano wire. As to the slipperiness of the tape-holders to which Dr. Ellsberg had alluded, this could easily be obviated by having the sides of the clips roughened. In regard to the desirability of sparing as many muciparous follicles as possible, he thought Dr. Goodwillie was mistaken. Pharyngitis sicca might be a primary affection instead of a secondary one, and he considered that there was no danger whatever of producing dryness of the nostrils by the methods he advocated. Even if all the other muciparous follicles were destroyed, those of the superior meatus, which was never reached in these operations, were abundantly able to supply all the moisture that was needed. As to the profuse hemorrhage of which Dr. Robinson had spoken, he thought that gentleman had been unfortunate in getting hold of one of those troublesome cases of hæmorrhagic hypertrophy sometimes met with. Then, perhaps, sufficient attention had not been paid to certain little details which assumed importance in such cases as these. There was often a slight tearing at the close of the operation, and it was Dr. Bosworth who had first pointed out the advantage of leaving the divided tissues *in situ* for a time, in order that hæmorrhage might be avoided. A much longer time than Dr. Robinson had suggested was also necessary for the satisfactory performance of the operation in these hæmorrhagic cases, and he mentioned one in which it had taken him four hours. Dr. Jarvis closed his remarks with a statement of his objections to the galvano-cautery.

The next order of the evening was the presentation by DR. L. L. SEAMAN of

#### A NEW APPARATUS FOR THE TREATMENT OF FRACTURE OF THE PATELLA,

which had received the indorsement of the late Dr. James R. Wood and other well-known surgeons. It consisted of two crescent-shaped pads, applied above and below the patella, which were kept in position by means of strips of adhesive plaster, and the extremities of which were attached by catgut strings to two bands of raw hide encircling the limb above and below the knee, the catgut being fastened to movable nuts. These

raw-hide bands were moulded over plaster casts so as to fit the parts accurately, and were connected with each other by means of steel rods on the inner and outer aspect of the limb, which were jointed in the centre, and could be kept bent at any desired angle by means of a lock and key. When tension was made upon the pads by means of the screw a pressure forward and downward was excited, which was sufficient to completely antagonize the quadriceps femoris muscle. One great advantage of the apparatus was that the patient could walk about immediately after it was applied.

### Recent Literature.

*A Treatise on the Science and Practice of Medicine, or the Pathology and Therapeutics of Internal Diseases.* By ALONZO B. PALMER, M. D., LL. D., Professor of Pathology and Practice of Medicine and of Clinical Medicine in the University of Michigan. New York: G. P. Putnam's Sons. 1882.

This is undoubtedly the first volume only of a treatise on the subjects indicated on the title-page. The purchaser and reader is, however, nowhere directly informed of that fact, and we must confess it was not until we had read the table of contents carefully without finding some very important diseases, and assured ourselves that the last page in the table of contents corresponded numerically with the last page between the covers, that we became aware that at least another volume would be necessary to complete the work. We then found General Pathology, General Diseases, Diseases of the Organs of Digestion and Assimilation, on the back of the cover; otherwise neither cover, title-page, nor preface indicates that this is a first volume, and the heading, Table of Contents of First Volume, gives only very indirectly the information required.

Professor Palmer has undertaken this work, the preface tells us, at the request of former and of present students under his teaching. He considers the large number of foreign works reproduced and sold in this country an indication that the wants of the reading American profession are not fully supplied by the few domestic treatises on the practice of medicine we now have; that habits and the particular surroundings of the people, as well as race and climate, produce differences in diseases requiring modifications of treatment; that descriptions of diseases and methods of treatment derived from consultation, practice, or experience in large metropolitan hospitals are not in all respects exact or applicable for cases occurring in an ordinary American village or country situation, where well-housed, well-fed, non-alcoholized people are seen in the beginning of their diseases. "The treatment adapted to the respective cases must be quite different, and the natural course of the disease must vary."

"The present work," the writer tells us, "has been prepared from the standpoint of an American physician, whose practice for years was in a village and farming community; who has become familiar with diseases in their beginning as well as in their advanced stages, both in a country and a city practice, more in the West, but also in the East; in the army, during the late war, as well as in civil life: from the standpoint of one who for years has been engaged in public, clinical, and hospital, as well as in private practice; who has long acted as a consultant as well as an attending physician, and whose observations have extended to

the large city hospitals of our own country; and who, years ago, as well as since this work has been in preparation, has made brief but careful observations in most of the medical centres of Europe."

Professor Palmer's credentials, as set forth by himself in the above paragraph, remind us not a little of those given by Professor Bartholow in his lately published *Practice of Medicine*, and certainly are very considerable. A morbid self-depreciation is evidently out of place in one who sees fit to write a new work on the *Practice of Medicine*, but an explanation of one's reasons and qualifications for so doing is apparently by no means contra-indicated.

For the pathology and histology of disease those who possess other works on the *Theory and Practice of Medicine* will not require the present book. To the aetiology and treatment of disease the writer's attention has been more especially devoted, and under these heads are to be found whatever there is in the work of personal observation and experience, and much that is really good. Good authors in several countries have been freely drawn upon, though not in all cases the latest authorities.

We cannot say that a physician already having several of the hand-books on the *Practice of Medicine* previously written and published in this country would really require Professor Palmer's; neither, on the other hand, would the student or busy practitioner, being restricted to a more modest library, be likely to be led astray should he have to rely upon Professor Palmer alone.

We do not know how many subsequent volumes to expect, but suppose a second will finish the work. In the matter of type and paper the publishers' work is well done.

*Anæsthesia and Non-Anæsthesia in the Extraction of Cataract*, with some Practical Suggestions regarding the Performance of this Operation, and Comparative Statistics of Two Hundred Cases. By HASKET DERBY, M. D., etc. 1882. Riverside Press. 32 pages.

In this little pamphlet the arguments in favor of non-anæsthesia in cataract extraction are well presented, and enforced by the statistics of two hundred cases; one hundred with, one hundred without, anæsthesia. The author has changed his practice of late years, and not as to the employment of anæsthesia only; he has also abandoned the use of mydriatics before the operation, in which, we believe, he is in general agreement with other operators, and has adopted the plan of first opening the eye at a much later period after operation than is generally done.

No one, we presume, would employ anæsthesia if the steadiness of the patient under operation could always be assured; it is because this cannot be done that anæsthesia is resorted to. Dr. Derby admits that he makes use of it in "exceptional cases." He thinks, however, that, as a general rule, the patient may be persuaded to control himself sufficiently, and this may be agreed to. The difficulty is to decide in advance just which patients may be trusted, and which not. And even the experience he has acquired is insufficient always to determine this point correctly. It is said of the only patient whose behavior is mentioned, that he was "very restless during the operation, the performance of which was thus rendered unusually difficult."

It is perhaps only natural that, in setting forth the

advantages of a method which is believed in, there should be danger lest the counter advantages of a different method be unconsciously ignored or its disadvantages exaggerated, and this danger seems here not wholly to have been escaped. It is asserted that in profound anæsthesia the eye loses its tension, and the difficulty of removing cortical fragments is increased. True, but, on the other hand, the loss of tension lessens the danger of escape of vitreous. We are told that, to clear the pupil after removal of the main portion of the lens, with etherized patients, the eye "must often, if not always," be held by fixation forceps, etc. To this we can only say that it does not accord with our experience.

The statistics given apparently show in a striking manner the superiority of non-anæsthesia and the other modifications in treatment adopted. We say apparently for several reasons. It is well known that statistics are often deceptive. Dr. Derby himself says that the loss in the series with anæsthesia (9) was unduly large, and that it cannot be claimed that the loss in the series without anæsthesia (1) will be maintained. In the statistics given by Arlt, "one of the first of living operators," we find great differences in different years in the percentage of losses by the same method of operation, the proportional variation being even slightly greater in two of the years than that in the two series here presented, and, as the numbers given by Arlt are larger, this is all the more remarkable.

The one hundred cases operated on without ether are said not to have been selected. We cannot doubt the honesty with which the statement is made. Yet to our mind there was a certain selection. It appears that during the time over which this series extends there were some exceptional cases in which ether was given. These must have been in part, if not all, excitable patients, with so little self-control that they could not be trusted to remain quiet during operation. But such patients, even with anæsthesia, would, other things being equal, not be likely to do as well as individuals with good power of self-control. It was to the benefit of the general result, therefore, to exclude them from the series. Finally, one man, whose eye was lost, was excluded from the series for reasons which to Dr. Derby were a sufficient justification, but which hardly appear so to us. The condition of the eye on discharge, on the fifteenth day, is described as like that of the case of failure, which was included, and which was also discharged on the fifteenth day; that is, the pupil was blocked with corticalis, but there was good perception of light. In both these cases there soon came on severe inflammation, and the eyes were lost. The man rejected from the list did not report as he had promised, yet it is only a supposition that there was neglect of proper care for the eye on his return home.

But, although we are unable to agree with all the conclusions of the author, we have no hesitation in saying that the careful attention to the details of the operation and treatment, and the avoidance of all unnecessary instrumental interference, upon which he insists, are of the greatest importance. Dr. Derby has undoubtedly skill and experience, and may be able, in general, to decide correctly what patients are suitable for operation without anæsthesia and to overcome the difficulties which restlessness presents; we are convinced, however, that if it were the general practice to operate without an anæsthetic the results would not be as favorable as they are now.

## Medical and Surgical Journal.

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## AN INQUIRY INTO THE PHYSIOGNOMY OF PHTHISIS BY THE METHOD OF COMPOSITE PORTRAITURE.

In the JOURNAL of April 20th was a short editorial notice of a suggestion by Francis Galton, F. R. S., for the establishment of anthropometric laboratories, a subject the outlines of which presented themselves first to the mind of that writer in the course of his experiments with "composite portraits." His first article on Composite Portraits appeared in the *Journal of the Anthropological Institute*, 1878,<sup>1</sup> and another entitled Composite Portraiture in the *Photographic Journal*, June, 1881.

This method of composite portraiture consists in throwing upon a photographic plate, disposed in a special form of camera, the images of several negatives in succession, an equal fraction of time being given to each instead of the whole time to one. A single plate that has been exposed to several negatives yields a so-called composite. Several of these composites may in their turn be exposed to another plate under similar circumstances as if they were ordinary negatives, the result being called a "co-composite." Several "co-composites" may again be combined, producing a co-co-composite, and this process of combination continued.

Mr. Galton, in conjunction with Dr. F. A. Mahomed, undertook an inquiry into the physiognomy of phthisis, based upon this method of composite portraiture, and the results are published as a paper in the last volume of Guy's Hospital Reports. Their object was to prove or disprove, so far as one series of investigations in regard to one form of disease, and that the most common in civilized countries, could do it, the old doctrine of diatheses or "temperaments;" the belief, in other words, that certain physical conformations indicate predispositions to certain diseases, which has always held a prominent place in medicine from early times. In regard to this doctrine these writers say, in the paper referred to, "Of late years this doctrine has been repudiated by many of our most able teachers, though, on the other hand, it still receives the powerful support of some of the most distinguished and experienced of our physicians; so that what heretofore has been generally accepted has now become a much-disputed question. The objections that have been raised against the doctrine are chiefly these: that it is founded on the utterly false and erroneous doc-

trine of 'humors,' held by physicians in the dark ages; that it is, therefore, only a relic of false traditions; and lastly, that it is not supported by any modern scientific observations, and that the statements of 'general impressions' made in support of it are those of impressions prejudiced by traditional beliefs. In reply to these objections it may be said that the facts observed by the earlier physicians were probably correct enough, and that only their explanations and theories were wrong; thus, certain facts in connection with the physical characteristics of individuals in connection with certain diseases they sought to explain by false theories; the facts, nevertheless, remain true. The objection, however, that this doctrine is only supported by personal impressions still holds good." As no diathetic types are probably more commonly recognized, either rightly or wrongly, than the so-called tubercular or strumous, and as persons presenting the physical characteristics attributed to these diatheses are believed to be especially predisposed to phthisis, it appeared to Messrs. Galton and Mahomed that this belief might be put to the test by means of the method of "composite portraiture," that they might be able to ascertain whether there are any facial characteristics common to any large proportion of cases of phthisis. Beginning in January, 1881, by May they had accumulated 442 portraits of patients suffering from phthisis between the ages of fifteen and forty years, of whom 261 were males and 181 females. These patients were taken at random from among the in and out patients of Guy's and of the Brompton and Victoria Park Hospitals, by different medical officers, the extent, duration, form of onset of the disease, hereditary taint, and preceding conditions being noted on cards distributed for that purpose. For comparison with these 100 male and 100 female patients, taken without selection from the wards and out-patient rooms at Guy's Hospital, but not suffering from phthisis, were photographed.

The individual portraits of the patients suffering from phthisis, compared in a general way, did not disclose any characteristic faces, nor did they seem to differ much from any group of ordinary patients. In forming composite portraits of different sets of these 261 male and 181 female phthisical patients, especially of those having a strong hereditary taint and in advanced stages of disease, as well as of sets of cases taken absolutely without selection, the results obtained, Messrs. Galton and Mahomed report, "appear to lend no countenance to the belief that any special type of face predominates among phthisical patients, nor to the generally entertained opinion that the narrow, ovoid, or 'tubercular' face is more common in phthisis than among other diseases. Whether it is more common than among the rest of the healthy population we cannot at present say. It is true that, taking both sexes together, we find 14.3 per cent. of faces that may be classed as 'narrow ovoids,' and 9.3 per cent. that come under the head of 'broad faces with coarse features,' making in all 23.6 per cent. of our cases which may be grouped under one or other extreme departure in either direction from the normal

<sup>1</sup> Reprinted in Nature.

average, but we doubt if this is more than could be found among the general population. Our results are, therefore, negative, but it may be they are no less valuable; although we commenced our investigations with the expectation of establishing a 'type' on a firm foundation, we shall be little less satisfied with them if they have succeeded in refuting an error. Although these conclusions would seem to indicate that there is no foundation for the belief that persons possessing certain physical characteristics are especially liable to tubercular disease, yet it may hereafter be proved that some explanation of the doctrine may be found in the course of the disease when it attacks such persons."

Inquiries into this and kindred points are reserved for future investigation, which it is thought may possibly demonstrate that, though much error has been accumulated around the doctrine of "diatheses," it nevertheless contains a nucleus of valuable truth.

#### SUFFOLK DISTRICT MEDICAL SOCIETY.

##### THE SECTION FOR CLINICAL MEDICINE AND PATHOLOGY.

On the evening of May 27th the meetings of this branch of the Suffolk District Medical Society for the current medical year were brought to a termination. It seems quite proper at this time to review the work of the Section, both in order to ascertain its mistakes and deficiencies as well as for the encouragement which the experience of this year offers for the success of future efforts.

The division of the general Society of this district into sections, representing to a certain extent the more important departments of medical science, had long been considered desirable. It finally became necessary for the healthy and vigorous development of society work among physicians; and from the more definite character of the labors which might thus be undertaken and prosecuted by each department for the common interest and advancement of all much was hoped. The general Society was too general in its design and too ample in its scope to bring out successfully that which was best in its special departments. The attempt to establish special subordinate branches of the Society was made some years ago, but for a variety of local reasons the efforts in this direction were crowned with only indifferent success. The various smaller medical societies or clubs in Boston at that time looked somewhat coldly upon the undertaking, to which they afforded neither encouragement nor assistance. The general Society still assembled at stated intervals, usually once a month, during nine months of the year, and this was the only reunion for medical discussion accessible to a majority of the profession in this city. The subjects presented to the Society at these meetings were always interesting, but of necessity were naturally confined to certain divisions of medical practice, which were more interesting to a part of the Society than to that body as a whole.

The first attempt at a division of the general district Society was carried into effect in 1868; at this time eight subordinate sections were established, devoted to (1) Anatomy and Physiology, (2) Medical Pathology, Clinical Medicine, and Hygiene, (3) Obstetrics and Diseases of Women, (4) Chemistry, Pharmacy, and Materia Medica, (5) Surgery and Dentistry, (6) Ophthalmology, (7) Psychology, (8) Microscopy. These were expected to attend to any matters referred to their several departments by the general Society, and to report independently of such direction upon any matters of interest to the general body of the Society.

The first meeting of the Section for Medical Pathology, Clinical Medicine, and Hygiene, since contracted to "Clinical Medicine and Pathology," was held at the house of Dr. H. I. Bowditch, who was elected permanent chairman, some time in 1868, with a membership of twenty-eight.

The meeting was called "to consider the subject of the instrument called the Hydroleik."

During the autumn of 1868 three meetings were held at the house of Dr. Bowditch.

The succeeding meeting is dated April 10, 1869, and was also held at Dr. Bowditch's house.

There is no record of any meeting from this time until October 25th of the same year, when a single meeting was called at the house of the chairman.

A hiatus now occurs in the records until December 21, 1874, when the minutes state that "the Section met at the house of the secretary for the first time in five years," and was attended by four members, namely, the late Dr. E. H. Clarke, Drs. J. B. Upham, J. B. Webster, and H. K. Oliver. The subject for the consideration of the Section at this meeting was the connection of the rain-water spouts of dwellings with the sewers in the streets, as was at that time proposed by city ordinance. This measure was at first vigorously opposed by a portion of the profession, on the ground that the air of chambers and sleeping-rooms would become dangerously contaminated by the escape of sewer gases from the spouts at the eaves of the houses, and thus cause disease in the occupants of such rooms.

Another period of hibernation now intervened in the history of the Section, which slumbered in unbroken tranquillity until it was aroused May 14, 1881, by a call from Dr. H. C. Haven, the vigorous and efficient present secretary of the Suffolk District Medical Society. At this time only nineteen of the former members were still living, and of these two now reside far from Boston.

Through the efforts of Dr. Haven eleven members were at once added to the list; the first meeting, which was called with some uncertainty as to its success, proved a very interesting one, and it was the unanimous opinion of those present that the attempt should be made to reestablish the Section upon a substantial basis. At this meeting Dr. Bowditch, permanent chairman of the Section, presided, and papers were presented by Drs. F. C. Shattuck, E. G. Cutler, and A. N. Blodgett, in the discussion of which every member present took part.

The meetings of the present year have been seven in number and have been largely attended. The number originally intended was six, but the amount of material placed at the disposal of the secretary was so unexpectedly large that an extra meeting was necessary in order that it might all be presented. The interest in the Section has not abated during the season, and the list of those desiring membership was constantly increased until it now contains one hundred and thirty-two names. The meetings are held in the reading room of the Medical Library, though this apartment is far too small to accommodate so large a number. At the meeting in May, 1881, Dr. Bowditch was chairman, and Dr. H. K. Oliver secretary, and these two gentlemen continued to act until the meeting of December 3, 1881, when, not desiring to serve longer, they were succeeded by Dr. T. B. Curtis, as chairman, and Dr. A. N. Blodgett, as secretary. Before the next session of the Section the sudden death of Dr. Curtis rendered the chair again vacant, and the present chairman was elected.

Papers have been read before the Section during the past year by the following gentlemen: Drs. S. L. Abbott, J. B. Ayer, H. J. Barnes, H. J. Bigelow, A. N. Blodgett, Mr. Ernest W. Bowditch, Drs. H. I. Bowditch, Hall Curtis, E. W. Cushing, W. A. Dunn, S. H. Durgin, Thomas Dwight, G. M. Garland, S. W. Langmaid, G. H. Lyman, J. H. McCollom, F. Minot, Morton Prince, T. M. Rotch, F. C. Shattuck, and W. F. Whitney.

The names of those taking part in the discussions include those of many of the prominent and active physicians of Boston as well as some from other cities.

Several new instruments and appliances, as well as many pathological specimens, have been exhibited at these meetings, and a degree of interest has been aroused which promises much for the future. The chief defect in the Section as now organized is the comparatively slight encouragement offered to labors in the domain of pathology, either general or special. This is no new condition with the Suffolk District Medical Society. It has existed for many years.

Among the subjects of many excellent papers presented during the year just closed pathology was unrepresented. For the purpose of guarding against such a deficiency during the next year efforts have already been made to secure material of this character. Several gentlemen have already promised papers upon some subject connected with special pathology during the year 1882-1883.

It is hoped that some contribution in the direction of pathological research may be included in the programme of each meeting. The Secretary received a very flattering note from the Secretary of the Pathological Society of Philadelphia, asking for an exchange of Pathological Transactions between the two Societies, but was obliged to return the humiliating reply that neither Pathological Society nor Pathological Transactions existed in Boston. This is the more a matter for regret as it is wholly inexcusable.

One or two of the other Sections, especially that of Surgery, have been active and attended with interest.

In another number we shall hope to give some account of the work accomplished by them this winter.

There seems to be a tolerably general feeling that there are at present in Boston a greater number of small Medical Societies than is profitable for their individual welfare or for a really vigorous and stimulating discussion of the theory and practice of the profession.

#### MEDICAL NOTES.

—The daily papers have contained rumors of resignations in the Harvard Medical School, which we abstain from commenting on until duly authenticated.

#### NEW YORK.

—On the evening of May 15th the first annual meeting of the Charity Organization Society of the City of New York was held. This Society has been formed on the same general plan as similar societies already in successful operation in a number of other cities, and its existence is due to the State Board of Charities, who, in October last, passed a resolution to the effect that, in view of the fact that there was no system of cooperation by which the various independent charitable associations in the city could receive definite mutual information in regard to the work of each other, and that without some such system there was an unavoidable waste of effort, and pauperism and imposture were liable to be encouraged, the New York City members of the Board should be appointed a committee to take such steps as they deemed wise to inaugurate a system of mutual help and cooperation between such societies. Among the fundamental principles of the Charity Organization Society are, that every department of its work shall be completely severed from all questions of religious belief, politics, and nationality, and that the Society shall not directly dispense alms in any form. Among the objects of the Society are the following: To investigate thoroughly, and without charge, the cases of all applicants for relief which are referred to the Society for inquiry; to provide visitors, who shall personally attend cases needing counsel and advice; to obtain from the proper charities and charitable individuals suitable and adequate relief for deserving cases; to procure work for the poor; to repress mendicancy and prosecute impostors; and to promote the general welfare of the poor by social and sanitary reforms, and by the inculcation of habits of providence and self-dependence. Among the speakers at the recent meeting of the Society was Mayor Grace, who said that he had been at a loss to account for the increase of paupers of late in New York, but now thought it was abundantly explained by the fact that Boston and Philadelphia had for some time been provided with charity organization societies, while New York had hitherto been without such an institution.

—At the last meeting of the Section of Theory and Practice of Medicine of the Academy of Medicine papers were read by Dr. L. Putzel, on a case of hemiplegia, illustrating the connection of descending degeneration and atrophy of the anterior horn of the

spinal cord, and by Dr. A. McLane Hamilton, on a case of word-blindness, with loss of taste and sense of localization.

—The Board of Health have sent communications to both branches of the State Legislature, protesting against the passage of a bill providing for the demolition of the reception hospital for contagious diseases at the foot of East Sixteenth Street. Accompanying the protest to the Senate was a letter signed by Commissioners Chandler and Woolsey Johnson stating that although the protest to the Assembly (which was sent previously) had been accompanied by a letter from the mayor requesting a special hearing, no such hearing had been granted, and that it was a matter of vital importance to the city of New York to have a properly located reception hospital for contagious diseases, so that until some other suitable location could be secured it would be madness to deprive the city of the only one that it now had. The letter furthermore stated that the present site at the foot of East Sixteenth Street was probably further removed from dwelling-houses than any other site which it would be possible to secure, and that no evil had ever resulted to residents of the east side from the presence of this hospital.

The Sanitary Reform Society has also sent a protest to Albany upon the same subject, and against the following bills now before the Legislature, in addition: An act providing that the Boards of Health of New York and Brooklyn shall not prohibit the use of vitrified glazed pipe or tile for drainage of buildings, and an act which provides that every person who shall sell, or offer for sale, any milk from which the cream, or part of the cream, has been removed, shall distinctly represent it as such, and mark, in letters not less than one inch in length, on the outside of every can containing such milk, the words "skimmed milk." The latter bill, the Society urges, will in reality legalize fraud in milk, and open the doors to the increased sale of poor milk.

—The sanitary inspectors have just discovered a small-pox nest in a tenement-house on Baxter Street, which is crowded with Italians; there being as many as sixteen families, making up a population of over one hundred altogether, in the house. The premises were in a wretchedly filthy condition, and in the first apartment visited, which, although only about twelve by fifteen feet, was inhabited by no less than eleven persons, a man was found in the suppurative stage of small-pox. In another room, hardly less crowded, a young woman was suffering from the disease, and in still another, a little child. All of the cases were sent to the reception hospital, and the house, after being disinfected, was quarantined. It is claimed by the inspectors that in places of this kind, while they are examining the lower floors the inmates sometimes escape through the roof with such persons, and keep them in adjoining houses until the visit is concluded; a practice which, of course, adds very materially to the spread of contagious disease.

—The public baths opened on the first of June. There are each year increasing in popularity, and

would be even more extensively used than they are if the accommodations were more ample. They have been utilized to their fullest capacity of late, and that more persons have not resorted to them is simply because the baths have been inadequate to meet the demand upon them. In 1878 the number of bathers was 2,457,537; in 1879, 2,881,279; and in both 1880 and 1881 about 3,500,000, or an average of 30,000 a day.

—On the morning of the 18th of May Dr. Hervey Kendall was found lying in an insensible condition, with a bullet-hole between his eyes, in a meadow near the County poor-house cemetery of Syracuse. From the implements by his side it was evident that he had been upon a grave-robbing expedition, but the manner of his shooting still remains a complete mystery. On the following night he died from the effects of the injury, without recovering consciousness. It is stated that he was graduated from one of the Eastern colleges last summer, when he came to Syracuse to practice, and that since that time he has been in the habit of furnishing subjects for dissection to the medical school in that place. Lately, however, he is said to have quarreled with the authorities of the institution, and has been supplying some other college with subjects. The opinion prevails in the neighborhood that he was probably wounded in an affray with another party who had visited the locality on a similar grave-robbing errand.

—The body of a man found drowned on the 26th of May in the Hudson River at the foot of Twenty-Fifth Street has been recognized as that of Dr. J. Scott Payne, a practicing physician of Rahway, New Jersey. He had been missing since the 10th of May, on which day he came to New York on business, and when last seen alive he was on his way to one of the New Jersey ferries. It is supposed that he fell overboard from the ferry-boat while crossing the river.

—The branch hospital and dispensary at the corner of Sixty-Seventh Street and Lexington Avenue, presented by Mrs. Anna Ottendorfer to the German Hospital, was formally dedicated and opened on Saturday, May 27th. The building has been erected at a cost of \$45,000. There was also celebrated at the same time the twenty-fifth anniversary of the opening of the dispensary connected with the hospital.

#### PHARMACEUTICAL NOTE.

—Boro-glyceride, as described by Professor Barff in the *Journal of the Society of Arts*, March 31st, as a preservative was required in the rather high proportion of one ounce to a quart of cream. The continued ingestion of such a proportion with food is of importance considering that it is asserted concerning both the original ingredients that they act, deleteriously when taken in such quantities. It also appears that aqueous solutions would require to be used while hot, for the compound is decomposed into boric acid and glycerine in the presence of water, and the acid crystallizes out on cooling. — *Pharmaceutical Journal and Transactions*, April 29, 1882.



## Miscellany.

## THE ADMISSION OF WOMEN TO THE MASSACHUSETTS MEDICAL SOCIETY.

MR. EDITOR, — At the last meeting of the Society it was voted, on motion of Dr. Hodgdon, that "when the Society adjourn it do so to meet on the Tuesday preceding the next annual meeting at four o'clock p. m., the secretary to notify the members of such meeting." It was explained that the object of such meeting was the discussion of an amendment to the By-Laws looking toward the admission of women to the Society.

With a view to an accurate appreciation of the present status of this question, it seems desirable to recapitulate briefly the past action of the Society upon this topic.<sup>1</sup>

February 2, 1852. The councilors (on the question of the admission of women to the Society) voted, the censors are directed to examine males only, and the Massachusetts Medical Society *might assume any responsibility or expense which the censors might incur.*

June 4, 1867. To a question from the trustees of the Massachusetts General Hospital the councilors voted that it was inexpedient for our State medical schools or the hospital to admit female medical students. The vote stood, seven affirmative, forty-nine negative.

October 7, 1872. The censors for Suffolk asked what they should do, as they had been requested by a female physician to allow her to be examined for a license to practice and for admission to the Society. A committee was appointed to report February, 1873.

February 5, 1873. Four of the committee were in favor of, one against, granting the request. After discussion the report was recommended to the same committee, with directions to take legal counsel as to the question whether, as the law now stands, women had a right to ask admission.

June 3, 1873. Committee reported in substance as follows from their counsel, E. R. Hoar and George Putnam, Esq. : —

(1.) The Society has a right to say that only males shall be admitted to a license and membership.

(2.) It has never done so by any By-Law.

(3.) That in the absence of such By-Law the censors have to decide whether sex is a disqualification for the medical or surgical practice.

(4.) That in the absence of any By-Law from the Society, if any woman be licensed by the proper officers she is thereby entitled to membership. The censors may reject a woman if they think sex a disqualification for medical and surgical practice.

Upon this report the councilors voted to instruct the censors not to admit women. Carried by a small majority.

June 8, 1875. On motion, it was voted to choose a committee of five to report whether duly educated women cannot receive the rights and privileges of membership.

October 5, 1875. A majority of this committee reported in favor of examining males and females without distinction. The minority objected to such examination. A long discussion ensued, and an indefinite postponement of the whole matter was carried by a very close vote.

June 11, 1878. A resolution came to the councilors from the Middlesex South District Society requesting that well qualified female practitioners should after examination be admitted. A committee of five was chosen to report at the next meeting.

June 10, 1879. A year afterwards the committee reported that of the largest number of the committee which had attended any meeting the members were equally divided in opinion. Voted to recommit to the same committee, and with a request to report at the next meeting.

October 1, 1879. The majority of the committee advised no action. The minority reported as follows, that the censors of the Massachusetts Medical Society should be instructed to admit women for examination. The councilors voted, 48 to 38, to adopt the minority report.

February 4, 1880. The censors of Suffolk protested against such instructions unless ratified by the Society. After some discussion, during which a proposition was made that an appropriate By-Law should be recommended to the Society, it was finally voted that the vote passed October 1, 1879, directing the censors of districts to examine women, be rescinded!

<sup>1</sup> Dr. J. R. Chadwick, as quoted by Dr. Bowditch, in the Boston Medical and Surgical Journal, vol. civ., page 291, September 29, 1881.

February, 1881. The subject was again brought up by a councilor, and it was laid upon the table.

At the annual meeting of the Society held on June 9, 1880, Dr. Bronson offered the following : —

*Moved,* That when this meeting adjourns, it do so to meet at the place of annual meeting on Tuesday preceding the annual meeting of 1881, at four p. m.

Dr. Bronson explained that his object in making the motion was to present an amendment to the By-Laws by which women should become eligible to membership of the Society. The motion was adopted.

This meeting was held on June 7, 1881, and a report of the proceedings published in this journal (June 16, 1881). Before adjourning a committee was appointed, in accordance with the vote of the Society, to act with a committee of the council and report after taking legal advice, if necessary, —

(1.) Whether the Society has the power to originate an amendment to the Constitution or By-Laws.

(2.) Whether it is necessary to publish a new code of By-Laws.<sup>2</sup>

The clauses of the Act of Incorporation and of the By-Laws thus submitted to the committee for interpretation are as follows : —

III. The Fellows of the Society shall have full power and authority to make and enact such rules and By-Laws, for the better government of the Society, as are not repugnant to the laws of this Commonwealth; and to annex reasonable fines and penalties to the breach of them, not exceeding the sum of twenty pounds.

IV. The Fellows, at their annual meetings, whenever such a number shall be present as the regulations of the Society may require, may revise, alter, enlarge, and repeal the By-Laws of the Society, as the major part of the Fellows present may see fit, and not otherwise.

This authority to *originate By-Laws* is in no wise curtailed by the only section of the By-Laws bearing upon the subject : —

## ALTERATION OF BY-LAWS.

XXXIII. All proposals for alteration of the By-Laws shall be stated in writing.

No alteration of a By-Law shall take effect until it has received the concurrent vote of the councilors and the Society; and no amendment affecting the import of said alteration shall be engrained on it without a like concurrent vote. But the councilors or Society may at a special meeting, notice having been given at a previous stated meeting, or in the call for the meeting itself, adopt rules and orders for their better government, or alter or amend, or annul, the same; but these rules or orders shall not be temporarily suspended at any meeting except by an affirmative vote of at least three-fourths of the Fellows present.

The Society shall consider, and act on, By-Laws at adjournments of anniversary meetings only, and not on the days of said meetings.

At the meeting of the councilors held on October 5, 1881, the committee reported as follows<sup>3</sup> : —

"It is not necessary to formulate a new code of By-Laws, it having been ascertained from the records of the council and Society that the last edition contains and includes all the By-Laws that are now in force."

The committee recommended, with reference to the other matter before them, that the following be adopted as an amendment to the present rule governing such actions : —

"In all changes of the By-Laws, requiring, as they do, a concurrent vote of the councilors and Society, the action of the councilors shall precede that of the Society; but it shall be competent for a Fellow at any meeting of the Society to propose any alteration of any By-Laws, and the said proposition shall at once be referred to the councilors, and, in case of its

<sup>2</sup> The wording of these two questions has been slightly modified in order to make them more explicit.

<sup>3</sup> Boston Medical and Surgical Journal, vol. cv., page 376, October 20, 1881.

adoption by the councilors, it shall be submitted again to the Society for final action."

In this report the committee clearly fails to give a direct reply to the first question submitted to it, but from the fact that it recommends the passage of a By-Law granting to the council the exclusive right to take the initiative in amending the By-Laws, the only inference is that the committee do not find that the council has that prerogative under the present By-Laws.

The view that the Society has never surrendered this right is supported by precedent. "In 1870 Dr. Sullivan, of Malden, proposed in the Society a change of By-Laws, and Dr. H. R. Storer moved to adjourn for five minutes. This was done. The change was discussed and carried at the adjourned meeting. It was sent to the councilors and carried on motion of Dr. Bigelow, seconded by Dr. Ellis."

It has been claimed that this action should not be regarded as a precedent for the reason, as alleged, that the vote was carried in the Society amidst "much confusion." It has not been shown, however, that the council was in "much confusion" when it received the amendment from the Society and took concurrent (though subsequent) action, whereby the amendment became and is now a legal provision of our code of By-Laws.

As the Society will certainly discuss the expediency of admitting women to membership at the adjourned meeting on the afternoon of Tuesday, June 13th, and may pass an amendment to the By-Laws; and as the council have taken no action upon the matter, and does not meet again until after the adjourned meeting of the Society, it is important that a definite statement of its opinion upon the subject of priority of action should be received from the committee in its report to the Society, which may properly be called for at the adjourned meeting.

Priestley's maxim, that we "should never accept any man's opinion, however respectable," certainly applies to so intelligent a body as the Fellows of the Massachusetts Medical Society, yet the fact that all the other State Societies to whom application has been made, have admitted women to their ranks, gives respectability and weight to the arguments in favor of this measure.

In October, 1880, I sent a circular to the secretary of every State Medical Society in the Union asking for official replies to the following questions:—

(1.) Have any applications for membership been made by women?

(2.) Has any action been taken on such applications?

(3.) Have any women been admitted to the Society?

(4.) What are the names and addresses of the female members, and what are the dates of their admission?

In the replies from eleven States—New Jersey, North Carolina, South Carolina, Virginia, Maryland, Georgia, Mississippi, Louisiana, Kentucky, Arkansas, and Missouri—the secretaries stated that no women had ever applied for membership. To this number may be added two States, Florida and West Virginia, whose list of members, as published in the Transactions of their respective Societies for 1881, contain no names of women, and I have been unable to find any record of their rejection in any volume of their Transactions. We have consequently thirteen State Societies to which women have never applied. These, it will be observed, are nearly all Southern States.

In the Wisconsin State Medical Society the "con-

sors refused to admit a woman in 1875 on sole ground that her credentials did not conform to the requirements of the Society for all members of either sex. Nothing in the Constitution or By-Laws to prevent the admission of women." Secretary.

The other secretaries made replies which may be tabulated as follows, with certain additions derived from the last published Transactions of the Societies:—

|                           | Year when first admitted. | No. of Female Members in 1881. |   |
|---------------------------|---------------------------|--------------------------------|---|
| Maine .....               | 1875                      | 4                              | This Society is made up entirely of delegates from County Societies, which may contain other women who have not been elected delegates. Secretary reported two names, but Transactions for 1881 give names of three women.  |
| New Hampshire .....       | 1875                      | 2                              |   |
| Vermont .....             | 1874                      | 3                              |   |
| Rhode Island .....        | 1880                      | 3                              |   |
| Connecticut .....         | 1880                      | 3                              |   |
| New York .....            | 1875                      | 42                             | This Society is made up of delegates from County Societies. Only one woman has actually been elected delegate; the larger number is placed in the table because it is my purpose to show how many women are practicing in the different States with full recognition of the local organizations. Forty-two women are members of the County Societies. |
| Pennsylvania .....        |                           | 8                              | Society of delegates. Only two women are reported by the secretary as having been delegates. The Transactions for 1881 contain the names of eight women.  |
| Tennessee .....           | 1880                      | 1                              | "Many years ago, without any application on the part of the women, action was taken adversely to them. This was rescinded at a subsequent meeting." Secretary.  |
| Ohio .....                | 1875                      | 5                              |   |
| Michigan .....            | 1872                      | 8                              | Seven reported by secretary. Transactions for 1880 give names of eight.   |
| Kansas .....              | 1872                      | 3                              |   |
| Iowa .....                | 1872                      | 2                              |   |
| Minnesota .....           | 1879                      | 6                              |   |
| Indiana .....             | 1876                      | 5                              | Society of delegates. Four reported by secretary. Transactions for 1880 contain names of six women. Application of a woman for admission in 1878 was refused, but was voted unanimously in 1879.  |
| Illinois .....            |                           | 10                             | Three reported by secretary. Transactions for 1881 contain names of five women. Society of delegates. Transactions for 1881 give the names of ten women.  |
| Oregon .....              |                           | 5                              | No reply from the secretary. Numbers taken from names of women in Transactions for 1881.  |
| California .....          | 1855                      | 3                              | No reply from secretary. Taken from names in Transactions for 1878-1879.  |
| Seventeen Societies ..... | —                         | 115                            | Female members of State or County Societies.  |

From these data, derived almost entirely from official sources, several startling facts become evident.

(1.) In the first place no State Medical Society in the Union to whom women have ever applied for admission now shuts its doors in their faces, so far as my sources of information extend.

(2.) Seventeen State Medical Societies, representing the oldest and most enlightened communities on the continent, have given their verdict, without a dissenting voice, that sex is no disqualification for admission to their ranks.

(3.) The fact that one hundred and fifteen women have had their fitness to practice medicine acknowledged by the authorized censors of the medical profession of America effectually demonstrates that women are being generally recognized throughout the country.

This number does not, however, include all the graduates of accredited colleges who are now practicing in America. For instance,<sup>1</sup> of the 276 alumnae of the Woman's Medical College of Pennsylvania 32 have died, 23 are for various reasons not in active practice, 55 have not been heard from, and 166 are practicing medicine. Of 430 female graduates of various medical colleges 390 are known to be in active practice, 11 never practiced at all, and 29 practiced for a time and then retired.<sup>2</sup> The colleges referred to are the Universities of California and of Michigan, where coeducation exists, and four separate schools: "New England Female Medical College," Boston, Mass., which ceased to exist in 1874; "Woman's Medical College of Pennsylvania," in Philadelphia; "Woman's Medical College of the New York Infirmary," in New York City; "Woman's Medical College of Chicago." A new medical school for women has just been organized in Baltimore.

This brief array of facts has been hastily strung together without argument to aid the Fellows of the Massachusetts Medical Society in forming an intelligent opinion, based upon fuller knowledge than might otherwise be accessible to them.

It is an undoubted fact that many women are now practicing medicine in Massachusetts. The main question before our Society is whether it ought not to protect the public by distinguishing such as are fairly educated from ignorant and fraudulent practitioners, at the same time giving to those whom it finds qualified the advantage of a participation in the scientific exercises of the State and District Societies.

Very truly yours, JAMES R. CHADWICK, M. D.  
Boston, May 31, 1882.

#### A CASE OF LABOR AS DESCRIBED BY A POPULAR NOVELIST.

MEDICAL men who can scarcely find time to digest properly the material brought to them by their medical journals, or to do more than endeavor to grasp the new ideas evolved by their recent text-books, may desire to learn more of the class of reading which some of their patients indulge in, and to judge thereby of its possible influence upon diseased conditions.

This is deemed to be the only apology necessary for giving below what finds its most suitable place in the columns of a medical journal, the translation of a half dozen pages from a very recent and popular French novel, Emile Zola's *Pot Bouille* (pages 471-477). This novel can be found on the table of any dealer in foreign publications, alongside of Mme. de Staël or any other French work which a young person might desire to purchase for the purpose of improving his or her proficiency in the French language. The English translation is to be found with all booksellers, the realistic and graphic portions being in part omitted, but the references to the same preserved; so that it is of no use to one who reads for information of the style of the writer, and flat and unprofitable to one who reads for any other purpose, being merely a stimulant to curiosity to know what was omitted.

The plot is *nil*; the scenes lay in a respectable house with a series of flats, and with a young man who pro-

ceeds to attempt to debauch each available woman in succession. The seductions are conducted in a refined and elegant manner, but as a contrast to this there is a servants' floor, where obscenity and free comments upon such matters are indulged in. One of the characters is a young girl of fourteen years of age, who is very curious, and who obtains a large fund of information as to the sexual relations by looking through the keyholes of bedchambers, which information she illustrates practically upon her nurse by encouragement from the nurse.

Adèle is a servant who finds herself pregnant, but manages to conceal it from her mistress up to the last moment, and here begins what is certainly, from a medical standpoint, a remarkable description.

"On this evening Adèle went to bed about eleven o'clock. Her approaching period of labor was still to her in the uncertain future; she did not care to reflect upon it, but preferred to keep it out of her mind in the hope that in time it would all come right. Consequently she had made no preparations, was ignorant of the symptoms, incapable of recalling or calculating any fixed period, without any idea, without any project. She was only comfortable in bed, stretched out on her back. As it was quite cold, she went to bed in her stockings, put out the light, and endeavored to get warm. Finally she slept, when some slight pains caused her to open her eyes. These were slight pinchings near the surface of the skin; she thought at first that an insect had pricked the abdomen, about the navel; afterwards, these prickings having ceased, she thought no more about it. But suddenly, in about a half an hour, during a troubled sleep, a dull, gripping pain awoke her anew. This time she became angry. Was she going to have the colic? She would be very fresh, next morning, if she had to run to the pot all night! The idea of a disturbance of the bowels had been in her mind all the evening; she had felt a sense of weight, and anticipated a discharge (*débâcle*). However, she wished to restrain it, rubbed her belly, and believed she had quieted the pain. In a quarter of an hour the pain returned more violently.

"Cré, nom d'un chien," said she in a low tone, concluding to get up this time.

"In the darkness she drew out her pot, squatted upon it, and exhausted herself in fruitless efforts. The chamber was cold, and she shivered. In about ten minutes, as the colic had subsided, she returned to bed. But ten minutes later the colic commenced again. She arose, made another fruitless effort, and went to bed chilled through, where she again enjoyed a little repose. Afterward she was gripped with such force that she made a smothered plaint. Now the pains persisted, were almost continuous, with ruder shocks, as if a brutal hand had squeezed some part in the belly; and she understood it, and tremblingly stammered, under the coverlet, 'My God! my God! then it is here!'

"An agony seized upon her, a necessity for walking. She could no longer remain in bed, relighted the candle, and walked about her chamber; her tongue became parched, a burning thirst tormented her, whilst the red spots burned her cheeks. When a contraction bent her brusquely, she supported herself against the wall, seizing the wooden furniture. And hours passed in this cruel condition, without her daring even to cover her feet for fear of making a noise, protected from the cold solely by an old shawl thrown over her shoulders. Two o'clock struck, then three o'clock.

<sup>1</sup> The College Story. Valedictory Address by the Dean, Rachel L. Bodley, M. D., March 17, 1881.

<sup>2</sup> The Practice of Medicine by Women in the United States. By Drs. Emily F. Pope, Emma L. Calt, and C. Augusta Top. Read before the American Social Science Association, September 7, 1881.

"'There is no good God!' she said in a low tone, as if she must speak out. 'It is too long; it will never come to an end.'

"However, the work of preparation advanced, the sense of weight descended into the buttocks and thighs. Even when her belly allowed of a little respite, she suffered a fixed and obstinate pain there without intermission. To relieve herself, she seized her buttocks with both hands, supporting them, while she continued to walk with a hobbling gait, the legs naked, being only covered to the knees by her large stockings. No, there was no good God! Her devotion revolted; her resignation as a beast of burden, which made her accept her pregnancy as one burden more, finished by breaking down. It was not sufficient not to be able to have enough to eat to satisfy her hunger, to be the awkward and dirty scullion wench upon whom the whole house trampled; it was necessary that the masters get her with child! Ah! les salauds! She could not say whether it was the young one or the old one, for the old one had again overcome her after mardigras. . . . 'My God! I shall die!'

"And with her two contracted hands she squeezed the buttocks the more, her poor, pitiful buttocks, restrained her cries, hobbling always in her painful ugliness. About her no one stirred, they snored; she heard the sonorous drone of Julie, while with Lisa there was a whistling like the shrill music of the fife.

"Four o'clock sounded, when suddenly she believed her belly would burst open. In the midst of a pain something ruptured, water flowed out, and her stockings were soaked. She remained for a moment motionless, terrified, and stupefied, with the idea that she was draining herself in that way. Perhaps she had never been pregnant, and in the fear of some other disease, she looked at herself; she wished to see if all the blood in her body was not flowing from her. But she felt relieved; she sat for a time upon a trunk. The dirty chamber annoyed her, the candle was dying out. Then, as she could no longer walk, and as she felt the end was coming, she still had the force to spread an old oil-cloth on the bed, which Madame Jossereau had given her to put before her toilet table. She had hardly got back to bed when the labor of expulsion commenced.

"Then, during nearly an hour and a half, the violence of the pains increased without cessation. The internal contractions having ceased, it was she herself now who exerted all the muscles of her belly and loins, under the necessity of relieving herself from the intolerable weight which pressed upon her flesh. Twice she was deluded into getting up and seeking the pot with a hand fumbling with feverishness. At each new effort a trembling shook her, her face became burning, her neck was bathed with sweat, whilst she bit the bedclothes to smother her plaint, the tear, terrible and involuntary of the wood-cutter when he cleaves an oak. When the effort was over, she stammered out, as if speaking to some one, —

"'It is not possible . . . it will not come out . . . it is too large.'

"The throat thrown back, the legs wide apart, she clung with her two hands to the iron bedstead, which she shook by her convulsive efforts. It was, fortunately, a perfect head presentation (*des couches supérieures*). At times the head which presented seemed to recede, repulsed by the elasticity of the tissues, stretching almost to rupture, and atrocious cramps

seized them at each recurrence of labor pains, the great pains binding them as with an iron ring. At last the bones cracked, everything seemed to be broken, she had the frightful sensation of being split before and behind, making but one opening through which her life passed out, and the child rolled on to the bed, between her thighs, in the midst of a pool of excrement and bloody slime.

"She had given vent to a great cry, the furious and triumphant cry of mothers. Presently there were movements in the neighboring chambers, and sleepy voices saying, What was that! Is somebody being forced! Dont dream so loud! Becoming alarmed she stuffed the bedclothes again in her mouth, and by squeezing her legs, heaped the clothes over the child, which cried like a kitten. But she soon heard Julie again snoring, after turning over; whilst Lisa, again asleep, did not even whistle. Then for a quarter of an hour she enjoyed an immense relief, an infinite sweetness of calm and repose. She lay as if dead.

"Then, the colics returned. A fear aroused her; was she going to have a second! The worst of it was that when she opened her eyes she found herself in perfect darkness. Not even a candle end! and to be there all alone, in a puddle, with a viscid something between her thighs that she did not know what to do with! There were doctors for dogs, but none for her. Die, then, you and your little one! She recollected having once assisted Madame Pichon when she was confined. She must take some precautions for fear of perishing! In the meantime the child no longer cried. She put out her hand, sought for it, and felt a gut (*boyau*) coming out of the belly; and the idea came to her that she had seen this tied and cut. Her eyes had become more accustomed to the darkness; the moon which was rising vaguely lighted the chamber. Then, partly by groping and partly by instinct, she performed, without getting up, a long and painful duty. Unhooking an apron from behind her head, she broke the string, tied the gut, and cut it with the scissors taken from the pocket of her petticoat. She was in a perspiration; she laid down again. The poor little one she certainly had no desire to kill it.

"But the colic continued, very much as if there was still something there which the contractions were influencing. She pulled on the gut, at first gently, then quite strongly. Something became detached, and a mass fell out, which she removed and put in the pot. This time, thank God! it was all over, she no longer suffered. Only some warm blood ran down her legs.

"She slept for more than an hour. Six o'clock struck, when she awoke to a consciousness of her condition. Time pressed, she got up with difficulty to put things in order. A cold moon lighted up fully the chamber. After dressing, she enveloped the child in some old linen, and then wrapped it up in two newspapers. It no longer cried, but its little heart was still beating. As she had forgotten to ascertain if it was a boy or a girl, she opened the papers again. It was a girl. One more unfortunate! food for some coachman or valet, like that Louise, found on a doorstep! Not a servant was moving, and she was able to go out, leave her package in the passage Choiseul, and return quietly. She met with no one. For once in her life fortune favored her.

"Then she put her chamber in order. She rolled up the oilcloth and put it under the bed, emptied the pot, and sponged the floor. After which she stretched her-

self out in bed, with her waxy pallor, and the blood still running down between her thighs, having tamponed herself with a napkin. It was in this condition that Madame Jossereau found her at nine o'clock ;

being surprised at her non-appearance she came up to look after her. The servant complained that she was completely exhausted from the effects of a terrible diarrhoea which had disturbed her all night." W. L.

## REPORTED MORTALITY FOR THE WEEK ENDING MAY 27, 1882.

| Cities.                            | Population by Census of 1880. | Reported Deaths in each. | Deaths under Five Years. | Percentage of Deaths from         |                |                       |                |            |  |
|------------------------------------|-------------------------------|--------------------------|--------------------------|-----------------------------------|----------------|-----------------------|----------------|------------|--|
|                                    |                               |                          |                          | The Principal "Zymotic" Diseases. | Lung Diseases. | Diphtheria and Croup. | Scarlet Fever. | Small Pox. |  |
| New York.....                      | 1,206,590                     | 688                      | 304                      | 28.70                             | 18.94          | 7.46                  | 6.58           | 1.31       |  |
| Philadelphia.....                  | 846,984                       | 423                      | 137                      | 19.58                             | 10.15          | 6.37                  | 2.36           | 1.42       |  |
| Brooklyn.....                      | 566,689                       | 267                      | 101                      | 25.84                             | 17.98          | 7.49                  | 8.24           |            |  |
| Chicago.....                       | 503,504                       | 234                      | 115                      | 25.64                             | 13.25          | 7.26                  | .85            | 6.42       |  |
| Boston.....                        | 362,555                       | 182                      | 61                       | 17.02                             | 17.02          | 4.39                  | 1.65           |            |  |
| St. Louis.....                     | 350,522                       | —                        | —                        | —                                 | —              | —                     | —              | —          |  |
| Baltimore.....                     | 332,190                       | 149                      | 58                       | 27.52                             | 6.71           | 9.40                  | 4.03           | 2.02       |  |
| Cincinnati.....                    | 255,708                       | 150                      | 64                       | 46.66                             | 16.66          | 2.66                  | 2.66           | 40.00      |  |
| New Orleans.....                   | 216,140                       | 146                      | 40                       | 17.81                             | 2.74           | —                     | 1.56           | 6.85       |  |
| District of Columbia.....          | 177,638                       | 56                       | 22                       | 7.93                              | 12.36          | —                     | 3.57           | —          |  |
| Cleveland.....                     | 160,140                       | —                        | —                        | —                                 | —              | —                     | —              | —          |  |
| Pittsburgh.....                    | 156,381                       | 84                       | 45                       | 26.20                             | 17.86          | 3.57                  | 1.19           | 4.76       |  |
| Buffalo.....                       | 155,137                       | 78                       | 29                       | 42.18                             | 7.69           | 5.13                  | 10.26          | —          |  |
| Milwaukee.....                     | 115,578                       | 63                       | 35                       | 26.42                             | 18.85          | 4.71                  | 11.11          | —          |  |
| Providence.....                    | 104,857                       | —                        | —                        | —                                 | —              | —                     | —              | —          |  |
| New Haven.....                     | 62,882                        | 20                       | 5                        | 10.00                             | 25.00          | 5.00                  | —              | —          |  |
| Charleston.....                    | 49,999                        | 34                       | 18                       | 23.52                             | 2.94           | —                     | —              | —          |  |
| Nashville.....                     | 43,461                        | 23                       | 7                        | 30.45                             | 4.35           | —                     | 4.35           | —          |  |
| Lowell.....                        | 59,485                        | 30                       | 10                       | 16.66                             | 16.66          | 3.33                  | —              | —          |  |
| Worcester.....                     | 58,295                        | 22                       | 6                        | 4.55                              | 18.18          | —                     | —              | —          |  |
| Cambridge.....                     | 52,740                        | 25                       | 6                        | 12.00                             | 8.00           | 4.00                  | —              | —          |  |
| Fall River.....                    | 49,006                        | 24                       | 11                       | 24.95                             | 24.95          | 12.18                 | —              | —          |  |
| Lawrence.....                      | 39,178                        | 11                       | 3                        | —                                 | —              | —                     | —              | —          |  |
| Lynn.....                          | 38,284                        | —                        | —                        | —                                 | —              | —                     | —              | —          |  |
| Springfield.....                   | 33,340                        | 11                       | —                        | 27.27                             | —              | —                     | —              | —          |  |
| Salem.....                         | 27,598                        | 9                        | 2                        | —                                 | 11.11          | —                     | —              | —          |  |
| New Bedford.....                   | 26,875                        | 9                        | 3                        | 22.22                             | 22.22          | —                     | —              | —          |  |
| Somerville.....                    | 24,985                        | 8                        | 1                        | 12.50                             | 25.00          | 12.50                 | —              | —          |  |
| Holyoke.....                       | 21,851                        | —                        | —                        | —                                 | —              | —                     | —              | —          |  |
| Chelsea.....                       | 21,785                        | 11                       | 2                        | 18.18                             | —              | 9.09                  | —              | —          |  |
| Taunton.....                       | 21,213                        | 7                        | 3                        | —                                 | —              | —                     | —              | —          |  |
| Gloucester.....                    | 19,329                        | 11                       | —                        | 18.18                             | —              | 9.09                  | —              | —          |  |
| Haverhill.....                     | 18,475                        | 7                        | 1                        | —                                 | —              | —                     | —              | —          |  |
| Newton.....                        | 16,995                        | 7                        | —                        | 28.56                             | —              | 14.28                 | —              | —          |  |
| Brookton.....                      | 13,608                        | —                        | —                        | —                                 | —              | —                     | —              | —          |  |
| Newburyport.....                   | 13,537                        | —                        | —                        | —                                 | —              | —                     | —              | —          |  |
| Fitchburg.....                     | 12,405                        | 4                        | —                        | —                                 | —              | —                     | —              | —          |  |
| Malden.....                        | 12,017                        | 3                        | 1                        | 33.33                             | —              | 33.33                 | —              | —          |  |
| Seventeen Massachusetts towns..... | 123,718                       | 42                       | 8                        | 4.76                              | 9.52           | 2.38                  | —              | —          |  |

Deaths reported 2838 (no reports from St. Louis and Providence) : 1098 under five years of age : principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and fevers) 686, lung diseases 386, consumption 374, diphtheria and croup 163, scarlet fever 116, small-pox 98, measles 89, diarrheal diseases 55, typhoid fever 46, whooping-cough 37, malarial fevers 27, cerebro-spinal meningitis 25, erysipelas 14, puerperal fever 13, typhus fever three. From *measles*, New York 40, Chicago 16, Brooklyn nine, Cincinnati six, Baltimore five, Philadelphia four, Pittsburgh three, Buffalo and Milwaukee two each, New Haven and Chelsea one each. From *diarrheal diseases*, New York 18, Pittsburgh six, Brooklyn and New Orleans five each, Boston four, Chicago, Baltimore, and Nashville three each, Philadelphia and Cincinnati two each, Buffalo, Charleston, Worcester, and Lynn one each. From *typhoid fever*, Philadelphia 15, New York and Boston five each, Lowell four, Chicago, Baltimore, and Buffalo three each, Pittsburgh two, Cincinnati, Charleston, Cambridge, Fall River, Chelsea, and Gloucester one each. From *whooping-cough*, New York nine, Boston seven, Brooklyn six, Charleston five, Nashville three, Chicago, Pittsburgh, and Springfield two each, Northampton one. From *malarial fever*, New Orleans nine, New York eight, Philadelphia and Brooklyn four each, Baltimore and District of Columbia one each. From *cerebro-spinal meningitis*, Buffalo nine, New York five, Chicago, District of Columbia, and New Bedford two each, Philadelphia, Boston, Baltimore, Fall River, and Newton one each. From

*erysipelas*, Baltimore four, Philadelphia three, Boston and Cincinnati two each, New York, Brooklyn, and Cambridge one each. From *puerperal fever*, New York, Brooklyn, and Buffalo two each, Philadelphia, Boston, Baltimore, Pittsburgh, Milwaukee, Charleston, and Fall River one each. From *typhus fever*, New York three.

One hundred and twenty cases of small-pox were reported in Cincinnati, Baltimore 25, Pittsburgh 10, Nashville four, Brooklyn three, Buffalo two, Milwaukee one, Lawrence one; diphtheria 20, typhoid fever 10, scarlet fever nine, in Boston; scarlet fever 17, diphtheria five, in Milwaukee.

In 34 cities and towns of Massachusetts, with a population of 984,378 (population of the State 1,783,086), the total death-rate for the week was 21.32 against 18.21 and 20.17 for the previous two weeks.

For the week ending May 6th, in 173 German cities and towns, with an estimated population of 8,420,184, the death-rate was 27.4. Deaths reported 4437 : under five years 2093; pulmonary consumption 672, acute diseases of the respiratory organs 569, diphtheria and croup 182, diarrheal diseases 143, scarlet fever 100, whooping-cough 67, typhoid fever 60, measles and röteln 23, puerperal fever 16, small-pox (Essen and Koblenz three each, Benrath and Bamberg one each) eight, typhus fever (Danzig two) two. The death-rates ranged from 13.2 in Mannheim to 47 in Augsburg; Königsberg 29.1; Breslau 31.9; Munich 31.7; Dresden 25.4; Leipzig 21; Hamburg 29.2; Cologne 29.1; Frankfurt a. M. 18.6; Metz 33.

In the 28 English towns, with an estimated population of 8,469,571, for the week ending May 13th, the death-rate was 21.2. Deaths reported 3438: acute diseases of the respiratory organs (London) 261, whooping-cough 21, measles 157, scarlet fever 73, diarrhoea 43, fevers 34, small-pox (London ten) 15. The death-rates ranged from 10.6 in Derby to 35.7 in Bolton; Birmingham 18.3; London 19.2; Bristol 21.9; Leeds 22.6; Sheffield 23.7; Sunderland 24.5; Liverpool 26.1; Manchester 27.6. In Edinburgh 22.7; Glasgow 25.9; Dublin 35.4.

For the week ending May 13th in the Swiss towns, population 494,390, there were 45 deaths from consumption, acute diseases of the respiratory organs 25, diarrhoeal diseases 25, diphtheria and erup. 16, typhoid fever two. The death-rates were, at Geneva 12.4; Zurich 20.3; Basle 16.3; Berne 27.6.

The meteorological record for the week ending May 27th in Boston, was as follows, according to observations furnished by Sergt. O. B. Cole, of the U. S. Signal Corps:—

| Date.            | Barom-eter. | Thermom-eter. |       |          |          | Relative Humidity. |            |             | Direction of Wind. |            |            | Velocity of Wind. |            |            | State of Weather. <sup>1</sup> |            |            | Rainfall.   |                       |                   |
|------------------|-------------|---------------|-------|----------|----------|--------------------|------------|-------------|--------------------|------------|------------|-------------------|------------|------------|--------------------------------|------------|------------|-------------|-----------------------|-------------------|
|                  |             | Mean.         | Mean. | Maximum. | Minimum. | 7.23 A. M.         | 3.23 P. M. | 11.23 P. M. | Mean.              | 7.23 A. M. | 3.23 P. M. | 11.23 P. M.       | 7.23 A. M. | 3.23 P. M. | 11.23 P. M.                    | 7.23 A. M. | 3.23 P. M. | 11.23 P. M. | Duration, Hrs. & Min. | Amount in inches. |
| May, 1882.       |             |               |       |          |          |                    |            |             |                    |            |            |                   |            |            |                                |            |            |             |                       |                   |
| Sun., 21         | 29.899      | 51            | 62    | 47       | 96       | 70                 | 89         | 85          | SW                 | E          | N          | 4                 | 9          | 1          | R                              | O          | C          | —           | —                     |                   |
| Mon., 22         | 30.147      | 50            | 60    | 45       | 69       | 77                 | 93         | 80          | NE                 | E          | E          | 4                 | 14         | 5          | F                              | O          | O          | —           | —                     |                   |
| Tues., 23        | 30.053      | 43            | 47    | 41       | 100      | 93                 | 87         | 93          | SE                 | N          | NW         | 14                | 11         | 7          | R                              | O          | C          | —           | —                     |                   |
| Wed., 24         | 30.101      | 51            | 63    | 36       | 82       | 29                 | 66         | 59          | W                  | W          | W          | 6                 | 17         | 5          | C                              | C          | F          | —           | —                     |                   |
| Thurs., 25       | 30.106      | 51            | 64    | 46       | 49       | 80                 | 86         | 72          | W                  | Calm       | SW         | 3                 | 0          | 1          | O                              | R          | C          | —           | —                     |                   |
| Fri., 26         | 30.102      | 55            | 65    | 39       | 74       | 43                 | 66         | 61          | Calm               | SW         | SW         | 0                 | 16         | 13         | C                              | C          | O          | —           | —                     |                   |
| Sat., 27         | 29.996      | 60            | 75    | 44       | 69       | 44                 | 74         | 62          | SW                 | S          | S          | 7                 | 12         | 9          | F                              | C          | O          | —           | —                     |                   |
| Means, the week. | 30.058      | 52            | 75    | 36       |          |                    | 75         |             |                    |            |            |                   |            |            |                                |            |            | 27.05       | 1.05                  |                   |

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; X., clearing.

#### AUGUSTUS MASON, M. D.

AUGUSTUS MASON, M. D., died at his residence in Brighton, May 24th. He was born in Waltham, Mass., October 21, 1822, was graduated from Brown University in the class of 1841, studied medicine at Harvard University, taking his degree in 1844. He continued his medical studies in Paris until 1847, when he commenced the practice of his profession in Lowell, and removed to Brighton about 1855. He was eminently successful in his calling, holding for many years a leading position as a practitioner in this large suburban town. He was commissioned as assistant surgeon of the Forty-Third Regiment Massachusetts Volunteers, and was stationed in Newbern, N. C., where he served until the spring of 1865, when, on account of the illness of Mrs. Mason, he resigned his commission and returned home. In 1873 he relinquished his practice and went to Santa Barbara, Cal., for the benefit of his invalid wife. Here he remained till 1877, when he returned to Brighton and resumed his work. He was a member of the American Medical Association and of a number of the local societies. He was a delegate to the International Medical Congress held in London last year. He frequently contributed to the literature of his profession, and is best known for his studies upon the climatology of Southern California.

He was esteemed and beloved in Brighton, not only for his ability, but as a public-spirited citizen, prompt in the furtherance of every local interest, and was exceeded by few in the real service rendered his town. He was active in the redemption of Brighton from the long-continued detriment sustained on account of the many private slaughtering houses, and in the establishment of the abattoir, which at once added to the intrinsic value of property. Thus was removed an important cause of an ever-widening contamination of air, water, and soil. He held large properties which he had done much to develop, and, at the time of his death, was actively engaged in plans for furnishing better metropolitan steam-railroad facilities. He had been sick but a few days, and his death was sudden and unexpected.

CENSORS' MEETING.—The censors of the Suffolk District Medical Society will meet for the examination of candidates at 19 Boylston Place on Thursday, June 8th, at three o'clock.

H. C. HAVES, Secretary.

PROGRAMME OF THE EXERCISES AT THE FOURTH ANNUAL CONGRESS OF THE AMERICAN LARYNGOLOGICAL ASSOCIATION, to be held in the hall of the Medical Library Association, 19 Boylston Place, Boston, June 12, 13, and 14, 1882. The

profession is cordially invited to attend the sessions of the congress.

June 12th. Morning session at ten o'clock. Roll-call. Reception of guests, etc. Address of Welcome, by S. W. Langmaid, M. D., chairman of committee of arrangements. President's Address. PAPERS: (1.) On Paralysis of the Laryngeal Muscles, by Louis Elsberg, M. D., New York. (2.) Laryngeal Asthma, by William C. Glasgow, M. D., St. Louis. Appointment of the nominating and auditing committees. Election of Fellows. Adjournment at one p. m. Afternoon session at three o'clock. (3.) On the Question of Hypertrophy of the Osseous Structure of the Turbinate Bones. Practically considered by D. Bryon Delavan, M. D., New York. (4.) Catarrh involving the Antrum of Highmore and its Treatment, by William H. Daly, M. D., Pittsburgh. Discussion, opened by Frank H. Bosworth, M. D., New York; On Ozena, its Pathology and Treatment. Adjournment at 5:30 p. m. Evening reception by the President, of the Fellows of the Association, to meet the medical faculty of Harvard University, and the physicians and surgeons of the Massachusetts General and City Hospitals, at his residence, 131 Boylston Street, at nine o'clock.

June 13th. Morning session at ten o'clock. Business meeting. I. Report of Secretary. II. Report of Treasurer. III. Report of Librarian. IV. Report of nominating committee. V. Reports of other committees. VI. Miscellaneous business. PAPERS, at eleven o'clock: (5.) Deformation of the Septum Narium, by E. Fletcher Ingals, M. D., Chicago. (6.) A new Operation for the Removal of the Deviated Septum in Nasal Catarrh, by William C. Jarvis, M. D., New York. (7.) Lupoid Ulceration of the Nasal Septum, by E. L. Shurley, M. D., Detroit. Adjournment at one p. m. Afternoon session at three o'clock. (8.) Impaired Cardiac Power as an Efficient Cause of Congestive Affections of the Throat, by Beverley Robinson, M. D., New York. (9.) Pharyngeal Irritation, by Harrison Allen, M. D., Philadelphia. (10.) A case of Aphonia Spastica, by Frederick I. Knight, M. D., Boston. Discussion, opened by Carl Seiler, M. D., Philadelphia: On the Nature and Forms of Laryngeal Ulcer, specially the so-called Catarrhal Ulcer. Adjournment at 5:30 p. m. Evening. Annual dinner of the Association at the Parker House, at seven o'clock.

June 14th. Morning session at ten o'clock. (11.) Ossification of the Right Arytenoid Cartilage; Separation and Expulsion following Thyrotomy for the removal of a Papilloma, by Clinton Wagner, M. D., New York. Discussion opened by S. W. Langmaid, M. D., Boston. On the Singing Voice, its Physiology, Pathology, and Treatment. Discussion opened by J. O. Roe, M. D., Rochester. On the Utility or Non-Utility of Local Applications in Chronic Catarrhal Laryngitis. Ballot for officers, 1882-83, and their induction into office. Adjournment.

GEORGE M. LEFFELERS, M. D., Secretary.

## Original Articles.

### THE DISEASES AND DANGERS INCIDENT TO SCHOOL LIFE.<sup>1</sup>

CHILDHOOD is in many respects the most important as well as the most interesting period of life, whether regarded from a physical or mental standpoint. As one has well said: "To the physiologist it is especially interesting, because it is the period of physical development and greatest functional activity; to the pathologist, because in it many diseases occur which are seldom observed in other periods of life and which present peculiar features; to the physician and vital statistician, because in it there is the greatest amount of sickness and largest number of deaths;" to the general observer, because in it intelligence begins to bud and blossom, wit and wisdom to develop into sparkling brilliancy, often eclipsing that of maturer years. While the body rapidly develops at this period of life, the brain's growth is none the less active, indeed, so rapid is it, that it is estimated that by the seventh year the weight of the organ has doubled. Taking into consideration the rapidity of growth, development, and structural change going on in body and brain, one might very naturally infer that children would be specially susceptible to disturbing influences from within and without the body, and to disease consequent upon them, an inference abundantly supported by facts and statistics.

A few years ago, I had occasion to collect statistics of mortality in early life from the records in most of the principal cities of the United States, which revealed the appalling fact that fully one half of the inhabitants did not live to the close of the fifth year of life, and that a much larger per cent died prior to the age of ten years. It is apparent to every one, even the most casual observer, that great and unusual care is necessary, in order to guard against dangers to bodily health in childhood, but it does not appear to be so generally understood, that equal watch and care is demanded in protecting the youthful brain from dangers which assail it during its rapid organic development, and from diseases of the most subtle nature, of both insidious and rapid invasion, to which it is especially subject. These, and kindred facts, have stimulated me to comment upon the bearing which school life and discipline has upon the health of body and brain, with special reference to the primary and grammar schools. Children enter the primary department at about the fifth or sixth year of age, when the bodily growth is rapid, the bodily movements and exercise are generally the most active, physical development and exercise being thus physiologically adjusted as nature intended. The confinement of young children for five or six hours in school, with as complete cessation of muscular movements as discipline can well secure, is reversing the order of natural law. This, to a certain and reasonable extent, is to be expected as a matter of course, but the objection lies in the too great and prolonged restraint exercised in the primary department. To expect that a child five or six years old is to sit bolt upright in its hard, stiff, unyielding seat for three hours, with little or no freedom of motion, and in some instances with its legs hanging unable to touch or rest

upon the floor, is asking a little too much. In the morning session of three hours the restraint is relieved by a recess of a few moments, and of course, by recitations. In the afternoon session of two hours in the grammar schools, children from seven to ten sit through the entire session, without any recess at all, and recite their lessons in their seats, not even having the rest that change of position would afford in being called upon the floor in classes.

In cases where children cannot rest their feet upon the floor, such prolonged muscular restraint has, to my certain knowledge, given rise to painful cramps of the muscles and flexor tendons of the legs, and to such an extent as to cause pain for hours after the close of the school. People in mature or adult life, who are obliged to sit for two hours on cushioned seats to listen to the most eloquent sermon or entertaining lecture, often complain of their backs and limbs. Some one may possibly raise the question: "Of what importance is a little leg ache?" I answer, secure it in the same way, for yourself, and then you will know better how to regard it. The laity do not perhaps know the cause of the pain, but medical men will at once recognize the fact, that it is the pressure upon the nerves and blood vessels in the popliteal space that causes the painful sensations.

Another derangement which physicians are frequently called upon to prescribe for in school children is the disease characterized by irregular, spasmodic, and grotesque muscular movements so well known to medical men by the name of chorea, and to the laity by the title of St. Vitus's dance. While this is, as is well known, essentially a nervous affection, the muscular restraint, taxation of the brain, and general nervous irritation consequent upon study, recitations, etc., is often, I believe, a prime factor in its causation. No one will deny that the above-mentioned causes will greatly aggravate even mild cases, and are apt to develop all latent tendencies to the disease. Making young children hold their books up high in front of their eyes in one hand, all through a class exercise in reading, contributes very materially to the same disturbance. I have on several occasions been importuned by parents of children who possessed delicate physical and exquisitely sensitive nervous organizations, to intercede with the powers that be for a modification of the rules, regulations, and general discipline, so as to enable them to keep along with their studies and classes, but I never succeeded in getting much satisfaction for myself or them. The stated and stale reply has been, "If we do it for one, we shall be obliged to do it for another." The rules of school discipline seem to be as immutable as the law of the Medes and Persians, which altereth not. The law of some school authorities, theoretically and privately, if not openly and practically, would seem to be that of the survival of the fittest and toughest. If an extensive dealer in horses, oxen, or asses, had a large drove of either, how absurd it would be in him to assert that each one had the same power of endurance, could perform the same amount of labor, and tolerate the same amount of training. If he attempted to prove his assertion he would doubtless learn that some horses would heave, some oxen would loll, some asses would kick. To claim that all of any considerable number of children can alike accomplish the same object, perform the same task in a given period of time, without injury to any, is equally absurd. Some, for instance,

<sup>1</sup> Read by Dr. G. S. Stebbins of Springfield, Massachusetts, before the District Medical Society at its annual meeting, April 18, 1882.

are more delicate physically; the nervous excitability and mental capacity of some greatly differs from that of others; some learn with difficulty, others with little effort, and to insist that the former shall keep pace with the latter is to sacrifice bodily health for the sake of mental advancement.

Another matter to which I wish to refer is the improper attention to the calls of nature. That any serious neglect on the part of the scholars is voluntary it is difficult to believe; that it is compulsory at times I know to be a fact. I refer more especially to the voidance of the urine. More than once have I been asked to consult the school authorities by parents whose children have repeatedly complained that they were not allowed to absent themselves from the school-room, when the demands were so urgent as to be with difficulty restrained. This, as medical men well know, gives rise to the condition known as irritable bladder, when the urine can only be retained in small quantities, and for a little while, without great discomfort, or incontinence of urine results, a disorder known to be very frequent in childhood. It is to be hoped that the remark of one teacher (if true), "that if the boys wanted to go out they might, but she should go with them," would in no instance hinder them in the least degree in the performance of that function in case she should ever accompany them, though it would be well for teachers who might carry this threat into execution to remember that fear has the effect to temporarily disable one in the performance of this duty, as well as to increase the frequency and force of the desire when the fear is excessive, or sufficient to cause much nervous excitement. This matter, I am ready to confess, is a troublesome one for teachers, but it is better that ninety and nine should secure an extra airing, than that one should suffer from long-continued organic disease through forced neglect. I desire to offer a protest, which, perhaps, may be best introduced here, in connection with the foregoing statements, against the occasional practice in stormy weather of keeping children of the youngest grade in continuous session from nine A. M. till one P. M., then omitting the afternoon session, so that the scholars may not have to return to school in the storm. I believe it to be true that the extra hour added to the morning session is productive of infinitely more harm than good, and that the great majority of parents would much prefer that that extra hour should be lost altogether than to have it annexed to the three hours' session of the morning. It is asking too much of such little ones to sit and study four hours. It is safe to say that they will never be much wiser for what they will learn, and the infirmities heretofore alluded to would only be aggravated.

The impairment of vision is another danger that school-children are very liable to, so much so, that it has attracted the attention of the most noted specialists of the age, who have written extensively upon the subject, and whose views you have all been made more or less familiar with in the current medical literature of the day. The more you think of the long-continued and close fixation of the eyes upon the printed page, often in an unfavorable light, and at improper distances, does it not appear less strange to you that the diseased condition of the eye known as myopia is so very prevalent? Wells, in his treatise upon diseases of the eye, says, "The seeds of short-sightedness are frequently sown in childhood, and there can be no

doubt that the degree of myopia is often greatly increased during childhood by long-continued study, more especially by insufficient illumination and a faulty construction of the tables or desks at which the pupils study and write." An insufficient illumination necessitates a close approximation of the object, which gives rise to straining of the accommodation, and congestion of the eyes." Dr. Cohn, of Leipzig, examined the eyes of 10,000 school-children, and found that he could distinctly trace the increase in the proportion of myopia according to the construction of the desks (especially the distance of the seats from the desks), and the lighting of the school-rooms. Taking the above into consideration, the absurdity of requiring all children to read and study with their books equi-distant from their eyes, will be perfectly apparent to all.

Another practice which is in vogue in some schools, and which, to the outsiders, has always appeared absurd, is to compel all scholars to walk around to the rear of the building, go down one flight of stairs and up another, in order to reach the first floor, instead of going into the front door where the teachers do. If it is for the purpose of using the water-closets, it is another good argument for their removal from the basement. In heaven's name have not the scholars stairs enough to climb in reaching the fourth story without first going down cellar? Every medical man knows how injurious so much stair-climbing is to young girls just merging into womanhood, and how it paves the way for serious derangements later on in life. The stair-climbing may not be the worst feature of the rule, for the pupils are often detained for some time in the damp, chilling atmosphere of the basement before they are allowed to ascend single file, with military precision, to the entrance hall above. The practice of making the pupils go down into this, not exactly valley of humiliation, but of darkness, dampness, and miasmatic atmosphere, to stay there and get chilled, as they inevitably must in cool weather, is ridiculous. To how many it may have been the "valley of the shadow of death" we doubtless shall never know, but that it may have been to some is by no means an absurd conjecture.

Mental diseases, such as are induced by over taxation of the brain, are by no means rare in schools. A business man applies to you suffering from pain, sense of fullness, and uneasiness in the head, more or less dizziness, occasional attacks of vertigo, general uneasiness, and inability to sleep or to fix his attention upon any one subject for any length of time, and you then declare that he is a victim of cerebral hyperemia, which, long continued, leads on to congestion, effusion, and eventually death, or, what is worse, a life of insanity. The same conditions and results often obtain among scholars who are obliged to tax their brains beyond their normal powers of endurance, excepting that insanity, perhaps, seldom results from over study in early life. I have in mind three school-children who died of disease of the brain from over study and worry, neither of whom were over twelve years of age. I know that the practice of frequent and written examinations is a trying ordeal for young pupils, and this system of forcing the youthful mind tells upon the nervous system, and seriously in many cases. For this reason the practice of stimulating young persons to excessive work, by offering prizes, is to be greatly deprecated.

Diseases due to imperfect ventilation and improper



sanitation are many, prominent among which are scarlet fever, measles, diphtheria, and lung diseases. The fact that the water-closets were ever placed in the school-house basements, from which the foul gases must of necessity arise to the rooms above, occupied by the pupils, proves the utter ignorance of those who had the matter in charge of the first principles of good ventilation and sanitary laws. Why the city fathers allow the water-closets to remain in the basement of any school-house to contaminate the air that five or six hundred school children are obliged to breathe, is a problem which admits of no satisfactory solution. This matter has been brought to the attention of both the school committee and the Board of Health during the past year, but without avail as yet. One of the teachers upon the first floor in one of the grammar schools told me that she noticed the odor from the water-closets below very perceptibly all through the warm weather. How many of the fathers of our school-children would tolerate such a state of things in their own houses? Yet hundreds of children are compelled to breathe for months pestilential odors that are infinitely more dangerous to health than half the nuisances brought to the notice of our local Board of Health.

Just here it might be well to allude to another item in which strange negligence exists. I have reference to the absence of fire escapes for the four-story school buildings, in which the only avenue of escape from the upper stories is down the main stairway, which would serve as a flue, with a strong upward draught, in case of fire. The building commissioner is instructed, I believe, to see that business and tenement blocks shall be properly furnished with fire escapes, if, indeed, there be not a law compelling him to, but I have seen no indication of any intention to provide school-houses with these means of safety and protection. A fire, as I am informed, did get quite a little start in one of the closets in the hallway of one of the grammar schools, which was discovered in its incipient stage, and hence was readily extinguished. Should a fire once get fairly started it would be next to impossible to save those in the upper stories. It certainly would seem as though the demand for fire escapes for school-houses was fully as great and urgent as for business and tenement blocks, if protection for human life is the primary object sought, as I understand it to be.

I have thus briefly called attention to several diseases and dangers attendant upon school life. I desire to put on record the statement that I do not hold the teachers responsible altogether for the matters under discussion, for I do not regard them as the authors of the rules and regulations by which the schools are governed. I believe that in the main they strive to do their duty conscientiously and well. Where there are from fifty to one hundred pupils in one room, under one teacher, she must deal with them collectively, as she has not the time to ferret out all individual peculiarities and claims. The fault lies more with the system than with the individual teacher.

The importance of improving the health and general physical welfare of the attendants upon the public schools cannot be over estimated.

Especially should ventilation and sanitation be thoroughly looked after by some one having sufficient knowledge to enable him to secure them, and determination to maintain them. Therefore I believe that there should be a medical inspector of schools appointed, whose duty should be to thoroughly examine

every school-house as often as once a month, for the purpose of obtaining exact information regarding their ventilation and general sanitary condition, and such officer should have the requisite authority to order any and every nuisance abated at once, and to enforce all needed sanitary regulations. To such an officer all cases of outbreaks of contagious and infectious diseases, as scarlet fever, measles, diphtheria, etc., might be referred, so that he could at once institute measures to prevent their spread. A rigid quarantine of all pupils afflicted with contagious diseases is as necessary as that a ship, trying to enter the port of Boston, New York, New Orleans, or any sea-port with cases of cholera, yellow fever, or small-pox on board, should be detained in strict quarantine until all danger is past. So, also, might be referred to this officer all parents who seek for any modifications of the rules of discipline in favor of their children on account of bodily weakness or mental infirmity, when he could investigate such cases, and report accordingly. Cases of pupils whose parents oppose vaccination on account of some real or fancied danger to bodily health, might, with great propriety, be left for the medical inspector to investigate and decide upon. Such an office as this, filled by a man who was clothed with the needful authority and power, and who would thoroughly, conscientiously, and fearlessly discharge his duty, would be of vastly more importance than that of janitor, school-house agent, not to say superintendent of schools.

#### HODGKIN'S DISEASE OR SCROFULA.<sup>1</sup>

BY G. LIEHMANN, M. D.

THE following case came under my observation and professional care just one year ago.

On the 14th of April, 1881, living at Baltimore at the time, I was called to Boston to treat, in consultation with Dr. Sinclair, a young married lady, twenty-eight years old, who had been seen besides by Drs. Bowditch, Ellis, and Fitz. Upon my arrival, on April 16th, I elicited the following history:—

Patient had been married some seven years and six months, mother of three fine healthy children, had pneumonia when a child of tender age, but enjoyed tolerably good health up to her marriage and showed no constitutional taint with the exception of one or two enlarged glands in the right subclavian triangle when about seventeen years old. The three pregnancies brought great gastric trouble, nausea, and vomiting up to the close of the respective terms; nutrition suffered to a great extent; first and third parturition comparatively easy, second tedious, and had to be accomplished with forceps. The mother of the patient belongs to a rachitic family, she and several other members being affected with scoliosis and kyphosis; the father was a healthy robust man without any taint. The four or five years preceding the last and fatal disease patient was in poor health, suffered from dyspepsia, from repeated attacks of gastralgia, lost flesh, but was full of energy and sprightly when not in pain.

She took pepsin, bismuth, and soda, also cod liver oil, and improved under it; she also took iodide of potassium, which did not agree with her. In Novem-

<sup>1</sup> Read before the Suffolk District Medical Society, April 29, 1882.

ber, 1880, she spent a few weeks in Baltimore, Maryland, where she met with very inclement weather, also some days in New York, where the weather was colder still, and she came home to Boston with a troublesome cough and a menstruation nearing a menorrhagia. When in Baltimore she had already consulted Doctor Arnold on account of a string of glands on the right side of the neck. As mentioned above, the iodide which the doctor prescribed our patient had to abandon on account of its physiological effects. These glands disappeared though afterwards almost entirely, and were on the day when I came to Boston not larger than the size of a pea. From February, 1881, on, the strength of our patient failed more and more, emaciation increased, a cough set in whose paroxysms ended with the expectoration of a whitish froth. The glands on the left side of the neck enlarged now; tumors in both mammae made their appearance; appetite failed, nausea and vomiting were intolerable, sleep failed, and no anodyne seemed to do any good; pulse became frequent and feeble, there was dyspnea and increasing adynamia. Dr. Bowditch, who saw the patient with Dr. Sinclair, on examination found some difference in respiration in the two lungs, and signs of an effusion in the left pleuritic cavity. Drs. Ellis, Fitz, and Sinclair found the same condition of things, and made the diagnosis of lymphadenoma with effusion. As I ascertained, the blood had been examined by them, and showed no increase of white corpuscles.

April 16th. *Status præsens.* I found patient lying on her left side, her only possible position, gasping for breath; respiration 40, speech impeded, pulse 120, small and feeble, temperature  $101.5^{\circ}$  F.; mind clear, panniculus adiposus reduced to a minimum, face distorted, anæmic. A conspicuous tumor, the size of a hen's egg, exists on the left side of neck, along the upper third of the inner edge of sterno-mastoid muscle and partially riding upon the muscle, consisting of three distinct glandular enlargements, hard, painless to the touch, and slightly movable; no swelling of the submaxillary glands; a string of enlarged glands was visible along the spine of left scapula, the largest being of the size of an almond, the smallest of a hazel nut. The axillary glands on both sides were swollen to a moderate extent, but the right thoracic glands formed again a string of tumors of more considerable magnitude, the one nearest the mamma being the largest, also hard, little, if at all, movable. There was also a bunch of glands on the posterior aspect of the neck, near the middle line, which were of rather small size. I noted hard masses, about three in number, in either mamma with infiltrations in the adjoining tissue, and the cutaneous veins over both mammae were enlarged.

The parotid, the submaxillary, inguinal, and popliteal glands were not affected. There was, however, a hardness of the entire right half of the abdomen, commencing on the left edge of right rectus muscle, occupying the right hypogastrium extending upwards to the lower edge of the liver, but not involving the latter, sensitive on deep pressure, and imparting to the palpating hands not the sensation of a peritoneal exudation, but of a tumor that could be grasped between the hands. These tumors are to be put down as retroperitoneal glands. Under the left costal arch there was to be felt a tumor of softer consistency and movable, but the most dependent segment of it could be made out, and this would recede most of the time on deep pressure. Whether this tumor was

a gland or the spleen was not to be determined with accuracy.

*Thorax.* The whole left half of thorax from the base of the lung up to the apex presented on auscultation entire absence of respiratory sounds and of vocal fremitus, perfect dullness on percussion, and a bulging out of the ribs posteriorly upon an area of the size of half a hand. The heart was dislocated to the right. The right side of the chest offered, with the exception of increased bronchial breathing, nothing abnormal.

The treatment at the time of my arrival consisted of the administration of Fowler's solution, which, however, was left off on account of the irritability of the stomach. Dr. Bowditch was again called in, and having convinced himself of the magnitude and rapid increase of the effusion, agreed with Dr. Sinclair and myself upon puncture of the pleuritic cavity. On April 20th this was done by Dr. Bowditch with his instrument, posteriorly, between the seventh and eighth ribs, and about three pints of straw-colored serum withdrawn. The heart's beat could be heard at once at its normal seat after the operation, also the respiratory murmur anteriorly and posteriorly from the apex of the lung down to the place of puncture, but below the latter there remained absolute dullness. There was, on the whole, no improvement in the subjective condition of the patient, and the following night brought the customary symptoms as nausea, vomiting, cough, and asthenia. Five days after this first tapping, which was done by Dr. Bowditch, I withdrew, in the presence of that gentleman and Dr. Sinclair, three and a half pints of serum, with no better results; eight or nine days afterwards I withdrew again about four pints, so that in all ten pints were taken from the chest. This time the chest did not fill again from the lower angle of the scapula upwards, but below it clear, sonorous resonance and distinct respiratory murmur never recurred up to the time of death. But there was and remained decided improvement in the physical signs anteriorly. The lung was apparently near the thoracic wall and had expanded, as there was a distinct sonorous and even tympanic sound on percussion and vesicular murmur. The impulse of the heart remained on the left side up to the last.

#### PROGRESS OF THE CASE.

In spite of this improvement in the chest the urgency of the subjective symptoms increased in progressive proportion. Sleeplessness was at first combated by the administration of chloral (thirty to forty grains at night), but the nausea and meteorism increased, the paroxysms of cough and expectoration, the attacks of syncope and collapse made it obvious to our minds that something new had to be done, to avert the very worst. Doses of bromide of potassium brought no relief either, and so the hypodermic injection of sulphate of morphia was decided upon. The first dose was a quarter of a grain of Magendie's solution. This brought instantaneous relief. All the above symptoms vanished. The skin, that had been icy cold and clammy, became warm, and a welcome sleep ensued after two or three hours of the most pleasant sensations. This sleep lasted twelve hours, with few interruptions, and even after awakening our patient remained comfortable for seven more hours. The most remarkable effect of the subcutaneous injection was the rally of the digestive powers of the stomach. Hungry our patient always

was, but to satisfy that desire meant inexpressible agony. Now her stomach would tolerate the heaviest food, chicken, steak, fried frog, vegetables, etc. But nineteen hours having elapsed since the first injection, the relentless enemy came on again with renewed energy and brought agony to the poor young patient and chagrin and dismay to her friends. Suffice it to say, that in spite of our reluctance, we had to keep up the hypodermic medication, the painless intervals becoming shorter, and the chances of recovery for our patient impossible. Quite against expectation the doses of the drug when increased brought not proportionally longer rest or sleep, but on the contrary produced more nausea and suffering. The best dose was from three to four drops injected every four hours. When life would seem to ebb away, when the surface of the body was icy cold, when lips and face and hands were livid, those few drops, would, as it were, infuse new life into the dying woman, revive the pulse, bring warmth to the cold surface and comfort to a human being that half a minute ago was apparently on the brink of death. This was the course of the dreadful disease up to June 23d. From that day on the middle and lower lobe of the right lung showed signs of pneumonia (dullness and crepitus). The bulging of the ribs posteriorly on the left side was still conspicuous, but the area involving it more sonorous, corresponding to the posterior axillary line; a bunch of enlarged glands on the left scapula below the spine became more distinct, of the size of a duck's egg, two of smaller size and elastic. The fever since April 16th up to date had always been moderate, the temperature ranging between 99.8° F. and 102.5° F., with intervals of apyrexia of sometimes a day or a day and a half. As a new symptom, occurring on June 29th, might be mentioned a white, doughy swelling of the right arm and hand, painless, pitting on pressure, the limb resembling milk leg. The radial pulse on the corresponding side being equal in force to that of left side, thrombosis of the artery had to be excluded, and venous thrombosis had to be diagnosed. There was no doubt compression of the right axillary vein by an enlarged gland. This swelling never went down again. Pulse 120, respiration 22. One of the enlarged left axillary glands now commenced to suppurate; but the abscess did not involve the base of the gland. Spontaneous evacuation of thick grumous pus, the discharge becoming more and more thin and offensive.

A larger thoracic gland, situated in the right anterior axillary line one and a half inches distant from the mamma, now became painful and in a few days fluctuating. This abscess involved the whole gland from the surface to the base. Great restlessness; temperature 103° F.; mental disturbance, delirium, hallucinations. Poultices of corium maculatum and flaxseed to the abscess.

June 27th. Pulse feeble; temperature 99.5 F.; mind confused, meteorism. General outlook alarming. Abscess very painful.

June 28th. Same condition. Pulse 136. Livid lips and extremities. Right arm enormously swollen.

July 1st. Pulse threadlike; jactitation. Abscess very red, shining. Incision. Discharge of pus and blood; pus not as grumous as that of first gland.

July 2d. Had a better night. Improvement of pulse in tone; mind clear; no other improvement except better rest.

July 4th. Had a fair night. Signs of effusion

also in right pleuritic cavity. Dyspnoea great. Patient occupies the sitting position with head hanging forward and over. Cyanosis increased.

July 5th. Increasing prostration. Dyspnoea less. The two abscesses still discharge. Integument over the tumor in right mamma discolored; tenderness on pressure over the spot.

July 8th. Hypodermic administration of iodide of potassium with Magendie's solution.

July 9th and 10th. The only apparent effect of it, is increased diuresis; prostration very great; pulse 130; some ascites; oedema of feet.

July 14th. The iodide of potassium injections discontinued on account of increased prostration of patient.

July 16th. Death. No autopsy allowed.

#### DIAGNOSIS AND REMARKS.

What should we call the disease whose history we gave above in the absence of an autopsy?

There are but three diseases which, in the light of the symptoms, come in for a share of consideration: (1.) Leucocythemia (glandular and splenic). (2.) Lymphadenoma (Hodgkin's disease). (3.) Scrofulous glandular disease.

*Leucocythemia* has to be excluded for the following reasons: there was no excessive (relative) production of leucocytes, which is the chief element of the disease; the blood, when examined, had not the characteristic appearance of leucæmia, that is, a pale, pus-like color but, on the contrary, was red and natural looking; furthermore, the anæmia came on *after* the development of the glandular tumors, whereas in leucæmia it precedes the glandular enlargement.

*Lymphadenoma*. Although I was and am still inclined to diagnose the case as one of scrofula, I must admit that the symptoms point forcibly to lymphadenoma. The number of the glands enlarged, the pleuritic effusion, the anæmia in the wake of the development of the tumors, the symptoms of pressure, speak forcibly for Hodgkin's disease. Furthermore, it is held by Bartholow that those very symptoms of pressure of viscera and of large vessels are absent in scrofula. How far this is correct we shall examine further on. There is, however, one negative *pathognomonic* feature dwelt upon by modern writers, and especially by Gowers, as characteristic of lymphadenoma, which was not present in our case, and that is the disinclination of the enlarged glands to suppurate. In fact the enlarged glands never suppurate in lymphadenoma. They may become larger and smaller, they may become hard when soft at first, and *vice versa*, but they do not break down. Now, in our case, two of the glands formed abscesses, giving outlet to a thick, grumous pus, intermixed with curd-like flakes. The abscesses never healed, and, in all probability, had the patient lived longer, there would have formed another abscess in one of the tumors of the right mamma, for discoloration of the skin and softening of the mass, accompanied with tenderness, commenced soon after incision of the second glandular abscess. Now, in the light of this, is not the doubt justifiable whether our case was one of lymphadenoma? and whether there was not another malady than lymphadenoma running its course under the disguise of it? and if it was not a case of lymphadenoma, what was it?

If leucæmia and Hodgkin's disease have to be excluded, the case was one of scrofulous glandular dis-

case. Although, as I mentioned before, some authors hold that there is neither anemia nor pressure symptoms, nor such a general extent of enlarged glands in scrofula, there is a case on record; I mean the celebrated case of Morgagni, which is pretty well authenticated, and which would go a great way to overthrow those statements. Morgagni describes his case as follows: The case was that of a boy, aged fifteen, who observed the enlargement of the glands of the neck three months after a severe mental shock. The glands beneath the jaw, in the neck and the thorax, were all enlarged, and tumors of the same character existed in the integuments of the abdomen and in the abdominal cavity. The progress of the disease was rapid, and accompanied with fever. After death the tumors were found full of whitish matter, fluid in some and solid in others, and some were suppurating. The whole omentum was full of strumous tubercle, and masses, from a hen's egg to that of a pigeon's in size, occupied the peritoneum, pancreas, and mesentery. There were also apparently similar growths in the fissure about each kidney. The glands in the small intestines were enlarged. One tumor, as large as a hen's egg, existed in the mediastinum, and compressed the trachea; strumous tumors were situated in the costal pleura. Hard and stony globules, the size of grains of barley, were on the surface of the lungs. Here we have numbers of enlarged glands over a large extent of the body, strumous, caseous, suppurating, intermixed with the hard, even stony, growths, as in lymphadenoma, and yet everybody who reads the above description of the case must admit the scrofulous nature of the tumors. But still there were the symptoms of visceral pressure, of rapid failure of vital force, and as great a number of enlarged glands as in true lymphadenoma. There is another case of scrofulous, glandular disease on record by Mosler. The child (of scrofulous heredity) suffered, when nine months old, from *suppurating* enlargements of cervical glands, and when two years old presented *indolent*, glandular enlargements, of the consequences of which he died later on, when five years old. There were hard growths found in the kidneys, but the spleen presented, as is sometimes the case in lymphadenoma, numbers of small, spherical, yellow nodules, such as are met with in tuberculous disease. Here the glands first affected suppurated, while those subsequently diseased presented all the characteristics of lymphadenoma. Our case belongs to the same category, and in the light of the rachitic heredity, of the suppurating of some of the glands, and, as compared with the cases of Morgagni and Mosler, must be called a *case of scrofula complicated by lymphadenoma*. Gowers speaks of cases of lymphadenoma complicated by scrofula and tuberculosis, but in these the scrofulous or tuberculous features stand in the background, whereas in *our* case, as in those of Morgagni and Mosler, the scrofulous characteristics prevail. That lymphadenoma and scrofula (respectively tuberculosis) are more intimately related to each other than is generally admitted, might be demonstrated by Mosler's case, where suppurating scrofulous glands, indolent lymphatic glands, and tuberculous growths were found in the same subject.

The investigations of Dr. Chiari as to the metamorphosis of milary tubercle throw still more light upon this subject. Chiari says: "There is a type of milary tubercle that I call the *lymphoid* tubercle, which contains mostly small, round, *lymphoid* cells, a few giant cells being interspersed."

And what do we find in lymphoma? The enlarged glands contain a great quantity of lymph corpuscles, which gradually displace the septa, and give the glands a homogeneous appearance. Thus we actually find a histologically similar condition in both diseases, which makes me think that the co-appearance of both in one subject, met with rather frequently, is more than accidental.

## REPORT REGARDING THE ADULTERATION OF FOOD AND DRUGS.

BY E. F. DAVENPORT, M. D.

THE late Legislature passed, and on May 26, 1882, the Governor approved, the following bill, which is based upon the draft for such a bill prepared by a committee of experts at the request of the National Board of Trade, and approved by that body at their convention in Washington, December 13, 1880. During 1881 very similar bills were passed in the States of New York and New Jersey.

SECT. 1 provides that no person shall manufacture or sell any drug or article of food which is adulterated within the meaning of the act.

SECT. 2. The term "drug" as used in this act shall include all medicines for internal or external use, antiseptics, disinfectants, and cosmetics. The term "food" as used herein shall include all articles used for food or drink by man.

SECT. 3. An article shall be deemed to be adulterated within the meaning of this act, —

(a.) In the case of drugs, —

(1.) If, when sold under or by a name recognized in the United States Pharmacopoeia it differs from the standard of strength, quality, or purity laid down therein;

(2.) If, when sold under or by a name not recognized in the United States Pharmacopoeia but which is found in some other pharmacopoeia, or other standard work on *materia medica*, it differs materially from the standard of strength, quality, or purity laid down in such work;

(3.) If its strength or purity falls below the professed standard under which it is sold; —

(b.) In the case of food, —

(1.) If any substance or substances have been mixed with it so as to reduce, or lower, or injuriously affect its quality or strength;

(2.) If any inferior or cheaper substance or substances have been substituted wholly or in part for it;

(3.) If any valuable constituent has been wholly or in part abstracted from it;

(4.) If it is an imitation of, or is sold under the name of, another article;

(5.) If it consists wholly or in part of a diseased, decomposed, putrid, or rotten animal or vegetable substance, whether manufactured or not; or, in the case of milk, if it is the produce of a diseased animal;

(6.) If it is colored, coated, polished, or powdered, whereby damage is concealed, or if it is made to appear better or of greater value than it really is;

(7.) If it contains any added poisonous ingredient, or any ingredient which may render it injurious to the health of a person consuming it.

The State Board of Health, Lunacy, and Charity may from time to time declare certain articles or preparations to be exempt from the provisions of this act; and the provisions hereof shall not apply to mixtures or compounds recognized as ordinary articles of food, provided that the same are not injurious to health, and are distinctly labeled as mixtures or compounds.

SECT. 4. The State Board of Health, Lunacy, and Charity shall prepare and publish from time to time lists of the articles, mixtures, or compounds declared to be exempt from the provisions of this act, in accordance with the preceding section. The said Board shall also from time to time fix the limits of variability permissible in any article of food, or any drug, or compound, the standard of which is not established by any national pharmacopoeia.

SECT. 5. The State Board of Health, Lunacy, and Charity shall take cognizance of the interests of the public health relating to the sale of drugs and food and the adulteration of the same, and shall make all necessary investigations and inquiries

in reference thereto, and for these purposes may appoint inspectors, analysts, and chemists, who shall be subject to its supervision and removal.

Within thirty days after the passage of this act the said Board shall adopt such measures as it may deem necessary to facilitate the enforcement hereof, and shall prepare rules and regulations with regard to the proper methods of collecting and examining drugs and articles of food. Said Board may expend annually an amount not exceeding three thousand dollars for the purpose of carrying out the provisions of this act.

SECT. 6. Every person offering or exposing for sale, or delivering to a purchaser, any drug or article of food included in the provisions of this act, shall furnish to any analyst or other officer or agent appointed hereunder, who shall apply to him for the purpose and shall tender him the value of the same, a sample sufficient for the purpose of the analysis of any such drug or article of food which is in his possession.

SECT. 7. Whoever hinders, obstructs, or in any way interferes with any inspector, analyst, or other officer appointed hereunder in the performance of his duty, and whoever violates any of the provisions of this act, shall be punished by a fine not exceeding fifty dollars for the first offense and not exceeding one hundred dollars for each subsequent offense.

SECT. 8. This act shall take effect at the expiration of ninety days after its passage.

The analysts appointed to examine and determine the extent of the adulteration practiced in articles of food and drugs sold in the State of New York have made their report to the State Board of Health. The samples examined were collected by two inspectors appointed by the Board, and included the principal articles of food and drug supply. Their report thereon shows that while adulteration is practiced to a greater or less extent in most of the articles examined, it is only in very few that poisonous adulteration exists. Therefore, in the matter of foods it seems to be largely a commercial question, while with drugs the adulterations without doubt seriously impair their medicinal value, thereby making it a question directly affecting the public health.

The following are abstracts from the reports of the analysts as given in the *Sanitary Engineer*: The frauds in milk differ from those of most other articles of food in that pure milk varies in composition to a very marked degree, making it impossible to establish a standard of purity except by selecting for this purpose the poorest milk produced by healthy cows. As the frauds generally consist in increasing the amount of water or diminishing the amount of fat (skimming), the chemist can only decide by his examination whether the frauds practiced have reduced the original milk below the adopted standard for the poorest milk from a healthy cow, — fat 2.5 per cent., solids, not fat, nine, water 88.5 per cent.; while a large proportion of the milk sold was found to be so moderately watered and skimmed as to be still above this standard for the poorest natural milk, much was far below this standard.

The production of oleomargarine is about equal to one fifth of the quantity of dairy butter. Butter ordinarily contains from five to ten per cent. of water, while it can be made to retain as high as fifty per cent. of water. Of the samples of butter examined some forty per cent. contained fatty matter other than genuine butter, and some ten per cent. contained an increased amount of water.

Lard cheese has to a considerable extent supplanted that made from skimmed milk and oleomargarine, which was largely manufactured some years ago.

Of sixteen samples of olive oil examined nine were considered as adulterated: one with sesame oil, four with cotton-seed oil, two with ground-nut oil, and two with either ground-nut or cotton-seed oil, or possibly with both.

Of twenty-three samples of baking soda examined only three were found adulterated, the low cost offering but little temptation. Of cream of tartar, on the other hand, out of twenty-seven samples sixteen were found adulterated, its comparatively high price offering greater inducements. Some of the samples contained not a particle of cream of tartar. The adulterants used were terra alba, starch, calcium acid phosphate, and tartaric acid. In eight samples the amount of terra alba was found to vary from three to ninety-three per cent. Five of them contained over seventy per cent.

Baking powders. These artificial substitutes for yeast consist of soda bicarbonate and either cream of tartar, tartaric acid, acid phosphate of lime, or of potash or ammonia alum. Many, moreover, contain an ammonia salt, generally the sesquibicarbonate, to prevent a natural deterioration in the powder, most contain either flour or starch. Of the eighty-four powders examined forty-nine contained cream of tartar, three tartaric acid, twenty alum, three acid phosphate of lime, eight mixtures of cream of tartar and alum, one acid phosphate and alum, seventy-three flour or starch, thirty five ammonia, and six terra alba.

All flours and meals were, as a rule, found free from adulteration.

Of twenty-three samples of arrowroot examined seventeen consisted entirely of maranta starch, while one was a mixture of maranta and tapioca, two of maranta, tapioca, and potato, and three of tapioca and potato starch.

Ten samples of wheaten bread were examined with special reference to the detection of alum, but in no case was it found.

Nine samples of pickles were examined, but no copper was found in them.

Powdered spices furnished abundant proof in support of the common reputation regarding their adulterations, for of the samples examined the following percentage of adulteration was found: In mustard sixty-six, in ginger sixty, allspice seventy, cinnamon eighty-two, cassia fifty-seven, cloves seventy-six, black pepper seventy, white pepper seventy-one, red pepper fifty, mace fifty, and in nutmeg forty per cent. of adulteration was found. The various adulterants found were integuments of grains or seeds, damaged or low-priced farinaceous substances, leguminous seeds, and various articles for bringing up the mixture as nearly as possible to the required standard of color of the genuine. Skillful roasting gives various shades of brown. A little turmeric goes a great way in imparting the rich yellow hue of real mustard to a pale counterfeit of wheat flour and terra alba, or the defective paleness of artificial black pepper is brought up to the desired tone by the judicious sifting in of a little finely pulverized charcoal. All the adulterating materials found were such as are claimed to be of themselves harmless, although a corn meal finely ground might owe all its pungency suggestive of real ginger to a judicious addition of a little salt and red pepper.

It is probably not so widely known as it should be that the demand for the materials for adulterations has called into existence a branch of manufacturing industry of no insignificant magnitude, having for its sole object the production of articles known as "spice mixtures" or "pepper dust," or, as the article is commonly designated in the technical language of the trade, "P. D." We now have as well-known articles sold by the barrel "P. D. pepper," "P. D. ginger," "P. D. cloves," and so on

through the whole spice list. When it is considered that these imitations, lacking only such flavoring with the genuine article as the dealer thinks necessary to make his goods sell, are sold at from three to four cents a pound, and the retail price paid by consumers is compared with it, the strength of the temptation to engage in such practices is clearly seen. When manufacturers openly advertise themselves as assurers and renovators of merchandise, and propose to cleanse musty and damaged beans by a new and patented process, it is full time that its significance should be considered by the public.

Of twenty-three samples of ground coffee examined nineteen contained foreign substances. These were chicory, beans, and occasionally wheat or other grain coarsely ground. One consisted entirely of roasted hominy. Three samples of coffee extract were composed chiefly of caramel and liquorice, and contained no coffee.

Of teas forty-three samples were examined, but were found to contain nothing that could be considered anything but tea.

The estimation of the quality and purity of most powdered vegetable drugs offers great difficulties, since their adulteration consists not only in the admixture of cheaper foreign material, mostly starches, flour, or cellulose, but also, and now preëminently, in the admixture of inferior brands of the same drug. Empirical and comparative tests have, therefore, more or less to be resorted to for obtaining an approximately correct and reliable estimate of their quality. Those examined were found to be to a great extent of unsatisfactory and questionable reliability.

Twenty-nine samples of quinine pills were examined, and in every case found to contain less than claimed; the two-grain pills being found to contain only from 0.9 to 1.8 grains, the three grain to contain only 1.7 to 2.8, and the five-grain pills to contain only 2.1 to 4.7 grains.

The first report under the New Jersey law has been published. The results of the examination of the market showed that about the same condition of affairs existed there as in New York. Doubtless the same will be found to be the case in Massachusetts also.

## Reports of Societies.

### PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

B. C. HAVEN, M. D., SECRETARY.

ANNUAL MEETING, April 29, 1882. Dr. J. C. WHITE in the chair: Eighty-three members present. Dr. B. JOY JEFFRIES reported

#### EIGHTY-SIX CASES OF CATARACT OPERATION

which were all done, as were those previously reported to the Society, by the modified method of Graefe. The details he omitted, as they could be read by those interested when published.

No atropine was used before the operation, and only afterwards when specially indicated. The bandage, daily removed and replaced, was kept on till the seventh or ninth day. Serrated forceps were used and held the eye by the tunic only during the transfixing of the globe. The eye was rarely touched with forceps during the rest of the operation, and then only with a

delicate iris or Passavant forceps. But one secondary operation was done, though it would have increased the vision in several other cases as well. The material was not good either in hospital or private practice. Health was *poor* in eighteen and only *fair* in twenty-one cases. The cases were not selected, and many were done with only an even chance, or less, of some vision to be gained. Ether was given in all but one case. Its routine refusal was not good practice as many cases must then be left unoperated on. There should be no hesitation in operating without ether in proper subjects. It was a serious question of shock. Two deaths after cataract operation without ether were spoken of. As has been well said, we must put this question fairly to ourselves: "Is the risk with ether greater than that from the shock of the operation itself?" He had seen the eye lost directly from not giving ether. The stimulating effect of ether has been considered of value rather than detrimental. Loss of vitreous, bleeding, etc., occur as well without as with ether. Secondary operations of course largely increase the amount of vision and so the per cent. of success; therefore records of vision before and after such operation ought to be fairly given. The advantage that a patient realizes that he can see when no ether is given is counterbalanced by the cases where he cannot, as after vitreous loss, etc., when the depressing effect will weigh against the otherwise very possible favorable result. It is not only that we Americans are more acutely sensitive to pain than the lower classes in Europe, but the *shock* is very much greater; therefore ether should not be denied in a routine way and mistaken deductions must be carefully avoided as to greater success without it, dependent as this may be on a variety of causes in addition to the secondary operations which are as requisite when ether is not given as when used.

Dr. G. LIEBMANN read a paper entitled

#### HODGKINS' DISEASE OR SCROFULA? <sup>1</sup>

Dr. R. H. FITZ said that he had been much interested in watching the progress of the case; he thought, however, that Dr. Liebmann was inclined to lay too much stress on the suppurating glands as confirming the diagnosis of scrofula, for there were none of the antecedent symptoms of inflammation which usually precede the scrofulous enlargement of lymph glands; and the suppurating took place only a short time before death.

The effect of the morphia in small doses was, as the reader had stated, most striking, and the whole progress of the case showed a great amount of nervous strength: the patient alternating between a condition apparently almost moribund, and the next day being dressed, sitting up, and playing games with some members of the household. Dr. Fitz recalled a case of a boy with Hodgkins' disease under treatment for some time at the Massachusetts General Hospital. The temperature was considerably elevated for several weeks before death, and at the autopsy a large number of acute military tubercles were found in various organs, although the lymph glands presented only the ordinary appearances of pseudo-leucemic enlargement.

Dr. KNIGHT mentioned two cases of Hodgkins' disease; one, that of a medical student; the second, that of a woman dying in Lowell. In both cases the disease ran the usual course. In the first there was a con-

<sup>1</sup> Vide page 555 of this JOURNAL.

siderable pleuritic effusion which was tapped with relief. In regard to the use of opiates, Dr. Knight emphasized the necessity of giving only a stimulant, and never a narcotic dose where there was any interference with the respiration or circulation. He believed he had seen during the last year several cases of death from such a use of morphia. He also mentioned the great value of strychnia as a respiratory stimulant.

Dr. LIEBMANN spoke of a case recently reported from Philadelphia, where a perfect cure had been effected by the use of Fowler's solution and iron internally, and hypodermic injections of Fowler's solution into the glandular enlargements.

Dr. J. B. SWIFT exhibited an

#### OBSTETRIC MANIKIN,

and explained it as follows:—

The subject of obstetrics being of such importance to the general practitioner, and the material for the practical instruction of students being so limited, it has been thought that it would be of interest to show this manikin, which serves, in a measure, to take the place of the living subject. It was designed by Drs. Budin and Pinard, of Paris, to take the place of the cadaver in demonstrating the various operations connected with obstetrics. It is a life-size model of a female figure, from the breasts to half way down the thighs, made of wood and rubber, the cavity of the pelvis being made from measurements taken from a normal pelvis. It is lined with rubber, which, extending through the pelvic cavity, represents the vagina and vulva dilated as at the termination of a labor. The abdominal walls are also constructed of rubber, and, being hollow, can be inflated with air so as to represent those of a pregnant woman, and permit of abdominal palpation. The sacrum is so arranged that it can be moved forward by a screw so as to show the most common form of pelvic deformity. The advantages claimed for the model over the cadaver are, greater neatness, the ability to demonstrate more with it, and the parts retaining their resistance after a fetus has been extracted.

I think that every one will admit its greater neatness. As to being able to demonstrate more with it, I will say that I have succeeded in demonstrating (1) a case of normal labor from the time labor begins to the expulsion of the placenta; (2) the method of diagnosis by external manipulation; (3) the various presentations and positions, and the mechanism of delivery in these; (4) manual dilatation of the cervix, and the various methods of version; (5) the application of the forceps, and the operations requiring the destruction of the child; (6) how to measure the pelvis in cases of deformity. That the parts retain their resistance is shown by the condition in which they now are after having been used for almost a year, during which time there have been at least two hundred deliveries.

The original design was merely to demonstrate abdominal palpation and instrumental deliveries, but I have added normal labor, diagnosis of presentations and positions, version, and manual dilatation of the os. In order to do this another uterus than that which came with the instrument was necessary, and I have succeeded in arranging one by which I can show the os partly dilated with membranes intact, ruptured, and os fully dilated.

As the model originally came the vaginal walls were widely dilated, and in order to make it more realistic I have arranged a vagina with the walls in apposition.

During the past winter the manikin has been used in giving instruction to students, and has been found to work with perfect satisfaction. I think it could easily be arranged for gynecological demonstrations also.

Dr. JEFFRIES showed, as some practical results of his work, the

#### RED AND GREEN STANDARD MARINE GLASS,

made by the New England Glass Works, and adopted by the United States Board of Supervising Inspectors of Steam Vessels, upon his representations, etc., to them. The lights formerly used and allowed were exhibited in contrast. He described how he tested the color and light transmitting power of the glasses, referring to a paper recently read by him before the Society of Arts of the Institute of Technology.

He also showed the first one of the color charts of Dr. Magnus and himself, as prepared by Mr. L. Prang, for this country, in the primary education in colors, and the education of the color sense. He spoke of Virchow's complaint of his medical students being unable to say which way a color shaded from lack of color education, and the need of such continued from the primary schools upwards. Dr. Jeffries explained how, by the use of this color chart, which received a diploma of merit at the International Medical Congress in Amsterdam, 1879, color-blindness could be suspected or possibly detected.

He also called attention to the law now on the Massachusetts Statute Book, which he had succeeded in having put there, and prevented the removal of this past winter. It was, however, but a "recognition of the rights of the community," who would, of course, finally insist upon what was fair to themselves, the employees, and the stockholders. The bill in Congress for an international commission, so strongly recommended by the London Medical Congress of 1881, was referred to as another very practical result of the speaker's endeavors for the control of defective vision on land and sea.

The report of the committee on social meetings, showing a balance of \$265.17, was presented and accepted.

The treasurer's report, showing a balance of \$238.22, and recommending an assessment of one dollar to meet the expenses of the coming year, was presented, audited, and accepted.

The election of officers followed, with the result as given in the JOURNAL of May 4, 1882.

#### THE AMERICAN SURGICAL ASSOCIATION.

THE third annual session of the American Surgical Association, held at Philadelphia from May 31st to June 2d inclusive, was the most successful yet held by this organization. The hall of the College of Physicians was accepted for the meetings, its use having been tendered for the occasion. Professor Gross, president of the Association, occupied the chair, and presided over its deliberations with urbanity and dignity. He was evidently gratified by the interest shown by the members and the large attendance at this meeting, and with evident satisfaction he expressed his conviction that the American Surgical Association is no longer an experiment but an assured success. About thirty leading American surgeons were registered, and nearly as many new members were elected. The papers read were of a high order, and elicited consid-

erable discussion. Entertainments were provided in the form of evening receptions, held by Profs. D. H. Agnew and S. W. Gross, and Dr. R. J. Levis, and a daily luncheon at the residence of Professor Gross, Dr. Mears, and Professor Brinton were given during the three days' session; giving the Fellows opportunities for social intercourse, which were agreeable and highly appreciated. Much credit is due to those having the matter in charge, and a vote of thanks was offered by Professor Cabell, of Virginia, to the committee of arrangements (Drs. J. Ewing Mears, S. W. Gross, and R. J. Levis), which was passed unanimously.

#### FIRST DAY'S PROCEEDINGS.

Among those registering on the first day were the officers of the Association, Prof. S. D. Gross (president), Dr. J. R. Weist, of Indiana (secretary), Dr. J. Ewing Mears, of Philadelphia (recorder); and also among those present were Drs. William T. Briggs, Nashville, Tenn.; John H. Brinton, Philadelphia; William A. Byrd, Quincy, Ill.; Samuel T. Davis, Lancaster, Pa.; J. W. S. Gourley, New York; Samuel W. Gross, Philadelphia; Moses Gunn, Chicago, Ill.; J. C. Hutchinson, Brooklyn, N. Y.; R. A. Kinloch, Charleston, S. C.; R. J. Levis, Philadelphia; Solon Marks, Milwaukee, Wis.; Hunter McGuire, Richmond, Va.; E. M. Moore, Rochester, N. Y.; C. H. Mastin, Mobile, Ala.; Thomas G. Morton, Philadelphia; Henry F. Campbell, Georgia; R. Beverly Cole, San Francisco; John B. Roberts, Philadelphia; William H. Pancoast, Philadelphia; William S. Forbes, Philadelphia; George W. Gay, Boston, and others.

The meeting was called to order by the president, who, in his address of welcome, said:—

#### ADDRESS OF WELCOME.

The question has been asked, perhaps pertinently enough, what need is there of such an organization as this, seeing that the country is full of all sorts of medical societies? The answer is not difficult; at all events I do not find it so. We have in the United States, according to a reasonable estimate, not fewer than sixty thousand medical men. Among these are large numbers of surgeons, who, in point of culture, practical skill, and reputation as writers and teachers, would be an honor to any country, however high its standard of excellence. To unite these men into one harmonious whole for the benefit of all is one of the main objects which the founders of the American Surgical Association had in view when they met at Atlanta in May, 1879. If it be said that we are striking a blow at the American Medical Association, we deny the soft impeachment. On the contrary, we shall strengthen that body by rousing it from its Rip Van Winkle slumbers and infusing new life into it. We can hurt no society now in existence or likely to come into existence hereafter. We can only hurt ourselves if we fail to do our duty. We hope to make the American Surgical Association an altar upon which we may annually lay our contributions to surgical science, and so show to the world that we are earnest and zealous laborers in the interest of human progress and human suffering. We live in a fast age. Progress stares us everywhere in the face. The surgical profession was never so busy as it is at the present moment; never so fruitful in great and beneficent results or in bold and daring exploits. Theory has given way to fact, and nothing that cannot withstand this test is worthy of ac-

ceptance. The whole field of surgery, from the structure of a boil upon a man's face to an amputation of the hip-joint, is undergoing revision. Operative surgery challenges the respect and admiration of the world, and, if it has not attained its finality, it is as nearly perfect as we can hope to make it. Therapeutic surgery too is making rapid strides; and surgical pathology was never more zealously or more successfully cultivated. New avenues are constantly being opened, and the importance of the study of physiology, in its relations to practical surgery, is daily becoming more and more apparent. In short, in whatever direction we cast our eyes, nothing but the most substantial encouragement greets our vision and urges us on to increased exertion.

Since our last meeting death has been busy in our ranks. Some of our best and most eminent members have dropped by the wayside, in the midst of their work and in the height of their usefulness. The list comprises the distinguished names of J. C. Hughes, of Keokuk; W. Warren Green, of Portland; Hugh W. Brock, of Morgantown, West Virginia; John T. Hodgen, of St. Louis; and James R. Wood, of New York. To these may be added that of H. Lenox Hodge, who died early last summer. The death of these men, all widely known and recognized as able teachers and practitioners, is a signal loss to the profession and to the country.

#### FELLOWS ELECTED.

After a short executive session the names of the following gentlemen were announced as having been elected Fellows:—

Honorary Fellows: Willard Parker, New York; John L. Atlee, Lancaster, Pa.; William Hunt, Philadelphia; J. Marion Sims, New York.

Fellows: G. A. Peters, N. Y.; William Detmold, N. Y.; Thomas T. Sabine, N. Y.; F. S. Dennis, N. Y.; J. Collins Warren, Boston; J. L. Little, N. Y.; J. H. Billings, U. S. A.; Basil Norris, U. S. A.; Leroy McLean, Troy, N. Y.; B. B. Bonteou, Troy, N. Y.; McLean Tiffany, Baltimore; David Prince, Jacksonville, Ill.; N. Senn, Milwaukee; J. A. Conington, Indianapolis; T. G. Dunott, Harrisburg; A. Smith, Baltimore; David W. Cheever, Boston; George W. Gay, Boston; R. M. Hodges, Boston; N. A. Bozeman, N. Y.; Donald McLane, Michigan; B. A. Watson, Jersey City; W. T. Bull, N. Y.; John D. Rushmore, Brooklyn, N. Y.; A. Vandever, Albany; S. B. Ward, Albany; T. H. Squire, Elmira; W. C. B. Field, Boston; J. S. Davis, N. Y., and Dr. Hayes Agnew, William Thomson, William Forbes, C. B. Nancrede, T. B. Reed, W. G. Porter, J. W. White, D. E. F. Willard, J. B. Roberts, J. M. Barton, of Philadelphia.

After the discussion of revision of certain clauses of the constitution and the appointment of committees on nomination for offices and for the selection of time and place of the next annual meeting, a recess was taken until three o'clock in the afternoon.

#### AFTERNOON SESSION.

The afternoon session was begun by J. L. CABELL, M. D., Professor of Surgery in the University of Virginia, who read a paper on

#### SANITARY CONDITIONS IN RELATION TO THE TREATMENT OF SURGICAL OPERATIONS AND INJURIES.

The following propositions were submitted for discussion:—



(1.) Statistics show that while the mortality after certain operations, heretofore regarded as exceedingly dangerous, especially those involving abdominal section, has been greatly reduced, the death-rate of amputations and excision of joints has not diminished in an equal ratio. The progressive diminution of the mortality in the former class of operations, notably the operation of ovariectomy, is doubtless due, in some measure, to improved methods of operative procedure, which it is probable have now reached final perfection, but in a yet larger measure is attributable to more careful and systematic attention to sanitary conditions, including the employment of antiseptic precautions during and after the operation.

(2.) The continued high rate of mortality after amputations in city hospitals, whence the most trustworthy statistics have been derived, stands in singular contrast with a decided decrease of the general mortality of many of the same cities, and seems to show that "the sanitary improvement of hospitals has not kept pace with that of the towns in which they are situated." But there is an obvious source of fallacy in drawing so sweeping a conclusion from the death rate of operations in hospitals. The influences which affect the results of operations are so numerous and varied, that it would be illogical to select any one of them and attribute the results to its agency, on the arbitrary assumption that, if we compare a sufficiently large number of cases, all other influences neutralize each other. Freedom from septic diseases would be a much better test of the sanitary condition of a hospital than that derived from its mortality returns.

(3.) Why, then, has not the mortality after amputations been reduced in a somewhat correspondent ratio with the marvelous diminution of the death-rate of ovariectomy? Is a death-rate of twenty-two per cent. for all amputations above the wrist and ankle the best that can be hoped for under the most favorable circumstances? Or is this high mortality only incidental to hospitals, and a necessary result of unhealthy influences inseparable from the aggregation of numbers of sick or wounded patients? It is not easy to find a satisfactory solution of this problem by referring to the somewhat equivocal and uncertain test of mortality statistics. The various influences which favor or oppose the healthy repair of wounds should be separately considered.

(4.) The prime factor in the repair of wounds being healthy blood, the utmost attention should be paid to the due performance of all the functions connected with the blood-forming and blood-purifying processes. Illustrative examples cited.

(5.) The results of operations are influenced by peculiarities of each patient's constitution, mental and physical, and by the hygienic conditions existing before, during, and after the operation.

(6.) Shock, one of the most common causes of death after primary amputations for injury, owes its malignant potency in such cases to the fact that the system has not fully recovered from the previous shock of the injury. The desideratum is to prolong the duration of the primary or apyretic period, so as to secure a complete subsidence of the original shock before operating. It is probable that this may be effected by carbolizing the injured tissues according to the method of Stephen Smith, which appears to prevent inflammation, and thus to retard, or even abolish, the "intermediary" period of wounds.

(7.) Septic complications have heretofore been the most fruitful causes of mortality after operations in hospitals, where their malignant effects are observed after secondary as well as after primary amputations.

(8.) Much may be done to prevent the development of septic poison by careful and minding attention to sanitary precautions, including all the details of personal and hospital hygiene.

(9.) The statistics of amputations in private practice and in cottage hospitals, in rural districts, when compared with those of city hospitals of the usual capacity, due allowance being made for various other influences that determine the results of operations, do not warrant the sweeping conclusion that large hospitals, even those constructed on the block system, with several stories, are necessarily liable to outbreaks of septic diseases, or that the mortality must necessarily be greater than in private practice, in the same localities, and among the same classes of the population.

The observed sanitary defects of any given hospital will almost certainly be found to be due to faulty location, faulty plan of construction, or to remediable defects of administration. Septic diseases are, indeed, likely to arise in a ward, whether of a large or small hospital, in which a number of surgical cases with open wounds are brought into proximity with each other; but if overcrowding be prevented, it is possible to prevent the spread of these diseases by adequate ventilation and perfect cleanliness in its most comprehensive surgical sense.

(10.) After securing all that can be accomplished by patient and scrupulous attention to sanitary arrangements, with a view to render the atmosphere of a hospital comparatively aseptic, there is good reason to believe that an additional protection of great value may be derived from the use of antiseptic precautions practiced in conformity with the Listerian principle.

(11.) "Listerism," practiced *de rigueur*, while not so essential in cases of amputation, where it may often be superseded by drainage and perfect cleanliness, has achieved results in operations on joints and in treatment of "abscesses by congestion," which have not been paralleled by any other system of treatment.

(12.) The preponderance of evidence is in favor of its utility in ovariectomy and abdominal sections generally, although marvelously good results have been obtained without special antiseptics by a careful attention to other sanitary arrangements.

The discussion was participated in by Drs. R. Beverly Cole, of California; David Yandell, of Louisville, Ky.; Henry F. Campbell, of Georgia; J. W. S. Gourley, New York; R. A. Kinloch, Charleston, S. C.; and was continued on the following morning.

#### SECOND DAY.

After a short executive session for the discussion of private business, the discussion of Professor Cabell's essay was resumed, Drs. Naucrade and Gay advocating the method, and Dr. Yandell, Moore, Cole, and Gourley opposing it. As the paper introduced the subject of the value of antiseptics in Lister's system a spirited discussion followed. The opponents of the system apparently based their remarks upon the following propositions: (1) There is no good derived from the antiseptic plan of treatment; (2) if there is any benefit derived from Listerism it is not due to carbolic acid; (3) and, finally, if carbolic acid can be shown

to have done any good the credit of its introduction into surgical practice does not belong to Mr. Lister. The advocates, on the contrary, insisted that the system is properly known by Mr. Lister's name, since by him it has been brought into general practice, and now employed by surgeons all over the world; (2) that the use of antiseptics is only a part, and perhaps a minor part, of this system of dressing wounds; and, finally, (3) while wounds may get well without this method, under favorable circumstances, that with this method the prognosis of operations under unfavorable circumstances has been greatly improved.

#### FRACTURES OF THE SKULL.

The next paper was read by MOSES GUNN, M. D., of Chicago, on Treatment of Fractures of the Skull, Recent and Chronic, with Depression. The propositions submitted for discussion by the paper were:—

(1.) In all recent fractures with depression, whether simple or compound, even though entirely without symptoms of compression, if there is reason to believe that the internal table is depressed, and if there are no symptoms of marked concussion or collapse, elevation of the depression should be promptly effected.

(2.) In chronic cases, as soon as positive, even though comparatively slight symptoms of cerebral irritation present themselves, a disk of the cranial walls, intended to include the irritating point, should be removed with a trephine of requisite size.

(3.) All operations and dressings should be conducted upon strict antiseptic principles.

The debate was opened by DR. R. J. LEVIS, of Philadelphia, who said that the majority of cases of compression of the brain did not show symptoms of compression, but concussion and shock, and that if symptoms of compression were waited for, many operations which are now performed would be left undone.

DR. MOORE said that he was reluctant to use the trephine where he could avoid it, and that he endeavored to get the elevation, if possible, without the use of the trephine.

DR. HUNTER MCGUIRE, of Richmond, Va., said that the profession was indebted to Prof. S. D. Gross for teaching interference by surgeons in compound fractures of the skull, for if the bone is allowed to remain depressed, symptoms of compression being present, the man's life, even if it is preserved, would hardly be worth having. The speaker said that this view was right almost the whole surgical world agrees; but to advocate operating in every fracture of the skull would be to give license to every young surgeon to use the trephine, which would be an extremely dangerous dogma for the Association to advocate.

DR. GOURLEY cited two cases of fracture which he had treated in succession with the trephine, and around which the bone became necrotic. He did not know whether or not the bone was affected by the use of the trephine or was caused by the original blow, but he fancied that one had as much to do with it as the other; but the patients lived and recovered. In another case, that of a New York policeman, the trephine was not used, and, although the man recovered, there was a depression in which the end of the finger could be placed, and in six months' time the man was insane.

DR. HENRY J. CAMPBELL, of Georgia, thought trephining was one of the most capital of capital operations, but he was of opinion that it was a dangerous

principle to establish among the younger surgeons that in all cases of depressed fracture they should operate. He said: "Trephine when you see symptoms, and do not trephine unless you do see symptoms, unless in punctured fractures. The brain, it seems to me, will stand almost any kind of injury except compression."

DR. WILLIAM T. BRIGGS said that he had never regretted the use of the trephine, but had often regretted that he had not used it. He thought it was the primary operation for the prevention of the secondary results. There are two classes of injury to the head; one a diffused contusion of the brain, and another class of cases in which there is a local injury by compression due to fracture of the internal table. If the injury be so slight that the brain may accommodate itself, there may be considerable depression of the external table without symptoms of importance; but if irritation follows the displacement, symptoms of compression will call for prompt operative interference.

DR. R. A. KINLOCH said that where there was moderate compression, without symptoms of compression, and the surgeons cannot say positively that the depression is of one or both tables, he was clearly in favor of leaving such a patient alone, and any attempt to elevate that bone with the trephine increases the risk. He thought such an operation, if justifiable at all, would only be justifiable upon the presumption that the patient is going to suffer from the after consequences, which has not been clearly demonstrated by statistics.

DR. S. W. GROSS said that in all recent fractures with depression, if the latter be moderate, whether simple or compound, the patient should be left alone. If, however, fixed and severe pain at the point of injury, febrile excitement, increase of local temperature, and a commencing puffiness of the scalp supervene within a few days after the accident, signs which are indicative of depression of the internal table and the development of pachymeningitis, elevation of the depression should be promptly effected. In all recent fractures whether simple or compound, attended with symptoms of compression, the trephine should be resorted to; and the same rule should apply, whether symptoms be present or not, if the depression be considerable and funnel-shaped. Punctured fractures should invariably be subjected to operations.

DR. BRIGGS said he would always operate if there were symptoms of irritation, either local or reflected.

DR. GUNN, in concluding the discussion, said that as to compound and punctured fractures he had not departed in his paper from the rule, but in simple fractures he had taken a step in advance of the principles generally laid down by authorities.

#### TRANSVERSE FRACTURE OF THE PATELLA.

DR. RICHARD J. LEVIS read a paper on The Treatment of Transverse Fracture of the Patella, with the object of producing bony union, in which the propositions enunciated for discussion by the Association were:—

(1.) The object of mechanical appliances to effect apposition of the fragments.

(2.) The ordinary causes of failure to secure osseous union.

(3.) The question of the comparative merits of bony and ligamentous union.

DR. LEVIS, in demonstrating his subject, brought forward two patients for examination to show the bony

union of which his paper treated. The discussion on the paper was postponed until the afternoon session.

During the recess the members of the Association partook of luncheon at the residence of Dr. J. Ewing Mears.

#### AFTERNOON SESSION.

The afternoon session was begun by the discussion of the paper read in the morning by Dr. Levis on The Treatment of Transverse Fracture of the Knee-joint. Dr. Levis recommended fixation of the fragments by his modification of Malgaigne's hooks. Diagrams of the anatomical relations of the patella were shown, and specimens of union by ligamentous bands (old plan) and by bone (new plan) were exhibited to the Association. An interesting discussion followed in which Dr. Thomas G. Morton, Philadelphia; Dr. William A. Byrd, Quincy, Ill.; Dr. Henry F. Campbell, of Georgia, and Dr. R. G. Levis participated.

#### FOREIGN BODIES IN THE AIR-PASSAGES.

The next paper was presented by J. R. WEIST, M. D., of Richmond, Indiana; the subject being Foreign Bodies in the Air-passages, the conclusions reached and presented for discussion being:—

(1.) When a foreign body is lodged either in the larynx, trachea, or bronchia, the use of emetics, erines, or similar means should not be employed, as they increase the sufferings of the patient, and do not increase his chances of recovery.

(2.) Inversion of the body and succussion are dangerous, and should not be practiced unless the wind-pipe has been previously opened.

(3.) The presence simply of a foreign body in the larynx, trachea, or bronchia, does not make bronchotomy necessary.

(4.) While a foreign body causes no dangerous symptoms, bronchotomy should not be performed.

(5.) While a foreign body remains fixed in the trachea or bronchia, as a general rule bronchotomy should not be practiced.

(6.) When symptoms of suffocation are present, or occur at frequent intervals, bronchotomy should be resorted to without delay.

(7.) When the foreign body is lodged in the larynx, there being no paroxysms or strangulation, but an increasing difficulty of respiration, from œdema or inflammation, bronchotomy is demanded.

(8.) When the body is movable in the trachea, and excites frequent attacks of strangulation, bronchotomy should be performed.

In opening the discussion, DR. CAMPBELL related the particulars of several cases in which he had performed bronchotomy and said that he had a horror of the operation, but from duty he had performed it oftener than he wished to. He was much gratified at the conclusions expressed by the lecturer.

DR. J. EWING MEARS cited several cases, as did also DR. NANCREDE.

DR. WEIST, in concluding the debate, said that he did not feel that his paper had no value because of the little discussion it provoked, but rather thought the evidence he had presented was new, and in such a shape that members of the Association were scarcely prepared to consider the subject or attack the position he had taken. He deprecated the use of the knife, and expressed his sorrow, as did the other speakers, to its improper use in such cases, and concluded his remarks by saying that the evidence he presented he hoped would induce

surgeons hereafter to stay the knife until the indications for its use were clearly present.

#### ANTISEPTIC TREATMENT OF WOUNDS.

W. T. BRIGGS, M. D., read a paper on The Antiseptic Treatment of Wounds after Operations and Injuries, in which the points submitted for discussion were:—

(1.) The germ theory of wound infection is not established.

(2.) The antiseptic treatment of wounds after operations and injuries is not limited to Listerism or any other special method, but is based upon broad general principles.

(3.) Antiseptic surgery embraces every condition or agent that tends to prevent putro-factive changes in wounds, or to remove or neutralize the evil effects of such changes when they have occurred.

(4.) All wounds are healed by reparative inflammation.

(5.) All wound accidents are the result, either directly or indirectly, of destructive inflammation.

(6.) The antiseptic treatment of wounds, properly considered, consists, first, of such means as will restrain inflammatory action within reparative bounds; and second, of such means as will subdue excessive action, and remove or neutralize the effects of destructive inflammation.

DR. MOORE, after complimenting the author of the paper for its broad and general principles, said that he was now experimenting with a view to give external surgery some of the advantages of internal surgery, and this is just what Mr. Lister undertakes to do. He undertakes to purify the air which comes in contact with a wound. In a large number of cases we are able to exclude the air from external wounds, or the raw surfaces left by amputation; and if we succeed in doing this, we may believe that this form of antiseptic treatment will be more efficacious than the cure of the air. I simply pass carbonic acid gas into the place where the operation is performed, which displaces the infected atmosphere and keeps the wound clear.

DR. CAMPBELL said that his invariable practice in treating wounds was to administer to the patient daily a sufficient quantity of quinine, in some form or other, to produce cinchonism, and thus prevent suppuration or unhealthy conditions of the wounds during treatment.

The hour of adjournment having arrived, further discussion was postponed until Friday morning.

In the evening the members of the Association were given a reception at the residence of Prof. S. W. Gross.

#### THIRD DAY.

#### MUSEUM AND LIBRARY OF THE SURGEON GENERAL'S OFFICE.

Upon the opening of the meeting being announced, DR. D. W. YANDELL presented the following resolutions, which were adopted:—

*Whereas*, The American Surgical Association, in annual session at Philadelphia on June 2d, has learned with deep regret that the Senate Committee on Appropriations has reduced the annual appropriation for the Museum and Library of the Surgeon General's Office from \$10,000, as passed by the House of Representatives, to \$5000; therefore be it—

*Resolved*, That the president and secretary are hereby instructed to communicate to the United States Senate the views of this Association, as expressed at this meeting, in reference to this proposed reduction, and to state that in the opinion of this body such reduction would be extremely unwise, by hampering the growth of the museum and library, in which the people of the whole civilized world are deeply interested. Be it, therefore,

these collections and the emanations from them, the knowledge of the science and art of medicine, and its application to the relief and cure of disease and injury are vastly increased, and diffused for the benefit of all mankind; and now to cripple this work, which the government has in its power to develop, by a reduction of appropriations, would be to retard the unfolding of resources to successfully combat disease and injury, and to impair the growth of an institution which is everywhere regarded as an enduring monument of the philanthropic liberality of the American nation.

*Resolved*, That these collections, which are unrivaled in their richness and usefulness, are a source of just national pride; and as they are a benefit beyond price to the whole people, for all men are subject to disease and injury, they are especially worthy of the fostering and liberal care of a government and people.

The following was prepared by a special committee which was appointed to draw up resolutions regretting the death of several members:—

In the course of a mysterious Providence, the wisdom of which one is not bold enough to question or discuss, to which we instinctively bow in mute and sorrowful submission, six of our number have been beckoned from our midst. Fellows H. Lenox, Dodge, J. C. Hughes, W. W. Green, H. H. Brock, J. S. Hodgson, and J. R. Wood have obeyed the summons and joined the great and ever increasing majority.

In contemplating our great loss we painfully realize that it includes some of our most valued members. Scholarly attainments, brilliant achievements, resources, patient investigations, devotion to surgery, and genial companionship, are some of the elements in the character and works of our lost brothers. While we emulate their virtues, let us inscribe on our records our appreciation of their eminent qualities and the deep sorrow which oppresses us as we realize our loss.

The following officers were elected to serve during the ensuing year:—

President—Prof. S. D. Gross, of Philadelphia.

Vice-Presidents—Prof. E. M. Moore, of Rochester, N. Y., and Prof. Moses Gunn, of Chicago, Ill.

Secretary—J. R. Weist, of Richmond, Ind.

Recorder—J. Ewing Meale, of Philadelphia.

Council—R. Beverly Cole, San Francisco, one year; George W. Gay, of Boston, Mass. (for two years); Hunter McGuire, of Virginia (for three years), and H. J. Campbell, of Georgia (for four years).

Dr. J. C. HUTCHINSON read a paper on Diseases of the Hip Joint.

Dr. H. J. CAMPBELL, of Georgia, read a paper entitled *The Ligation of Arteries for the Relief of Mortification*. He said that he wished to again call the attention of the profession to the importance to the value of controlling the supply of blood to a diseased part, by tying the main artery in a limb in which inflammation had taken place.

#### AFTERNOON SESSION.

The reading of Dr. Campbell's paper was continued, but time did not permit prolonged discussion. The Association decided by resolution to publish a volume of the transactions of this meeting. After passing resolutions thanking the College of Physicians and the Committee of Arrangements, and the surgical instrument makers who had given an exhibition of apparatus, the Association adjourned to meet in Cincinnati at the call of the President; the date being left open so as not to conflict with attendance upon the American Medical Association.

#### CONNECTICUT MEDICAL SOCIETY.

REPORTED BY SPECIAL CORRESPONDENT.

THE ninety-first annual convention of the Connecticut Medical Society was held in New Haven, Common Council Chamber, City Hall, May 24th and 25th. This Society is one of the oldest in this country. New

Jersey has the oldest organization of any society, as far as I can learn, being some twenty or more years older than our own Society. Massachusetts takes precedence in New England. New Hampshire is ahead of us only one year, so that the Connecticut Society, which was organized in 1792, ranks third in New England, and fourth in the United States, so far as I have been able to learn. The transactions of neither of these societies indicate age. The Massachusetts Society, in celebrating the centennial last year, showed no symptoms that would indicate such a venerable age, nor was there any shown by the younger society last May. The first day is devoted to business, although sometimes special reports give it quite a literary character, as well as the lively discussions that follow. The attendance was large, thirty-eight out of a possible fifty of delegates or Fellows, as they are here called, who do the voting, and many more interested members who have all rights of discussion, but cannot vote. There are each year questions arising concerning the manner of filling vacancies in the Fellows from each county society, if any are absent. This year one of these societies elected alternate Fellows; this was declared allowable by the Committee on Credentials, which the President appoints as soon as he has called the convention to order. Another society had voted to allow its president to fill vacancies; this was not allowed, as likely to cause trouble, in case at any time said president might wish to push some pet scheme through the convention. The convention accepted the report of the committee, and indorsed its action on both points. The election of alternates will come up as a by-law next year.

#### PRESIDENT'S ADDRESS.

As directed by the rules of the Society, the President then presented such topics as he deemed should be considered in addition to the usual business, after a brief address of welcome. Reasoning from the progress of the Society in influence, zeal of its members, character of its literary work in convention, and value of its publications, he urged a more aggressive policy, a higher standard of admission to the profession, and protection by law; he advised that an effort be made to secure a law requiring the diploma of some chartered medical school as a prerequisite to practice medicine in this State, as a recognition of a learned profession, and for the protection of the public against unqualified practitioners. He then called attention to the National Code of Ethics as requiring abolition or at least revision. The *principles* of the code were such as would guide every gentleman in his professional life, but a detailed code implied that we were compelled to live up to it from fear of punishment alone. This implication was, he thought, humiliating. Laws of this kind are made for the bad, not for the good. If there were any disposed to transgress the principles of the code they would do so, and did; even if the present restrictions were doubled, as many transgressions would occur. If it does no positive good the code does work positive harm, and requires revision, to say the least. I leave the subject in your hands to devise means for the accomplishment of this result.

A recess was then taken for the county delegations to each select one of their number for a member of the nominating committee.

## TREASURER'S REPORT, ETC.

The various routine business was transacted in due order. The report of the treasurer presented several interesting features. For the first time in long years, if ever before, seven of the eight county societies were reported as having paid all dues to the Society and having a clean record. Two of the smaller ones have usually paid in full each year, and for the last six years Hartford, the second in size, has done so also, but the others had dragging along each year arrears more or less. But this year all but New Haven County had paid in full and cleared up all old scores. This has been brought about by the hard work of the county clerks, and the retiring treasurer, who, having secured a working balance in the treasury which came into his hands nearly bare, finds other duties prevent longer service, to the regret of all. But the new treasurer brings zeal and earnestness to his work.

## CHANGES IN BY-LAWS.

Several minor changes in the by-laws were considered and referred to the next convention, as directed by the rules for such changes. The only one of importance was that making out of the temporary committee appointed for each case of discipline a Board of Censors, Fellows *ex-officio*, a permanent, instead of a temporary, organization for each case as it may occur. The change is a desirable one.

## LUNACY COMMISSIONERS.

The committee appointed to report on a series of resolutions introduced in 1879, asking the Society to use its influence to secure lunacy commissioners for this State, to investigate methods of treatment and management of insane asylums, with especial reference to conducting them as other hospitals are conducted, recommended that no action be taken, as the Board of State Charities, as at present constituted, could do all that was assigned to a lunacy commission in the resolutions. The secretary, by request, read the statute creating the Board of State Charities, from which it was seen that their duties were to visit all insane asylums in the State at least once a month, visiting without previous notice. To investigate all alleged abuses, illegal detentions, with power to send for persons and papers, and so on in detail through the specified duties of lunacy commissioners. The report was discussed fully and freely. In favor of a lunacy commission were Drs. Baker and Cleaveland, of Middletown, and White of New Haven; in favor of the report of the committee, Drs. Stearns, Edgerton, Hazen, Hill, Thompson, and Chamberlain. The principal argument in favor of appointing a lunacy commission was presented by Dr. A. Cleaveland. The abuses of the insane in asylums, the quieting of the public dissatisfaction, and proper settlement of the questions that would arise, — whether sudden deaths and suicides in asylums were such in reality or deaths from the abuse of attendants thus concealed, — all demand a commission with power to investigate and impartiality enough to report the truth. The great decline in the percentage of cures of insanity requires investigation by such a body of men. They would also weed out of the asylums the old incurable mild cases of the harmless types of insanity that can better be treated at home, or cared for rather, as they require no medical treatment. This course would allow recent cases to find room for treatment in asylums, while yet there

was the greatest hope and chance for cure. Such cases now are kept waiting for a vacancy in the overcrowded asylums until all hope and chance for cure is lost, and more hopeless incurable cases are added to the life pensioners on the State. The long list of these discourages legislation, now it increases so fast, and the demands upon the State for the care of the insane are so heavy. The policy of managing insane asylums as other hospitals are was abandoned by all; those who had before believed that this was the true method, when the resolutions were first offered, had upon careful study decided that such management was impracticable.

The need is great of such a commission to study the wants and treatment of the four hundred or more insane not in asylums in this State, but in almshouses, and oftentimes in most wretched condition, with no facilities for comfort even, let alone any idea of treatment, much less of cure. Those cared for by relatives and friends demanded often the watch and care of such a body of intelligent men. The abuses here are greater than in asylums. For various reasons insanity sometimes is a fact that friends wish to conceal; knowledge of its existence in a family may be exceedingly disadvantageous, as can readily be imagined, and all kinds of cruelties and hardships are imposed to secure secrecy. To bring out the hidden things of darkness, in the private care of the insane would require no small amount of time and labor, which, however, could not be spent to better advantage.

The study of the causes and means of prevention of insanity would alone justify the existence of such an organization. The popularization of such knowledge and its diffusion among the people should be included. In the same manner as our State Board of Health investigates the causes and means of prevention of zymotic diseases, and spreads its information, would commissioners in lunacy investigate the causes and means of prevention of insanity and popularize the knowledge gained. We have learned to value the work of our State Board of Health and prize its reports, and no one would allow its work to be suspended; in like manner would the lunacy commissioners justify their appointment and prove their right to exist. If they did not, they could readily be abolished. He deprecated the delay in taking decisive action on this subject, which seemed almost intentional; criticised the majority report of last year because it failed to give any account of the history and results of lunacy commission in America; and denied the value of the State Board of Charities as an agent to do the work outlined, and declared its inefficiency in relation to any province of the field mapped out for a lunacy commission. If it ever had taken the slightest action no results had been published, and no one knew anything about what they had done. With reference to other departments of its work he had no criticisms to make. In conclusion, he appealed to the humanitarian aspects of the question, the sufferings to be relieved, and the good to be accomplished.

DR. CHAMBERLAIN denied that there had been any policy of delay; the first year the Society were not qualified to pronounce judgment without any particular knowledge of the subject, so the appointment of a committee was a judicious move. When next year this committee reported that they were so unfamiliar with the subject that they could not advise the Society intelligently, the policy of a committee of experts became

evident. None in the Society were so well informed as the superintendents of our asylums, except it might be Dr. Cleaveland himself, so he was added to the committee. The result, two reports, was the best possible, as all phases were to be found in one or the other. The lack of time for discussion last year, when five or six long reports on special subjects left scarce time for necessary business, was fortunate also; these two reports had been before us a year, and there was now no excuse for ignorance of the subject. While not opposing a lunacy commission, he failed to see how much could be accomplished in regard to lunatics treated in their homes, unless the relatives or friends invited their coöperation. In this country the rights of the individual are sacredly guarded, and if friends wished to conceal the existence of insanity how could the commissioners guess the carefully guarded secret?

Dr. BAKER stated that he had expected the original mover of the resolutions, Dr. Nickerson, of Meriden, would have been present to urge their adoption. In his absence he would indorse the views of Dr. Cleaveland, and hoped the Society would exert its influence in behalf of this unfortunate class that could not advance its own interests, or protect itself from abuse.

Dr. STEARNS, of Hartford, stated that he had never opposed lunacy commissions, but wished every State in the Union could have one modeled after that of Scotland if it were practicable. But the spirit of our government was entirely different, and no such powers could be constitutionally exercised in this country, and without these arbitrary powers it would be useless. With reference to asylums, the exercise of the prerogatives contemplated would destroy all discipline and authority at once, and the influence of the superintendents over the inmates would be lost. The State was too small to require such an organization, with only one public asylum and not over fourteen hundred insane. Successful commissioners abroad had very much larger fields. The expense would be so great that the State would never undertake it, as the burden was felt to be oppressive now. The whole time of three experts, of the character success demanded, would involve large figures, and their whole time would be required; a large part of it to study individual cases in asylums if they were to take the responsibility of discharging patients, for no one would claim that they could discriminate by a glance a safe, harmless lunatic, and a raging destroyer, who five eighths of the time was as mild as an infant. If the majority had failed to show the good results achieved by such commissions in this country, Dr. Cleaveland had not supplied the deficiency either last year or this.

Dr. CLEAVELAND stated in reply that he must admit the history of lunacy commissions in this country was not a brilliant one, but that it was not was due to the determined and persistent opposition of the association of superintendents. That the field was large enough had been shown by the work outlined, which would not leave them many idle moments.

Dr. WHITE, of New Haven, stated that his opinion had changed since he was on the first committee to investigate the subject. He was then opposed to the plan. Now he had been convinced of the need of such a body, and in comparison with the suffering to be relieved and the direct benefits arising, which would increase from year to year, as familiarity with details was acquired, the expense was a matter not to be considered.

After a prolonged and somewhat excited debate, the report of the committee adverse to lunacy commissions was accepted. Incidentally allusions were made to the asylum at Middletown, which called out warm encomiums on its management from various physicians, from Middletown, Middlesex County, and the State generally. The superintendent and his management were fully endorsed.

#### REGULATION OF MEDICAL PRACTICE.

The committee to which was referred that part of the president's address relating to a more stringent law regulating medical practice in this State reported that action at present was inexpedient. A very good law relating to itinerant practitioners was lately passed, and had run the gauntlet successfully one year. As it was fiercely assailed by those it excludes, it was deemed best to allow this to become fixed on our statute-books before asking for protection by law. There were also needed reforms in medical education before the possession of a medical diploma could be taken as some evidence of the possession of the knowledge and training essential to commence the practice of medicine. The report was accepted.

#### HONORARY MEMBERS.

Dr. Pliny Earle, of Northampton, Mass., was elected an honorary member of the Society, and Dr. F. S. Billings, United States Army, and Dr. William Maxwell, of New York, proposed for election next year.

#### CODE OF ETHICS.

On motion of Dr. LEWIS, of Collinsville, the following committee was appointed to report on the revision of the Code of Ethics to the convention next year: Dr. E. C. Kinney, Norwich; Prof. C. A. Lindsly, M. D., New Haven; Dr. Geo. W. Avery, Hartford.

#### OFFICERS.

The following officers for next year, 1882-3, were proposed by the Nominating Committee and duly elected: President, William T. Brownson, M. D., New Canaan; Vice-President, Dr. E. B. Nye, Middletown; Treasurer, Dr. E. P. Swasey, New Britain; Secretary, Dr. C. W. Chamberlain, Hartford. Committee on Matters of Professional Interest in the State: Drs. W. A. M. Wainwright and H. S. Foller, of Hartford; G. F. Lewis of Bridgeport. Delegates to Massachusetts Medical Society: Dr. R. Robinson, Prof. W. H. Carmalt, M. D., Dr. G. L. Porter.

#### THE NEW YORK STATE MEDICAL SOCIETY.

A resolution condemning the course of the New York State Medical Society was offered and tabled, on motion of Dr. Wainwright, who stated that we were now in harmony with each other and all the world, and as the discussion of these resolutions would of necessity be a very heated one, he saw no object in entering upon the subject. If it came before us for our own guidance, discussion would be unavoidable; as it was now, no reason for our action existed.

#### PROFESSOR CARMALT'S RECEPTION.

After the usual routine of business was finished the convention adjourned. In the evening a delightful reception was given by Professor Carmalt, to introduce Professor Beckwith, the newly appointed Professor of Obstetrics in the Yale Medical School, to the profession of the State.

# Medical and Surgical Journal.

THURSDAY, JUNE 15, 1882.

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No. 4 PARK STREET, BOSTON, MASS.

## GENERAL SURGICAL EXHIBIT AT THE MEETING OF THE MASSACHUSETTS MEDICAL SOCIETY.

A YEAR ago we took occasion to call attention to the exhibit at the centennial meeting of the Massachusetts Medical Society, and expressed a hope that in future similar exhibits might be made to illustrate methods and progress in different branches in medical science.

The committee of arrangements has this year carried out our suggestion, and presented at the meeting of the Society an instructive exhibit of general surgical appliances.

An attempt was made to show proved methods in the treatment of fractures, using models and artificial limbs on which the various bandages and appliances were placed. It was in this way possible to illustrate a greater variety of the best appliances than could be ordinarily shown during a hospital visit.

The committee express a regret that contributions were not more generally sent by different individuals throughout the State. It is to be hoped, certainly, that the ingenuity of the New Englander may not have degenerated or been evaporated from the medical practitioner by the forcing process of education, and that he may not rely in the treatment of surgical injuries on the traditions alone of the older surgeons. We ought to treat fractures better than our fathers, and it is to be hoped that our children will be more skillful than we.

The bulk of the exhibition was contributions from the Boston hospitals. The articles from the Massachusetts General Hospital illustrated the excellent neatness and care for which that institution has a wide and well-deserved reputation.

The City Hospital contributed some remarkable illustrations of skill in work with plaster-of-Paris bandages, showing an admirable fixed dressing so arranged that the limb could be sufficiently inspected without being disturbed from an immovable dressing. The practical working of this in the hands of one familiar with the detail of application is excellent, and we are glad to see that so much attention has been paid to this branch of surgery.

Articles were contributed from the Children's and Samaritan Hospitals showing the attention paid in these institutions to the surgery of children.

A full set of litholapaxy instruments added to the interest of the exhibit. The electric probe and flexible drainage tube used in the treatment of the late

President Garfield was of great historical, if not surgical, value, and attracted attention.

We can simply renew the hope that the committee will continue, in future years, the plan which has proved so successful.

## RESIGNATION OF PROFESSOR BIGELOW.

IT is the duty of the JOURNAL to announce the resignation, already widely circulated in the daily papers, by Professor Henry J. Bigelow, of the chair of Surgery in the Medical School of Harvard University. Appointed in 1819 as the successor of Dr. George Hayward, he has assisted in training for usefulness the students of thirty-three successive years.

Deeply versed in an unusually wide range of subjects, of marked technical skill, with a singular ability for seizing the vital point of a subject, few men have possessed in an equal degree the power of making themselves distinctly understood, and of giving their hearers something definite to carry with them from the lecture-room. Perhaps it would be descriptive of his peculiar faculty to say that his lectures were particularly fitted to the essentially practical character of his American pupils. His students seldom meet in consultation over a surgical case without quoting some remark of their old master.

In the government of the school it is certainly no disparagement to the gentlemen of the Faculty to say that the loss of his voice at the council board will be a most serious one.

The first steps have been taken by the Corporation of the University towards his appointment as Professor Emeritus. May he long enjoy the *otium cum dignitate* to which his extended labors entitle him.

## THE AWARD OF THE BOYLSTON PRIZE.

OUR advertising columns contain to-day the notice of the award of the Boylston prize to T. M. Dolan, F. R. C. S., of Halifax, Yorkshire, England, for an essay on Sewer Gas, so called (the Gas found in Sewers): What are its Physiological and Pathological Effects on Animals and Plants? An Experimental Inquiry.

This is the third successive occasion on which the prize has been awarded to a competitor outside of the United States.

It is a cause for congratulation that America can offer prizes sufficiently liberal for international competition. It was pleasing rather than otherwise when the first award to an Englishman showed that the competition was not limited to inhabitants of a single country; that that award should be immediately followed by two others of like nature is far from flattering. We trust it is a nobler motive than selfishness that causes us to hope that the next announcement may be more in accord with national pride.

—Two bills providing for two new free baths for New York City—one on the East River and one on the Hudson—were passed by the New York legislature before its final adjournment.

## THE SWEATING SICKNESS OF THE SIXTEENTH CENTURY.

ONE would not look for medical knowledge in files of State Papers, yet certain information in regard to the somewhat mysterious disease which spread such terror throughout England during the early part of the sixteenth century is found in an interesting volume of Stories from the State Papers recently published. The disease visited England five separate times, and is supposed to have carried off over thirty thousand victims.

The Sweating Sickness, though not entirely limited to England, showed even in foreign regions a peculiar predilection for Englishmen, so that it was named in other countries *Sudor Anglicus*, The English Sweat. The learned Erasmus wrote to the physician of Cardinal Wolsey a letter which would have qualified him for a position on the Health Board had such a board had an existence at that date.

"I am frequently astonished and grieved (wrote Erasmus) to think how it is that England has been now for so many years troubled by a continual pestilence, especially by a deadly sweat which appears in a great measure to be peculiar to your country. I have read how a city was once delivered from a plague by a change in the houses made at the suggestion of a philosopher. I am inclined to think that this also must be the deliverance for England. First of all, Englishmen never consider the aspect of their door or windows; next their chambers are built in such a way as to admit of no ventilation. . . . The floors are in general laid with white clay and are covered with rushes, occasionally removed, but so imperfectly that the bottom layer is left undisturbed sometimes for twenty years, harboring expectorations, vomitings, ale-droppings, scraps of fish and other abominations not fit to be mentioned. Whenever the weather changes a vapor is exhaled which I consider very detrimental to health. . . . I am confident the island would be much more healthy if the use of rushes were abandoned. . . . More moderation in diet, and especially in the use of salt meats, might be of service; more particularly were public oediles appointed to see the streets cleaned and the suburbs kept in better order."

It may not be unprofitable to look back upon times whose sanitary evils surpassed those of the present; though Erasmus's philosopher might still be able to make an occasional suggestion. There were other evils than unventilated houses. The narrow streets were the receptacles for all garbage, while the surface sewers slowly rolled their contents towards an already polluted river. The springs were monopolized by the brewers, and the conduits had afforded for a century only an insufficient supply of water.

The illness began with a fever followed by severe internal struggles which caused a profuse perspiration to break out. One of the chief results of the disease was to cause so complete a prostration of the system that the patient often yielded without a struggle. The chief victims were the robust and powerful, while "thin-dicted" men were rarely attacked. According

to Du Bellay, the French ambassador, "one has a little pain in the head and heart; suddenly a sweat breaks out and a doctor is useless; for whether you wrap yourself up much or little, in four hours, and sometimes in two or three, you are dispatched without languishing as in those troublesome fevers." "In London, I assure you, the priests have a better time of it than the doctors, except that the latter do not help to bury."

If the descriptions of the disease itself are somewhat vague, the minute account of its medication would seem to show that modern clinical histories are lineal descendants of those of three centuries ago.

To repeat the formula would be useless transcription. Though "unicorn's horn if it be possible to be gotten" would show that the remotest regions were laid under contribution long before the present day.

The disease was by no means invariably fatal, nor did one attack afford protection from a second. Cardinal Wolsey was four times attacked, and Anne Boleyn survived the disease to meet a more dreadful doom. To the Cardinal, King Henry the Eighth, who, with due regard to the safety of his royal person, shifted his court as the epidemic made place after place uncomfortable, wrote: "The Quene my wyff hathe desyrd me to make har most hartly recommendations to yow as to hym that she loveth very well." To the fair maid of honor the royal sympathizer extended greater care than the mere sending of his Catharine's recommendations. "I have to grieve—he writes—because the physician I trust most is at present absent, when he could do me the greatest pleasure. However, in his absence, I send you the second: I beseech you to be governed by his advice, and then I shall hope soon to see you again."

The disease has fortunately disappeared from England but still exists among the Turks, where it was seen by English physicians and others during the Crimean war in the hospitals at Scutari.

## MEDICAL NOTES.

## NEW YORK.

—In the presentation of the grand jury for May, which was made June 1st, the usual visits to the charitable and correctionary institutions are described, and no abuses are noted as having been discovered. In these institutions there were found 10,402 inmates, a number equal to nearly one per cent. of the population of the city of New York. The number of inmates in the charitable institutions alone was 7899, who were distributed as follows:—

|  |      |
|--|------|
| Bellevue Hospital                          | 680  |
| Charity Hospital, Blackwell's Island       | 970  |
| Incurable Hospital, Ward's Island          | 104  |
| Homeopathic Hospital, Ward's Island        | 617  |
| Randall's Island Hospital                  | 247  |
| Alms-house, Blackwell's Island             | 1224 |
| Insane Asylum, Blackwell's Island (female) | 1889 |
| Insane Asylum, Ward's Island (male)        | 1260 |
| Branch Asylum, Hart's Island               | 362  |
| Infant's Asylum                            | 304  |

7899



The expenses in connection with the charitable institutions were \$797,658 for the year.

—At the annual meeting of the Society of the United Hebrew Charities, held May 28th, it was determined to establish a hospital for incurables, as it was ascertained that there were 353 persons of this class dependent on the society.

—The Queen's County Medical Society held its fifty-third annual meeting at Garden City, Long Island, on the 29th of May, when the following officers were elected: President, Dr. Overton, of Cold Spring; vice-president, Dr. Lindsay, of Huntington; secretary, Dr. Finn, of Hempstead.

—Plainfield, New Jersey, is said to be suffering from an epidemic of measles of a severe type. The disease first appeared in a large public school, containing nearly a thousand children, and was thence disseminated throughout the town. The number of cases up to the present time has been variously estimated at from five hundred to one thousand.

—The last meeting of the Medico-Legal Society before the summer recess was held on the evening of June 7th, when a final discussion of the subject of Guiteau's sanity took place. It was opened by the president, Mr. Clark Bell, who read a paper with the title, What is the Duty of the President of the United States in the Present Emergency in the Case of Guiteau? On this occasion it was voted that the interesting report of the special committee on the subject, proposing radical reforms in the present coroner system, which was presented at a previous meeting, should be made the special order of business at the next meeting.

—According to the official certificate of death of a book-keeper, twenty-six years of age, who died recently under the care of Dr. Willard Parke, Jr., death was caused by tobacco poisoning from excessive chewing and smoking.

—Franklin J. Moses, ex-Governor of South Carolina, has been sentenced to the penitentiary for six months for obtaining money under false pretenses, with the assumed name of Dr. F. L. Stiner, from Dr. Nathan Bozeman. He was also awaiting trial at the time under two other similar indictments.

#### WASHINGTON.

—The Army appropriation bill now (June 6th) before the United States Senate contains a clause appropriating \$100,000 for the erection of an Army and Navy Hospital on the Government Reservation at or near Hot Springs, Arkansas; and Surgeon General Barnes has expressed his belief, in a letter which was read to the Senate, that a general hospital at that point would save to the army many good soldiers who would otherwise be discharged the service as incurables by usual means at their stations, referring especially to rheumatism and kindred affections. The clause was adopted. An amendment had been introduced to this same bill reducing the appropriation for the Army Medical Museum, and for medical and other works for the library of the Surgeon General's Office, from \$10,000 to \$5000, but, on explanation that it was done through a mistake, the amendment was rejected, and the appropriation remains as that asked for originally.

## Miscellaneous.

### LAS VEGAS HOT SPRINGS, NEW MEXICO.

ITS MINERAL WATERS, CLIMATE, HOTELS, PLEASURE RESORTS, ETC.

EXTRACTS FROM A COMMUNICATION FROM WM. H. PAGE, M. D.

THESE springs are situated in 35° 10' north latitude, 105° 15' west longitude. Their altitude is 6767 feet. The following analysis is by Prof. F. V. Hayden, United States geologist:—

| Constituents.                 | Spring No. 1. | Spring No. 2. | Spring No. 3. |
|-------------------------------|---------------|---------------|---------------|
| Sodium Carbonate . . . . .    | 1.72          | 1.17          | 5.90          |
| Calcium Carbonate . . . . .   | 1.08          | 10.03         | 11.43         |
| Magnesium Carbonate . . . . . | 11.12         | 15.43         | 16.21         |
| Sodium Sulphate . . . . .     | 27.26         | 24.57         | 25.34         |
| Potassium . . . . .           | Trace.        | Trace.        | Trace.        |
| Lithium . . . . .             | Strong trace. | Strong trace. | Strong trace. |
| Silicic Acid . . . . .        | 1.04          | Trace.        | 2.51          |
| Iodine . . . . .              | Trace.        | Trace.        | Trace.        |
| Bromine . . . . .             | Trace.        | Trace.        | Trace.        |
| Temperature . . . . .         | 159° F.       | 123° F.       | 125° F.       |

There are over forty hot springs and one cold sulphur now known, samples of which were taken away by an appointed chemist several months ago, and a report is daily expected.

In this country springs have not yet become widely popular, on account of the charlatanism that infests them and their poor appointments, which bring them into disrepute with many physicians, who send their patients abroad. But this should not be so. This country can duplicate every spa in Europe. All that is required is a proper development. This, I think, there is ample evidence the Hot Springs Company has done, or is doing, for those here. A gentleman, here recently, told me that he visited the famous Karlsbad two years ago, and on showing the leading physician an analysis of these waters he said, "You have no need to come here."

#### CLIMATE.

Another question which will naturally be asked is, What is the climate, is it healthy? I have known people return from certain springs cured of their rheumatism, but fearfully sick of malarial fever, so that "the last state of that man was worse than the first." To those who have lived here long I need say nothing; it speaks for itself. There is a gentleman here from New York who has spent the last three years, under the advice of the first physicians at home and abroad, in trying to find the best place for those afflicted with lung troubles. He has visited the most noted resorts of Europe, Asia, and Africa, as well as this country, and he declares that this place excels them all; and, what is more surprising, his only experience here has been in March, the last week of which was the most disagreeable I have known here, on account of the wind.

From Christmas till New Year's, 1882, mean thermometer was 31° F. at eight A. M., 52° F. at noon, and 39° F. at six P. M. Mean for January at same hours 30° F., 41° F., 35° F.; February, 37° F., 49° F., 42° F.; March 43° F., 56° F., 47° F. There was a snow or rain in December. From Christmas to New Year's, 1882, there were four clear and three fair days.

January had twenty-two clear, five fair, and four cloudy days, on which there fell eight and one half inches of unmelted snow. February had twenty-three clear, three fair, and two cloudy days, with six inches of snow. There was no rain during the entire winter nor in March, and only fifteen and one quarter inches of unmelted snow for these four months, which all disappeared on every occasion in three days or less.<sup>1</sup> There was no wind worthy of the name from September to the first of April, except the last week in March, during which quite strong northwest winds prevailed a large part of the time, sweeping down by the only route by which the beautiful plaza, around which all the hotels are situated, can be successfully reached. Still, not one of the temporary sheds, huts, or tents were blown down, though in the most exposed situation. The whole plaza is encircled by an amphitheatre of picturesque foothills,<sup>2</sup> except at the narrow entrance and exit of the rapid-running Rio Gallinas, fed all the year by mountain springs, winding its way for miles through this cañon over a bed of granite slightly redder than that of Aberdeen, though not quite so hard, and from which ledge bubble forth all the medicinal fountains. Physicians are often asked by their consumptive patients, and by people residing in the frosty regions of the North, Where can I find a dry and mild winter climate? To this they often get an unsatisfactory reply. To say Tangier or Tetuan necessitates crossing the broad Atlantic in cold weather, and none too good accommodations after the long voyage. After the above facts I need not say, it is here.

Here is a paradise for lung diseases, where those thus afflicted can live the year round. Neither need those suffering from other ills, nor the well who accompany them, fear malaria, for that is not and cannot be indigenous here. I would add that asthmatics like Daniel Webster and Henry Ward Beecher are cured after a few days' residence at this place, and if they come before the time of the usual attack of "hay fever," do not have it at all for that season.

During the last nine months I have known quite a number to come here condemned to die of lung disorders within a short time, who are now in active business here or in other parts of New Mexico. The extreme dryness of the air and the general absence of wind make it really more comfortable than the winter thermometer would seem to indicate. It is my experience, as well as that of others, that one is as comfortable here at 58° F. as on the sea-board or near the great lakes at 68° F., even when in-doors; out-of-doors the difference is much more in favor of this place. Beautiful flowers have bloomed on the hill-sides all winter, and the Mexican laborers employed here have slept

among them, under nothing but their blankets, yet I have not known one to take cold.

During a few days of last September, when there was considerable wind, quite a number of the newcomers complained of catarrh, and at first I thought I had it myself, but I soon found it was the alkaline dust which inflamed the throat and nostrils. My experience this spring also convinces me that this alkaline dust soon ceases thus to affect one, as I have not suffered from it since, nor have those who continued to reside here.

Though the winter is mild the summer is not hot, neither is it sultry in the rainy season (parts of July and August). During that time last year I never found the thermometer above 84° F., and a hot night is unknown.

With such a climate and such springs, what a great future awaits this place for sick and well. This is, and will continue to be, the favorite resting-place between San Francisco and New York. And to what place can the people of Texas and the Lower Mississippi so easily fly to escape the summer's heat, or those of the North and Upper Mississippi to avoid the winter's cold?

#### BATH-HOUSE.

The bath-house is of stone, two hundred by forty-two feet, two stories high, and heated by steam, so that all the various departments can be easily kept at any desired temperature. Every kind of bath, including "mud baths,"<sup>3</sup> can be obtained, except that of hot air, which will probably be soon erected. A few comparatively inexpensive alterations and additions would make it the best in the country.

#### HOTELS.

A new hotel (the Montezuma) has just been opened, with two hundred and fifty rooms luxuriously furnished, heated by steam, and lighted with gas. The steward and head cook are from Paris and worthy of their origin, while the *manger*, service, and *cuisine* will compare favorably with the best hotels of Philadelphia or New York. The hotels are supplied with excellent water, taken from the river two and a half miles up the cañon, as well as from a reservoir of about one million gallons, high enough to cover all the buildings in case of fire, and irrigating all the grounds when required.

The Atchison, Topeka, and Santa Fé Railroad (which now owns the Springs) has spent and is spending many thousand dollars in constructing drive-ways up these romantic cañons, and bridge-paths over the foot-hills, which in an hour's ride bring you in sight of the everlasting snows of the Rocky Mountains, twenty-five miles distant. Fine carriages and good saddle-horses are on hand.

This river affords abundance of excellent trout, and lakes, several miles in diameter, can be seen from the surrounding hills, containing different species of fish. Deer, wild turkey, and gray squirrels have been killed since I have been here (July, 1881) within an hour's walk, and nothing but our presence now keeps them from this spot. Numerous herds of antelope and other game can be found a few miles away.

<sup>3</sup> Some of the springs flow into the river a short distance from its banks. The earth above the ledge and between them and the river has thus become impregnated with those waters for untold ages. In some places I have run a pole down fifteen feet through this soft, black, hot mud. Much benefit has been derived from its local application in rheumatism, gout, and some other diseases.

<sup>1</sup> I would here add that, notwithstanding this small amount of moisture and its short duration, every one here afflicted with lung trouble felt more or less discomfort during its continuance, and was glad when it was gone.

<sup>2</sup> They rise about three hundred feet above the plaza (park), and are higher than any land east of the Mississippi. Some are covered with scrub-oak bearing acorns, almost as good as filberts, which give the meat of the wild turkey a most delicious flavor, and capped with red granite; some quite thickly ornamented with pines which, at a distance, closely resemble huge arbutus, though much darker, and capped with limestone full of marine shells; some dotted with a kind of hard pine (from which with varnish a beautiful interior finish is made), and crested with red sand-tone in upright layers, of which there is enough to build Boston's white another at the mouth of the cañon presents a bald appearance, with a mass of beautiful light-colored horizontal sand-tone, which the stone-cutters declare is not surpassed by anything of the kind east of the "Father of Waters."

Here are grounds for croquet, lawn tennis, and archery, while billiards and bowling afford in-door exercise.

These Springs can be reached from St. Louis in Pullman sleeping cars; besides, good railroad hotels and excellent eating-houses are to be found at convenient distances along the entire route.

#### BILLROTH ON PIROGOFF'S LAST ILLNESS.

MR. EDITOR.—In a recent number of the *Petersburger Medicinische Wochenschrift* appears a letter from Professor Billroth to Dr. Wywodzew, dated February 20, 1882, which is interesting not only on account of the celebrities involved, but also for technical reasons. Dr. Wywodzew had sent Billroth a section of the tumor on Pirogoff's upper jaw.

"More than two thirds of the specimen sent," writes Billroth, "consists of small-celled, vascular, fibro-sarcomatous tissue; on one of the peripheries of the section there are nevertheless definite small-celled epithelial exuberances, and on one of the angles there is an exquisite particle of epithelioma, with epithelial pearls. The latter are apparently somewhat horny and of a peculiar light brown color; whether this color was the original one, or due to the Peru balsam which I advised Pirogoff to use, I am not able to decide.

"It is evident from this that my opinion as well as that of my Russian colleagues (as to diagnosis) was the correct one. When Pirogoff first consulted me in Vienna, I was under the impression that the trouble was a chronic inflammatory process in the alveolus of the last upper molar; this tooth afterwards loosened and fell out. The chronic inflamed new-growth began to proliferate, and gradually assumed, as I have often seen in old people, the character of an infiltrated sarcomatous epulis. In this stage of the disease I saw him. The slight swelling was free of epithelium; but the surfaces appeared to be in good granulating condition, rather compact, and showing no signs of breaking down. The epithelium in these spots was not entirely destroyed, but proliferated here and there, as was shown by the presence of some few scattered cicatrices. Subsequently, the epithelial exuberances took on a more proliferating, then destructive, character, and there resulted the partial formation of a true epithelial cancer. I would liken the occurrence of cancer formation to that of lupus and other chronic ulcers. The swelling of the lymphatics behind the angle of the inferior maxilla was certainly due to cancerous infiltration.

"Interesting and instructive as the results of the microscopic examination are in such cases, and the etiology of the development anatomically so well illustrated, the diagnosis of cancer in this case would not have influenced me to an operation. A man over seventy, of active mental habits, yet showing all the signs of bodily marasmus, with a cataract in each eye, etc., has no possible chance of withstanding an operation such as I would have been compelled to make, even in order to prevent a recurrence for a very short period of time. Yes, I admit to you, were such patient even of more powerful physique, and twenty years younger than Pirogoff was, I would still not have operated on him; my experience of thirty years as a surgeon has taught me that those sarcomata and carcinom-

ata, which originate way back on the upper jaw, can never be radically removed by operative interference, when one operates so as to provide for the probability of the patient surviving the operation. One is so disturbed in this region partly by technicalities, part anatomically that a true and total extirpation cannot be made—save in those isolated cases, when one has to do with an encapsulated tumor. I am no longer the bold, unterrified operator, as you know me in Zurich; I always put this question to myself, 'Wouldst thou have this done, wert thou the patient?' In the course of years, to a certain extent, one becomes resigned. Every year that Fate allows me to live, I become more affected by the failures of our art. I would certainly have blamed the surgeon who attempted an operation on Pirogoff since I knew for myself I could not possibly obtain a favorable result. So I endeavored cheerfully to overcome his mental depression and to advise patience, in order to deceive him as to the importance of his disease. That is all we are able to do in such cases.

"It is very natural that the non-coincidence of my views with those of my distinguished Russian colleagues should be remarked upon, yet I have acted in accordance with what my experience has taught me to be my duty.

"Should you wish to publish this, I have nothing against it. I have forever withdrawn from the literary arena into the fields of surgery, and restrict myself to word and deed towards my patients and scholars, so long as it may be allowed me."

Translated by ROBERT L. BOWIE, M. D.

SAN FRANCISCO, May, 1882.

#### LETTER FROM PHILADELPHIA.

MR. EDITOR.—The meetings of the American Surgical Association attracted considerable attention, and were quite well attended. Some of the discussions were quite animated; especially did the topic Listerism excite some warmth among the Fellows; as Professor Cabell remarked, in closing the discussion, one would think it a political question from the display of partisanship it evoked. At the luncheon given by Professor Gross, on the first day of the session, the host called the company to order in a manner which he ventured to say had never been employed before; he then gave three raps upon the old brass knocker, which had been presented to him by the Kentucky State Medical Association, as a memorial of Ephraim McDowell, at the occasion of the unveiling of a statue by Professor Gross in honor of the father of ovariotomy. This knocker used to hang upon Dr. McDowell's front door; it had been handsomely mounted upon a walnut escutcheon, and given to Professor Gross for his services in establishing beyond question the claims of Dr. McDowell as the first to perform the operation of ovariotomy. The various meetings and entertainments were greatly enjoyed by the Fellows of the Association, and a large meeting is expected to assemble in Cincinnati next June.

The Alumni Association of Jefferson College has inaugurated a series of social reunions of the alumni, half the evening being devoted to discussion of subjects of general interest, the remainder to social intercourse. Coffee and similar light refreshments are served, which serve to break up formality. The first

meeting was held May 23d at the Hall of the College of Physicians, where others are expected to be; it is believed that such gatherings will serve to unite the alumni, increase the interest in the objects of the Association, and extend acquaintance and good feeling among fellow-graduates of the same Alma Mater. Probably three or four such meetings will be held during next winter; any non-resident alumnus who wishes to be notified of them can have his wishes gratified by requesting the secretary to send him the notices regularly.

One good result has already been obtained from this meeting. On motion of Professor Da Costa, a committee was appointed to call a special meeting of the Alumni Association to consider the subject of endowing a chair in Jefferson College in honor of Prof. S. D. Gross, in order to commemorate his services to the College, and his retirement from active professional duties. A minute of respect, testifying to the regard of the Alumni Association for its founder, and the regret that his strength had become insufficient for the labor, such as he had so long performed, as professor and clinical teacher, with their best wishes for his restoration to health, and his prosperity, was presented by Dr. R. J. Dunglison, and unanimously adopted by a standing vote.

The special meeting in reference to the Gross professorship was called May 30th, and a large number of the alumni was present. It was held in the Hall of the College of Physicians to consider the endowment of a professorship, to bear the name of "The S. D. Gross Professorship of Pathological Anatomy." Dr. Addison Hewson was called to the chair, and Dr. R. J. Dunglison presented the report of a committee which had been appointed to consider the subject. The committee recommended the adoption of the following resolutions:—

*Resolved*, That in appreciation of the great services of Prof. Samuel D. Gross to medical teaching in this country, a memorial professorship of pathological anatomy be founded by this Association, to be known by his name.

*Resolved*, That a permanent committee of five be appointed, with power to increase itself to a number not exceeding nine.

*Resolved*, That an auxiliary committee be appointed by the permanent committee, subject to the approval of the executive committee, from the non-resident alumni.

*Resolved*, That when, in the opinion of the committee appointed by the executive committee of the Alumni Association, the sum be sufficient, a professorship be endowed on such terms as will best attain the objects proposed by these resolutions, by a sub-committee of equal numbers of the executive committee and the trustees of Jefferson Medical College.

The resolutions were adopted.

The committee also reported that the sum of two thousand dollars was promised by an alumnus at a late meeting of the executive committee, as soon as the fund should reach eight thousand dollars.

The committees referred to in the resolutions will be appointed by the chairman hereafter; in the mean time Dr. R. J. Dunglison was authorized to receive subscriptions to the fund.

It is to be hoped that this project will be pushed with energy, and will receive prompt and material encouragement from those interested in the school, as it is a step in the right direction, that is, the complete

endowment of Jefferson College. The principle that professors should be independent of the size of the graduating classes, and their incomes rest upon a securer basis than the number of tickets sold, is a sound one, and should be in every way indorsed and insisted upon by the profession. The present prevailing system is bad for the profession, bad for the pupils, and, in reality, bad for the professor, as it makes the interests of the colleges antagonistic to the best interests of the profession. Where there should be the most perfect harmony too often we observe feelings the most opposite displayed.

A case of suicidal poisoning by a young girl, reported to be by taking the proprietary preparation "Rough on Rats," occurred in this city May 31st. Is it not time the profession exerted itself to obtain legislation upon the subject of patented medicines, which would exercise some restraining influences over the sale of poisonous substances under fancy and misleading titles?

#### PHOTOGRAPHY OF BIRDS IN MOTION.

M. MARCY, at a recent meeting of the Paris Academy of Sciences, showed the "photographic revolver-gun" which he has invented for the purpose of studying the flight of birds. It is composed of a copper tube about five centimetres in diameter and seventy centimetres long. The breech is represented by a rectangular box containing photographic plates. A piece of machinery provided with a spring, which is wound up like a clock, places in succession each plate in front of the tube. If, in a second of time, twelve plates pass in front of the tube, which has been previously put into position, each photograph will be taken in the twelfth of a second. The different phases of motion are described in eight positions, which represent collectively a third of a second; each position, therefore, represents the twenty-fourth of a second. By increasing the rapidity of the rotation of the movable portion of the breech, it is possible to take four, five, and even ten photographs in this time. M. Marcy submitted to the inspection of the Academy eight photographs describing the movements of a sea-gull preparing to fly. Firstly, the wings are completely extended and drooping, then the analogue of the fore-arm is drawn towards the upper part of the thorax and flexed. During this time the extremities of the wings remain drooping, but are immediately upraised so as to present the smallest possible surface to the resistance of the air. In a little while the wings have assumed the most elevated position attainable. Finally they are slowly lowered until they resume the first position. M. Marcy reserves for a future communication the observations these experiments have suggested to him. We understand that an attempt is shortly to be made at the Alexandra Palace to take a series of instantaneous photographs of the celebrated Canadian sculler, Haulan, as he sculls on the great lake in the grounds. — *British Medical Journal*.

— *London Truth*, says: The following cheerful notice has been hung up, neatly framed, in the bedrooms at the Langham Hotel: "In case of the death of a visitor, the hotel charge, in addition to that for damage to linen, etc., and cleansing room, will be five guineas."

## REPORTED MORTALITY FOR THE WEEK ENDING JUNE 3, 1882.

| Cities.                          | Population by Census of 1880. | Reported Deaths in each. | Deaths under Five Years. | Percentage of Deaths from         |                |                       |                |          |
|----------------------------------|-------------------------------|--------------------------|--------------------------|-----------------------------------|----------------|-----------------------|----------------|----------|
|                                  |                               |                          |                          | The Principal "Zymotic" Diseases. | Lung Diseases. | Diphtheria and Croup. | Scarlet Fever. | Measles. |
| New York.....                    | 1,206,590                     | 719                      | 299                      | 24.45                             | 17.80          | 6.40                  | 5.56           | 4.17     |
| Philadelphia.....                | 846,984                       | 353                      | 120                      | 16.98                             | 15.32          | 4.53                  | 2.26           | 2.54     |
| Brooklyn.....                    | 566,689                       | 266                      | 126                      | 24.43                             | 20.20          | 5.64                  | 8.27           | 2.63     |
| Chicago.....                     | 503,304                       | —                        | —                        | —                                 | —              | —                     | —              | —        |
| Boston.....                      | 362,555                       | 152                      | 55                       | 15.77                             | 17.08          | 8.54                  | —              | —        |
| St. Louis.....                   | 350,522                       | 122                      | 54                       | 32.79                             | 4.92           | 8.20                  | 10.66          | 3.28     |
| Baltimore.....                   | 332,190                       | 148                      | 48                       | 19.59                             | 6.76           | 8.11                  | 3.38           | 1.35     |
| Cincinnati.....                  | 255,708                       | 148                      | 64                       | 49.64                             | 7.43           | 4.73                  | 10.81          | 6.08     |
| New Orleans.....                 | 216,140                       | —                        | —                        | —                                 | —              | —                     | —              | —        |
| District of Columbia.....        | 177,638                       | 88                       | 26                       | 12.50                             | 12.50          | 5.68                  | 1.14           | —        |
| Pittsburgh.....                  | 156,381                       | 61                       | 30                       | 21.31                             | 16.39          | 1.64                  | —              | 4.91     |
| Buffalo.....                     | 155,137                       | 79                       | 36                       | 41.75                             | —              | 11.39                 | 7.60           | 3.80     |
| Milwaukee.....                   | 115,578                       | 41                       | 16                       | 4.76                              | 16.07          | 2.44                  | 2.44           | —        |
| Providence.....                  | 104,857                       | 39                       | 11                       | 7.69                              | 7.69           | —                     | 2.56           | —        |
| New Haven.....                   | 62,882                        | 26                       | 7                        | 3.85                              | 15.38          | —                     | —              | —        |
| Charleston.....                  | 49,999                        | 33                       | 13                       | 27.27                             | 6.06           | —                     | 3.03           | —        |
| Nashville.....                   | 43,461                        | 15                       | 5                        | 20.20                             | 13.33          | —                     | —              | —        |
| Lowell.....                      | 59,485                        | 24                       | 3                        | 16.63                             | 4.16           | —                     | —              | —        |
| Worcester.....                   | 58,295                        | 16                       | 6                        | 25.00                             | 25.00          | 6.25                  | 6.25           | —        |
| Cambridge.....                   | 52,740                        | 24                       | 10                       | 24.95                             | 16.63          | 12.48                 | —              | —        |
| Fall River.....                  | 49,006                        | 25                       | 13                       | 20.00                             | —              | —                     | —              | —        |
| Lawrence.....                    | 39,178                        | 12                       | 6                        | 16.66                             | 8.33           | 8.33                  | —              | —        |
| Lynn.....                        | 38,284                        | 12                       | 1                        | 8.33                              | 16.66          | —                     | —              | —        |
| Springfield.....                 | 33,340                        | 13                       | 5                        | 7.69                              | —              | —                     | —              | —        |
| Salem.....                       | 27,598                        | 6                        | 2                        | 16.66                             | —              | —                     | —              | —        |
| New Bedford.....                 | 26,875                        | 11                       | 2                        | 9.09                              | —              | —                     | —              | —        |
| Somerville.....                  | 24,985                        | 8                        | 1                        | 37.50                             | 12.50          | —                     | 12.50          | —        |
| Holyoke.....                     | 21,851                        | 11                       | 3                        | 18.18                             | 9.09           | 9.09                  | —              | —        |
| Chelsea.....                     | 21,785                        | 10                       | 3                        | 10.00                             | 10.00          | 10.00                 | —              | —        |
| Taunton.....                     | 21,213                        | 6                        | 2                        | —                                 | —              | —                     | —              | —        |
| Glooucester.....                 | 19,329                        | 5                        | 1                        | —                                 | —              | —                     | —              | —        |
| Haverhill.....                   | 18,475                        | 7                        | 1                        | 14.28                             | —              | —                     | —              | —        |
| Newton.....                      | 16,995                        | 5                        | 1                        | —                                 | —              | —                     | —              | —        |
| Brocton.....                     | 13,608                        | 3                        | 0                        | 33.33                             | —              | 33.33                 | —              | —        |
| Newburyport.....                 | 13,537                        | 10                       | 3                        | 10.00                             | 20.00          | 10.00                 | —              | —        |
| Fitchburg.....                   | 12,405                        | 2                        | 1                        | 50.00                             | —              | 50.00                 | —              | —        |
| Malden.....                      | 12,017                        | 7                        | 2                        | 28.57                             | —              | 28.57                 | —              | —        |
| Sixteen Massachusetts towns..... | 120,587                       | 36                       | 10                       | 13.89                             | 2.78           | —                     | 2.78           | —        |

Deaths reported 2543 (no reports from Chicago and New Orleans); 989 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and fevers) 593, consumption 372, lung diseases 332, diphtheria and croup 147, scarlet fever 117, measles 67, diarrheal diseases 56, small-pox 52, typhoid fever 40, whooping-cough 34, cerebro-spinal meningitis 31, malarial fevers 21, puerperal fever 13, erysipelas 12, typhus fever three. From diarrheal diseases, New York 24, Brooklyn seven, Boston and St. Louis five each, Philadelphia and District of Columbia three each, Pittsburgh and Nashville two each, Baltimore, Providence, Cambridge, Fall River, and Brookline one each. From cerebro-spinal meningitis, New York and Buffalo six each, St. Louis, Milwaukee, Worcester, Fall River, Somerville, and Haverhill two each, Baltimore, Pittsburgh, Lawrence, Lynn, Salem, Attleborough, and Spencer one each. From malarial fever, New York 10, Brooklyn eight, St. Louis, Buffalo and Charleston one each. From puerperal fever, New York and Buffalo three each, St. Louis two, Brooklyn, Boston, Cambridge, Springfield, and New Bedford one each. From erysipelas, St. Louis three, Buffalo two, Philadelphia, Brooklyn, Boston, Baltimore, Pittsburgh, New Haven, and Spencer one each. From typhus fever, New York three.

One hundred and ten cases of small-pox were reported in Cincinnati, Baltimore 14, Pittsburgh 12, Lawrence five, Buffalo and Nashville each two; scarlet fever 24, diphtheria 20, typhoid fever 11, in Boston; scarlet fever 12, and diphtheria three, in Milwaukee.

In 37 cities and towns of Massachusetts, with a population of 1,064,123 (population of the State 1,783,086), the total death-rate for the week was 16.68 against 21.32 and 18.21 for the previous two weeks.

For the week ending May 13th, in 173 German cities and towns, with an estimated population of 8,521,366, the death-rate was 25.9. Deaths reported 4240; under five years: pulmonary consumption 615, acute diseases of the respiratory organs 560, diphtheria and croup 200, diarrheal diseases 155, scarlet fever 23, typhoid fever 55, whooping-cough 48, measles and röteln 24, puerperal fever 17, small-pox (Stettin, Beuthen, Bamberg, Leipzig, Cologne, Essen, Koblenz, and Strasburg one each) eight, typhus fever (Thorn) one. The death-rates ranged from 12.8 in Frankfurt a. O. to 37.4 in Chemnitz; Königsberg 29.4; Breslau 26.3; Munich 33.3; Dresden 23.8; Berlin 24.8; Leipzig 18.7; Hamburg 25.7; Cologne 25.5; Frankfort a. M. 21.5; Strasburg 25.3.

In the 28 English towns, with an estimated population of 8,469,571, for the week ending May 20th, the death-rate was 20.9. Deaths reported 3400; acute diseases of the respiratory organs (London) 258, whooping-cough 185, measles 130, scarlet fever 72, fevers 54, diarrhoea 45, diphtheria 16, small-pox (London nine) 13. The death-rates ranged from 15.6 in Cardiff to 31.9 in Blackburn; Plymouth 16.8; Birmingham 17.9; London 19; Leeds 19.6; Sheffield 20.8; Sunderland 23.7; Portsmouth 25.7; Manchester 27.5; Liverpool 27.8. In Edinburgh 19.5; Glasgow 26.7; Dublin 25.

For the week ending May 20th in the Swiss towns, population 494,390, there were 51 deaths from consumption, acute diseases of the respiratory organs 27, diarrheal diseases 23, diphtheria and croup 12, puerperal fever five, typhoid fever three, scarlet fever one, whooping-cough one. The death-rates were, at Geneva 26.8; Zurich 18.3; Basle 22; Berne 28.9.

The meteorological record for the week ending June 3d in Boston, was as follows, according to observations furnished by Sergt. O. B. Cole, of the U. S. Signal Corps:—

| Date.            | Barom-eter. | Thermom-eter. |          |          |            | Relative Humidity. |             |       |            | Direction of Wind. |             |            | Velocity of Wind. |             |            | State of Weather. <sup>1</sup> |             |                       | Rainfall.         |  |
|------------------|-------------|---------------|----------|----------|------------|--------------------|-------------|-------|------------|--------------------|-------------|------------|-------------------|-------------|------------|--------------------------------|-------------|-----------------------|-------------------|--|
| May-June, 1882.  | Mean.       | Mean.         | Maximum. | Minimum. | 7.23 A. M. | 3.23 P. M.         | 11.23 P. M. | Mean. | 7.23 A. M. | 3.23 P. M.         | 11.23 P. M. | 7.23 A. M. | 3.23 P. M.        | 11.23 P. M. | 7.23 A. M. | 3.23 P. M.                     | 11.23 P. M. | Duration, Hrs. & Min. | Amount in inches. |  |
| Sun., 28         | 29.731      | 65            | 81       | 54       | 80         | 58                 | 87          | 75    | SW         | S                  | S           | 9          | 15                | 7           | O          | F                              | O           | —                     | —                 |  |
| Mon., 29         | 29.732      | 60            | 70       | 54       | 100        | 37                 | 49          | 62    | NW         | NW                 | NW          | 11         | 18                | 3           | R          | F                              | C           | —                     | —                 |  |
| Tues., 30        | 29.909      | 62            | 74       | 47       | 55         | 27                 | 64          | 49    | W          | W                  | SW          | 5          | 20                | 5           | C          | F                              | C           | —                     | —                 |  |
| Wed., 31         | 29.817      | 66            | 79       | 53       | 72         | 54                 | 65          | 64    | SW         | S                  | S           | 5          | 19                | 17          | F          | O                              | F           | —                     | —                 |  |
| Thurs., 1        | 29.588      | 61            | 68       | 53       | 93         | 90                 | 45          | 76    | S          | SW                 | W           | 11         | 10                | 16          | R          | O                              | C           | —                     | —                 |  |
| Fri., 2          | 29.879      | 63            | 75       | 47       | 62         | 32                 | 56          | 50    | W          | W                  | SW          | 8          | 12                | 14          | C          | C                              | O           | —                     | —                 |  |
| Sat., 3          | 29.914      | 60            | 77       | 54       | 75         | 64                 | 75          | 71    | SW         | NE                 | S           | 8          | 4                 | 4           | O          | O                              | O           | —                     | —                 |  |
| Means, the week. | 29.796      | 62.4          | 81       | 47       |            |                    | 64          |       |            |                    |             |            |                   |             |            |                                |             | 11.30                 | .60               |  |

<sup>1</sup> O, cloudy; C, clear; F, fair; G, fog; H, hazy; S, smoky; R, rain; T, threatening; X, clearing.

# OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM MAY 27, 1882, TO JUNE 9, 1882.

McKEE, J. C., major and surgeon. The extension of leave of absence on surgeon's certificate of disability, granted him in S. O. 262, A. G. O., November 10, 1881, still further extended six months on surgeon's certificate of disability. S. O. 122, A. G. O., May 26, 1882.

WATERS, WILLIAM E., major and surgeon. Granted leave of absence for four months. S. O. 121, A. G. O., May 25, 1882.

CALDWELL, D. G., captain and assistant surgeon. Upon completion of packing and turning over the medical supplies at Fort Sanders, to report to the commanding officer, Fort Fred. Steele, Wyo., for duty as post surgeon. S. O. 56, Department of the Platte, May 29, 1882.

AMERICAN NEUROLOGICAL ASSOCIATION. — Eighth annual meeting, to be held in the hall of the Academy of Medicine, 12 West Thirty-First Street, New York, on June 21st, 22d, and 23d; afternoon and evening sessions. The profession is cordially invited to attend the sessions of the Association.

Wednesday, June 21st. Afternoon session at 2.30 o'clock. Address by the president, Prof. William A. Hammond, M. D. Reports of council, of secretary, and treasurer. Scientific communications: (1.) Dr. Charles K. Mills, of Philadelphia, The Diagnosis of Tumors of the Brain. (2.) Dr. George M. Beard, of New York, The Symptoms of Insanity and the Diagnosis of Insanity. (3.) Dr. James J. Putnam, of Boston, Contribution to the Study of Central Myelitis. Evening session at 8.30 o'clock. Scientific communications: (4.) Dr. R. W. Amison, of New York, The Myography of Nerve Degeneration in Animals and in Man. (5.) Dr. William A. Hammond, of New York, The So-Called Family or Hereditary Form of Locomotor Ataxia. (6.) Dr. H. M. Bannister, of Chicago, Note on Bromide Mania, and the Supposed Compensatory Action of Epileptic Attacks.

Thursday, June 22d. Afternoon session at 2.30 o'clock. Scientific communications: (7.) Dr. V. P. Gilney, of New York, A Case of Swift and one of Slow Compression of the Upper Cervical Cord from Displaced Odontoid Process; with Specimens. (8.) Dr. E. C. Seguin, of New York, A Contribution to the Clinical Study of Arsenical Myelitis. (9.) Dr. A. D. Rockwell, of New York, A Case of Post Paralytic Chorea, with Remarks on the Treatment of Chorea Symptoms in General. (10.) Dr. G. M. Hammond, M. D., of New York, A Case of Athetosis relieved by Nerve Stretching. In place of an evening session the president, Dr. William A. Hammond, will receive the Association at his residence, No. 43 West Fifty-fourth Street.

Friday, June 23d. Afternoon session at 2.30 o'clock. Scientific communications.

Officers for 1882. President, Prof. William A. Hammond, M. D., of New York. Vice-President, Dr. Landon Carter Gray, of Brooklyn. Secretary and Treasurer, Dr. E. C. Seguin, of New York. Councilors: Dr. J. S. Jewell, of Chicago, Dr. Isaac Ott, of Easton, Pa.

NEW HAMPSHIRE MEDICAL SOCIETY. — Annual meeting, June 20 and 21, 1882. Officers: President, H. B. Fowler, M. D., Bristol. Vice-President, A. H. Crosby, M. D., Concord. Treasurer, D. S. Adams, M. D., Manchester. Secretary, G. P. Conn, M. D., Concord. Anniversary Chairman, C. A. Tufts, M. D., Dover. Executive Committee, Drs. P. A. Staekpole, Dover, J. W. Parsons, Portsmouth, and M. W. Russell, Concord. Committee of Arrangements, Drs. F. A. Stallings, George Cook, H. M. French, C. R. Walker, and I. A. Watson, Concord. Chaplain, Rev. Mr. Parkhurst, Concord.

Programme for Tuesday, June 20, 1882. I. The meeting will be opened with prayer by the Rev. Mr. Parkhurst, of Concord. II. Report of the committee of arrangements. III. Reading of the Records of the last meeting. IV. Appointment of the usual committees by the president. V. Report of the council by the secretary. VI. Election of new members. VII. Introduction of delegates. VIII. Medical papers and communications. (1.) Annual address by the president, at twelve o'clock. (2.) Oration, Now and Then, G. L. Mason, M. D., Laconia. (3.) Essay, The Balsamics, Prof. H. M. Field, Dartmouth College. (4.) Report on Surgery, E. F. McQuesten, M. D., Nashua. F. A. Stillings, M. D., Concord. (5.) Report on Practical Medicine, C. F. Leslie, M. D., Sunapee. (6.) Report on State Medicine, I. A. Watson, M. D., Concord. (7.) Dissertation on Tobacco, M. T. Stone, M. D., Troy. (8.) Essay, Eucetic Medication, H. M. Felt, M. D., Hillsborough. (9.) Report on Obstetrics, A. W. Abbott, M. D., Laconia, G. S. Gove, M. D., Whitefield. (10.) Report on Neurology, D. P. Goodhue, M. D., Springfield. (a.) Obituary notice of Dr. A. B. Hoyt; (b.) Obituary notice of Dr. E. K. Webster. (c.) Obituary notice of Dr. Harrison Eaton. The annual dinner will be served at the Phenix Hotel at 1.30 o'clock.

Programme for Wednesday, June 21, 1882. The Society will meet at eight o'clock A. M., and any papers or discussions laid over from the programme of Tuesday will be in order. (1.) Report of delegates to Dartmouth Medical College. (2.) Reports of delegates to other Societies. (3.) Reports of the District Societies by their secretaries. (4.) Election of officers at nine o'clock. (5.) Treasurer's and auditor's reports. (6.) Miscellaneous business. (7.) Reports of cases in general practice.

COSCORD, N. H., June 2, 1882. G. P. CONN, Secretary.

Councilors' Meeting. The annual meeting of the Council will be held at the office of the secretary, in Concord, on Monday evening, June 19, at 8.30 o'clock. All persons who desire to become members of the Society should make application to the secretary prior to this meeting, giving full name and residence, time when, and the college from which they graduated; and if not members of a District Society, should include a recommendation or reference from some member of the Association. Members from District Societies will be received on credentials from the secretary of their respective Societies.

G. P. CONN, Secretary.

NOTICE TO GRADUATES OF BELLEVUE HOSPITAL MEDICAL COLLEGE. — A second decennial revision of the Catalogue of Alumni of this College is being prepared for publication, and we are requested to ask that all graduates send their present address, at once, on a postal card, to the Historian of the Alumni Association, Bellevue Hospital Medical College, New York.

## Reports of Societies.

### THE AMERICAN MEDICAL ASSOCIATION.

THE thirty-third annual meeting of the American Medical Association opened in St. Paul, Minn., on June 6, 1882, and continued for four days. The general sessions were held in the Opera House, and the several sections met in seven different halls.

#### GENERAL SESSION. FIRST DAY'S PROCEEDINGS.

The meeting was called to order at 11.15 A. M. by Dr. A. J. STONE, chairman of the local committee of arrangements, who, having conducted Vice-President P. O. Hooper, Governor Hubbard, of Minnesota, and Bishop Ireland upon the stage, said: "In accordance with the universal custom of the Association the meeting will open with prayer."

The reverend prelate knelt at the central table and offered an eloquent prayer.

Chairman STONE then introduced, amidst much applause, GOVERNOR HUBBARD, who in an easy and graceful manner delivered the following address:—

"*Mr. President and Gentlemen of the American Medical Association.*—The people of Minnesota feel highly honored by the presence in their midst of so distinguished a body of gentlemen as this, and at their desire and in their behalf I bid you a cordial welcome. If the people of this State fail in the observance of any virtue it is not that of hospitality. We regard that an essential element of our reputation as a people, and we assume that the stranger coming among us will regard himself no longer such, after grasping the hand of welcome which is here extended always.

"While we regard your visit to our State on this occasion as highly complimentary and of advantage to us, we believe you will feel it is not altogether lacking in substantial benefit to yourselves. It is sincerely hoped that you may not limit your visit to the time required for the discharge of the professional or official duties that call you here, but that you may avail yourselves of the opportunities and facilities that will be afforded you to acquire a somewhat comprehensive knowledge of the varied attractions and advantages we possess. There is a characteristic of our country of peculiar interest to, and that invites the investigation of, gentlemen of your profession. The exhilarating and vitalizing influences of our climate have made Minnesota the Mecca for health seekers in years past, and as a direct result of your visit at this time we shall expect to greatly widen and strengthen our reputation in that regard. With assurances of health that do not disappoint, and opportunities for the acquisition of wealth that can but satisfy, we invite the brain and muscle of the world to a home in our midst.

"But it is not my purpose, nor would it be appropriate here, to extol the beauties and advantages of our State. That pleasure shall be yours, gentlemen, after you have looked upon our heritage and become acquainted with us. It is rather my purpose, as it is my pleasure, to greet you in the name of the people of the State; to assure you of their hearty welcome, which they would be glad of an opportunity to individually express, and to give voice to their wish that your deliberations at this convention may be of a character, as no doubt they will, to advance the science and elevate the proud profession you represent."

At the conclusion of Governor Hubbard's address Dr. STONE invited several of the ex-officers to seats upon

the platform. Chairman Stone then stated that a number of protests had been received against the admission of delegates from the New York Medical Society, which would be read by the secretary. Dr. ATKINSON then read a number of protests and referred to others by title. The letters from Drs. Lewis Sayre, New York, and Samuel D. Gross, Philadelphia, the latter expressing his regret at not being able to be present, and also referring in terms of censure to the recalcitrants, were received with applause. Dr. Sayre's letter is as follows:—

"I. MARTIN SMITH, M. D., *Secretary New York State Medical Society.*

"DEAR SIR,—I have just received from you my certificate as delegate from the New York State Medical Society to the American Medical Association to be held in St. Paul on the 6th of June. As the State Society has ignored the code of ethics by which they were bound as members of the Association, I cannot see how they can expect their delegates to be received by an Association whose laws they refuse to obey and which must therefore refuse them admittance.

"I therefore respectfully decline to act as its delegate and hereby return my certificate.

"Very respectfully, LEWIS A. SAYRE, M. D."

The protests were then referred to the Judicial Council.

In a very happy style, evoking much merriment, Chairman Stone announced a number of excursions, receptions, and other courtesies which had been extended to the Association.

The Vice-President, Dr. P. O. HOOPER, of Arkansas, was then introduced, and as acting president of the Association delivered the

#### ANNUAL ADDRESS.

"*Gentlemen of the American Medical Association,*—

"A letter received some weeks ago from our distinguished president, Dr. J. J. Woodward, conveyed to me the sad intelligence that he would be unable to meet with us on this occasion, by reason of physical infirmity. In foreign lands he seeks to repair his health, wasted by arduous labor and exhausting vigils, and rebuild his frame, shattered by a harassing accident. We all feel a keen disappointment in the absence of one so eminent, whose gifted intellect and matured experience have been acknowledged and appreciated not only by those who have been intimately associated with him in the army, but by all who have enjoyed his fascinating society, or possessed a share of his warm friendship. May the airs he has sought bring healing on their wings, and speedily return him to the welcoming shores of his native land, completely restored to the full measure of a man's strength and vigor.

"When I recall the illustrious names of my predecessors in office, I cannot but feel I follow at a long distance.

"But, as has been aptly said by one of our number, who was himself no 'lesser light,' 'there is consolation to be derived from the fact that all true pictures are made up of lights and shades, and that the latter only aid in developing the beauty and excellency of the former. It is in this respect that the background of the picture may be regarded as performing a subordinate, though an essential part, of the representation.'

After this, followed a general review of the advancement of science; the late epidemic of small-pox, and the reforms which are progressing in medical teaching:

next in interest came the vice-president's remarks on medical ethics.

"We have a code of medical ethics, the best ever given for the government of medical men, of acknowledged force and effect, of universal acceptance in every State of the Union; and it is now too late for any single physician or State society to oppose or set at defiance the moral power of this body. Had the Association done nothing else than to originate and adopt these beautiful precepts, which should govern us in our relations to each other, our patients, and the public, it would have done a service entitling it to everlasting gratitude, and to an imperishable name in the annals of our country. There has recently been exhibited by a few a disposition to be restive under the operations of certain portions of the code. It may not, perhaps, be becoming in me to discuss this matter here, as it will be for judicial investigation and decision; but I may be permitted to suggest, that we should not retreat from our well-chosen lines of defense. One mistaken movement would involve us in a whirl of inconsistencies tending to place us in a false attitude, and bring dis-honor upon the profession. The broad lines of demarkation should never be obliterated. Our Association stands prominently forth in its high purposes, and its means of accomplishing these purposes are distinctly enunciated.

"In the discussion of all ethical questions, a spirit of liberalism has always mingled with a never sleeping sense of imperative obligation to the established truths of science, of order, of law. I do not say that the time may never come, for there is no perfect work of mortal hands, when your organic laws will require modification and amendment; but until the time does arrive, when the impulse of the great heart of the profession shall be felt, and radical changes be demanded in the light of a perfected knowledge, let us maintain, without internal strife, the unsullied standard of professional honor and morals, now 'full high advanced' in our midst, and decline association with those who will not recognize that flag, or who having once recognized, have abandoned it. We should, without reservation, declare the perpetuity of this Association and renew our vows of fidelity to its constitution and laws."

The address closed with the statement that but thirteen, of the thirty presidents of the Association, survived, and with a pleasing tribute to the last president, the late Dr. Hodgen.

The address was listened to with close attention, and was frequently interrupted by applause. At the close, the thanks of the Association were tendered to President Hooper for his address, and a copy of it requested for publication.

#### THE ABSENT PRESIDENT.

The secretary then read the following letter:—

WAR DEPARTMENT, SURGEON GENERAL'S OFFICE, }  
WASHINGTON, January 31, 1882.  
*Gentlemen of the American Medical Association:*—

At your Richmond meeting last May, you conferred upon me the great honor of electing me your president for the present year. At the time I was just recovering from the effect of a serious injury and was unable to be with you. I cannot now find language to tell you how highly I prized, and shall always prize, this token of your esteem. Although of course I fully understood that your action was especially intended to express your appreciation of the services of the medical corps

of the army, and of their various efforts to advance the interests of medical science in America, yet I could not but feel the compliment of being selected by you as in some sort the representative of that noble body of medical men, and I looked forward with the greatest pleasure to meeting you at St. Paul. Unfortunately, on account of seriously impaired health, I find this will be impossible. I must trust your generosity to forgive my inability to perform the duties intrusted to me. May I not also hope for your sympathy and good wishes.

Your obedient servant,

J. J. WOODWARD,  
Surgeon U. S. Army.

The secretary was instructed to send a cable telegram to Dr. Woodward, conveying the greeting of the Association, and the hope of his speedy restoration to health.

DR. DAVIS, of Chicago, next presented a preamble and resolutions regarding the temperance question, which was referred to the Section on State Medicine at his request.

A communication was read from the Atlantic City Medical Society, of New Jersey, inviting the Association to hold its next annual meeting at Atlantic City, N. J., promising to entertain the members free of expense. The communication was referred to the Committee on Nominations.

#### SECOND DAY.

Promptly at the hour named, ten A. M., the meeting was called to order by the presiding officer, DR. HOOPER, of Arkansas.

#### INVITATIONS AND RAILROAD PASSES.

DR. A. J. STONE, chairman of the Committee of Arrangements, made a short verbal report, informing all delegates who held round trip passes from Chicago to St. Paul that the passes had been extended until the 10th of July, and would be good until that date. He also stated that the committee had made preparations for from three to five hundred visitors, and he begged the delegates to bear in mind that, when double that number arrived, some little delay in providing for them all at once was unavoidable. He then referred to the receptions to be given in the evening at the residences of a number of private citizens, and speaking for himself, he hoped they would all come and see him and stay as long as they desired. He also stated that he was in receipt of a number of letters and telegrams from all over the Northwest inviting the Association to visit them, and informed the delegates that their certificates of membership would be honored by every line of transportation in the Territory of Dakota, and the entire Northwest.

As a sample of the invitations received the following from Fargo, D. T., signed by the mayor and city clerk, was read and loudly applauded:—

OFFICE CITY CLERK, }  
FARGO, D. T., June 5, 1882.

Whereas, The American Medical Association, including in its members many eminent scientists, scholars, and benefactors from every portion of our own country, and representatives from other lands, assemble in annual session this week in our neighborly city of St. Paul;

Resolved, That we hereby extend to the members of this distinguished body a cordial and earnest invitation to visit our rising young city; see for themselves the beauty and prosperity of this garden spot of the new world, the Red River Valley of Dakota, and accept the hospitality of our people, which is tendered them with open hearts and hands and houses.



The permanent secretary then read the following selections by the different State delegations as members of the

#### COMMITTEE ON NOMINATIONS.

Arkansas, L. J. Dibrell; Alabama, ———; Colorado, J. Hawes; California, H. S. Orne; Connecticut, W. G. Bronson; Dakota, S. B. McGlumphy; District of Columbia, W. D. Marmion; Georgia, W. F. Holt; Illinois, T. F. Worrell; Indiana, W. Lomax; Iowa, T. J. Caldwell; Kansas, J. Bell; Kentucky, L. S. McMurtry; Louisiana, J. W. Dupree; Maryland, Wm. Lee; Michigan, F. Pratt; Massachusetts, M. G. Parker; Minnesota, W. W. Mayo; Maine, T. A. Foster; Missouri, A. T. Steele; Mississippi, U. A. Grant; Nevada, ———; Nebraska, L. J. Abbott; North Carolina, E. Grissom; New Hampshire, ———; New York, W. C. Heustead; New Jersey, S. S. Clark; Ohio, X. C. Scott; Oregon, ———; Pennsylvania, A. Friecks; Rhode Island, A. Ballou; South Carolina, ———; Tennessee, T. B. Lindsley; Texas, W. H. Park; Virginia, F. D. Cunningham; Vermont, S. W. Thayer; Wisconsin, N. Lenn; U. S. Army, G. Perrin; U. S. Navy, John M. Brown; U. S. Marine Hospital Service, O. W. Miller.

Communications were read from the cities of Detroit, Mich., and Cleveland, Ohio, inviting the Association to hold its next annual meeting in those cities, both of which were referred to the Committee on Nominations.

#### THE USE OF THE TERM "ALLOPATHISTS."

DR. DENNISON, of Colorado, presented the following paper, which was referred to the Judicial Council:—

"In order to correct a misconception which largely prevails in the public mind, and to some extent prevails among members of the medical profession as to the liberty of action authorized by this Association in the treatment of disease, we deem it proper to make a declaration of principles broadly applicable to the healing art as sanctioned and practiced under our Code, to wit: Rational medicine, being based upon experience and pathological research, demands absolute freedom in the selection and administration of materia medica; and there is nothing in the code of ethics of the American Medical Association prohibiting the use by its members of any known and honorable means of combating disease. Furthermore, as contributing to the alleviation of human suffering, we hail with pleasure and gratitude every discovery in etiological and therapeutic science by whomsoever made.

"We therefore reject as untrue and obnoxious the term 'Allopathists,' as applied to the members of this Association by dogmatists and extremists without its fold.

"First. Because it tends to convey the erroneous impression that we are restricted to the choice of remedies and the method of using them by other than the limits of rational science.

"Second. Because for any association of men claiming to practice the profession of medicine to adopt a name based upon limited and conjectural theories of therapeutics for the purpose of designating a particular school of medicine, we have always held, and still regard, as unscientific in principle, and dangerous in practice."

#### AN ASSOCIATION JOURNAL.

DR. J. H. PACKARD, of Philadelphia, from the Committee on Journalizing the Transactions of the

Association, made a report of which the following is a condensed account:—

"At the last meeting of the Association the undersigned were appointed a committee to digest and report in detail, as early as possible, a plan for the establishment of a weekly journal by the Association, embracing the salary of the editor, the time and place of publication, the terms to outside subscribers, and such other particulars as may enable the Association to arrive at a just conclusion as to the feasibility of the enterprise and the propriety of their undertaking it. Deeply impressed with the gravity of the pecuniary and scientific interests involved, the committee have carefully considered the subject, and beg to present the following report:—

"An essential preliminary of any scheme of this kind must be the securing to the Association of an annual income much larger than the largest it has ever had since its organization. Your committee of last year, in their report, gave an estimate of the probable expense of publishing a journal; but in that statement they included simply the cost of paper and printing, and the probable sum for which the editing could be secured. To these two—the former \$2500, and the latter \$6000—must be added, however, other incidental and unavoidable expenses, which would scarcely be less than \$5000. Hence it may readily be seen that it would not be safe to estimate the cost of the proposed undertaking at less than \$13,500 per year—perhaps in round numbers about \$13,000. To propose to an association varying from year to year in numbers and membership, as our present body has hitherto done, and an annual income never above \$6000, falling sometimes as low as \$2,500, the assumption of an expense such as that just mentioned would be evidently preposterous. Unless the Association can be made far more stable and comprehensive in its character, with a truly permanent membership, embracing and interesting a vastly greater proportion of the profession, it is idle to talk of its establishing and maintaining a journal.

"To this end the first step is to adopt the changes in the plan of organization, etc., of the Association, proposed last year, by virtue of which the membership would be thrown open to all members of State and county societies upon application by the payment of an annual fee of five dollars, such membership to constitute the holder a subscriber to the journal, and to be forfeited by non-payment within three (four or six?) months of the commencement of the journal year.

"We would here call attention again to the fact that in Section 5 of the By-Laws there is a provision which has often been so construed as to work great damage to the Association. The first paragraph of that section fixes the annual assessment upon each delegate and permanent member at five dollars. In the second paragraph of the same section it is provided that permanent membership shall be forfeited by non-payment of annual dues for three successive years. It would seem sufficiently obvious that here, as in the case of other societies, the payment due at the end of three years should be that for those three years, namely, fifteen dollars, but an impression has prevailed that one annual payment in three years is all that is needed to keep membership alive. Hence many permanent members take no notice of the annual call for their subscriptions, until the third time, when they remit each five dollars, and consider their accounts with the Asso-

ciation as settled. Any one of them may decline payment altogether, and forfeit his membership, but he can at any time revive it by being again appointed a delegate.

"Those who have given their attention to the preceding portion of this report will perceive that if the proposed change in the conditions of membership in the Association be made, this section of the by-laws would be done away with.

"According to the last census returns it would appear that the number of practicing physicians in the United States is in the neighborhood of ninety thousand. Perhaps this estimate is too high, but assuming it to be approximately correct, it may be supposed that more than one half, say fifty thousand, belong to the "regular" profession. Now, if three thousand of these should become members of the Association on the terms above stated, the mere expenses of the journal would be provided for, and there seems to be no extravagance in such an expectation.

"In the foregoing discussion of the expenses of the proposed journal we have said nothing of the revenue likely to accrue from the advertising columns, yet it should not be wholly overlooked, and would probably be an element of much consequence in the calculations of any publisher with whom an arrangement might be contemplated. To go into the details of such an arrangement would be premature, and at present useless, but we may say that the Association should strictly reserve to itself the control of all but the purely business part of the enterprise, even as regards the advertisements to be admitted, and that the editor and his assistants should be designated, employed, and paid under its direction.

"It may be that no prudent publisher, manager, or editor would be willing to assume the duties devolving upon him in such a scheme upon the mere promise of a few men connected with a society of uncertain membership, and equally uncertain income, unless those men gave their personal obligations for the expenses incurred. This they can scarcely be expected to do, and unless the objections to such a course are insuperable it would be better for the Association to authorize its officers and standing committees to apply in its behalf for a charter. Such application may be made in any State to the proper court, or perhaps Congress might be asked to pass an act of incorporation. Upon these points it would, of course, be requisite to have legal advice.

"Next, as to the mode of appointment of the editor. Upon the selection of a suitable man will hinge, in a very great measure, the success of the whole enterprise. He must be possessed of intellectual ability, firmness, tact, and judgment, free from partisanship, of high professional and moral tone, and of such standing as will enable him to attract the support and secure the influence of the best class of contributors. It is very desirable that the editor's relation to the Association should be such as to leave him, as far as may be, untrammelled, while still responsible for the due discharge of his functions; that the arrangement should be such as to make it worth while for a suitable man to accept the position, and still to preserve for the Association a just and equitable control of it. There would be obvious difficulties in the way of an election by the whole body annually, and it seems to us that the matter can hardly be placed to advantage in the hands of any of the existing committees. We would therefore

propose that there should be elected by the Association a board of trustees, nine in number, of whom three shall serve one year, three two years, and three three years, and that annually thereafter there shall be elected three gentlemen to take the places of those whose terms expire, and to serve for the ensuing three years.

"These trustees might be nominated by the committee of nominations, or by a special committee composed of the president of the Association and the chairmen of the several sections, or otherwise, at each annual meeting, the nominations so made to be acted upon by the Association at its next annual meeting. In case of the death or declination of any gentleman so nominated before the election, another name might be presented by the same committee, or perhaps by a committee similarly constituted, to be voted upon at the same meeting which would have entertained the first nomination. In the hands of these trustees might be placed the appointment of the editor, which would be best made for an indefinite term, the engagement to be dissolved by either party only upon three months' notice; and if this is done by the trustees, the editor to have the right of appeal to the Judicial Council, upon whose motion, if they see proper, the matter may be brought before the Association at its next annual meeting, and decided by a three fourths' vote of the members present. In case of the death or resignation of the editor, the trustees to elect his successor in the same way and on the same terms.

"We would recommend that the appointment of the assistant editors be with the editor (subject to the approval of the trustees), and that the salary of the editor should be \$6,000, out of which sum he should pay his assistants, making his own terms with them.

"The trustees should report annually to the Association.

"It would be desirable that the place of publication should be as nearly central as possible, and that it should not be lightly changed. Wherever a suitable editor can be found, there also it is probable that circumstances would favor the establishment of the publication office.

"We recommend that the name of the journal should be 'The Journal of the American Medical Association,' and that the terms to outside subscribers should be \$6 per annum.

"It remains now for us to indicate a method for the actual setting on foot of this enterprise. We would propose that the board of trustees be appointed, and that they at once issue a circular to all regular physicians, as far as possible, in the United States, setting forth the plan of the journal, the advantages looked for from its establishment, and the terms upon which it may be had. Should the responses to the circular be sufficiently encouraging, the board might proceed to elect an editor and to make arrangements for the commencement of the publication at the earliest practicable period.

"We would suggest that the committee of publication should be appointed as usual, but that they be instructed to be guided by the decision of the board of trustees as to the character of the publication, if any, which they shall make.

"All of which is respectfully submitted. (Signed) John H. Packard, N. S. Davis, L. A. Sayre, J. S. Billings, B. Cole, W. B. Atkinson, R. I. Duglison, Committee."

The time immediately following the preliminary exercises on the following morning was fixed upon for the consideration of the matter.

At this point a recess of ten minutes was taken.

#### THE SCIENCE OF MEDICINE.

Upon coming to order, Dr. J. A. OSTERLONY, of Louisville, Ky., chairman of the Section of Practice of Medicine, etc., delivered a lengthy address, reviewing the great progress made in medical science in the last century. During that period most important discoveries had been made, bearing upon the diagnosis of disease.

The history of medicine of the nineteenth century will form one of the grandest and noblest chapters in the history of science. Medicine is still in a transition state. The general skepticism of the age has invaded the realms of medicine, but withal, there has been a rapid and steady improvement. A noble army of workers, who have gone to their reward, have left behind them their best knowledge and example for the men of the present generation.

Dr. Osterlony, in continuation of his address, took up and commented upon the improved modes of treating different diseases, and concluded somewhat as follows:

"Now, it is a notable fact that in this great work the irregular and exclusive systems have had no share. So far as any true advancement is concerned they have been entirely barren. Not a single oasis relieves the dreariness of the view. Not a single flower of science has blossomed in their uncongenial soil. Not a single original contribution has been made by them to anatomy, physiology, histology, chemistry, pathology, etiology, and public hygiene. Nor is it known that any one belonging to the ranks of these irregulars has ever achieved distinction in the fruitful field of other sciences in which the cultivators of scientific medicine have won so much glory, and have performed such noble exploits. The names of Linnaeus, Berzelius, Draper, Nott, and Leidy, and many others, form brilliant constellations which shall continue to illuminate the firmament of science after homeopathy and kindred delusions shall have been swept away by the relentless winds of oblivion."

The address was closely followed, and that portion referring to the lack of achievements of the irregulars was greeted with enthusiastic applause.

It was voted that the paper be received and referred to the Committee on Publication.

#### REPORT OF THE JUDICIAL COUNCIL.

The Council presented the following report, which was received with applause and adopted:—

(1.) In regard to the Nebraska State Society referred to us last year, the Council report that a careful examination of the documents and matters involved in the protest of certain members of the Nebraska State Medical Society against the admission of said Society to representation in the American Medical Association, show no proper cause for such protest at the present time; and consequently the Society is entitled to its full representation by delegate in this Association.

(2.) In regard to the resolution concerning the use of remedies, controlled by a patent copyright or trademark, etc., which was reported from the Section on Practical Medicine and Materia Medica, and by the Association referred to the Judicial Council last year: The Council has decided, after careful examination, that in-

asmuch as said resolution includes matter not referred to in the Code of Ethics, and said Code contains all that is necessary for the proper guidance of members of the medical profession, therefore the resolution should not be adopted by the Association.

(3.) In regard to the protests against the action of and the reception of delegates from the New York State Medical Society, which was referred to us, the judicial committee report as follows:—

Having carefully considered the code of ethics adopted by the New York State Medical Society at its annual meeting in February, 1882 (as furnished by the secretary of said Society), the Judicial Council find, in said revised code, provisions essentially differing from, and in conflict with, the Code of Ethics of the Association, and, therefore, in accordance with the provisions of the ninth by-law of this Association, decide unanimously that said New York Medical Society is not entitled to representation, by delegates, in the American Medical Association.

#### ADDRESS BY DR. MARCY.

The next order on the programme was an address by Dr. H. O. Marey, of Boston, on Obstetrics and Diseases of Women, in which he claimed greater progress had been made than in any other branch of the medical profession. Dr. Marey illustrated the subject-matter of his address as he proceeded by a solar stereopticon, throwing upon a canvas during the address some thirty different views of the uterus and associate organs. The drawings and photographs were the work of Drs. Holt and Nelson, of Boston. The address was beyond question one of the most interesting delivered during the session of the Association.

The paper, after a unanimous vote of thanks, was referred for publication.

#### THIRD DAY.

The third general session was called to order at ten o'clock, by acting President P. O. Hooper. Prayer was offered by Rev. M. N. Gilbert. An announcement was then made by Dr. A. J. Stone regarding a contemplated trip to Stillwater.

#### REPORT OF THE COMMITTEE ON NOMINATIONS.

Dr. J. FOSTER PRATT, of Michigan, chairman of the Committee on Nominations, presented the report of that committee, as follows:—

President, Dr. John L. Atlee, Philadelphia; First Vice-President, Dr. Eugene Grissom, North Carolina; Second Vice-President, Dr. A. J. Stone, Minnesota; Third Vice-President, Dr. A. J. Osterlony, Kentucky; Fourth Vice-President, Dr. H. S. Orme, California; Treasurer, Dr. R. J. Dunglison, Pennsylvania; Librarian, C. H. Kleinschmidt, Washington; Members of Judicial Council, Drs. N. S. Davis, Illinois; J. M. Brown, United States Navy; X. C. Scott, Ohio; M. Sexton, Indiana; N. C. Husted, New York; Wm. Lee, Maryland; J. E. Rives, West Virginia.

#### Officers of the Various Sections.

Practice of Medicine, J. H. Hollister, Illinois, chairman; J. G. Lee, Pennsylvania, secretary. Surgery and Anatomy, W. F. Peck, Iowa, chairman; Paul F. Eve, Tennessee, secretary. Obstetrics, J. K. Bartlett, Wisconsin, chairman; G. A. Moses, Missouri, secretary. Medical Jurisprudence and State Medicine, Foster Pratt, Michigan, chairman; Thomas L. Neal, Ohio, secretary. Ophthalmology, Otology, and Laryngology,

A. W. Calhoun, Georgia, chairman; Carl Seiler, Pennsylvania, secretary. Diseases of Children, R. Blount, Indiana, chairman; J. H. Sears, Texas, secretary. Dentistry, D. H. Goodwillie, New York, chairman; T. W. Brophy, Illinois, secretary. Committee on Neurology, J. M. Toner, District of Columbia, chairman; R. F. Mitchell, Alabama; P. W. Hatch, California; E. R. Duval, Arkansas; Charles Dennison, Colorado; C. H. Penney, Connecticut; O. S. Pine, Dakota; J. P. Wall, Florida; C. H. Richards, Delaware; T. S. Hopkins, Georgia; J. H. Hollister, Illinois; G. L. Sutton, Indiana; S. B. Chase, Iowa; C. V. Mottram, Kansas; D. S. Reynolds, Kentucky; E. S. Lewis, Louisiana; E. F. Sanger, Maine; Wm. Lee, Maryland; L. F. Warner, Massachusetts; G. E. Ranney, Michigan; D. W. Hand, Minnesota; B. F. Kittrell, Mississippi; C. Lester Hall, Missouri; R. S. Moore, Nebraska; G. P. Coon, New Hampshire; J. P. Chapman, New York; John Blair, New Jersey; L. J. Picot, North Carolina; J. W. Russell, Ohio; Frank Woodbury, Pennsylvania; C. H. Fisher, New Jersey; Manning Simons, South Carolina; J. Perine Lindsley, Tennessee; D. R. Wallace, Texas; O. F. Fassett, Vermont; J. B. McCaw, Virginia; R. W. Hazlett, West Virginia; J. T. Reeve, Wisconsin; J. J. Woodward, United States Army; J. H. Kidder, United States Navy. Committee on Publication, W. B. Atkinson, chairman; Thomas M. Drysdale, William Lee, Pennsylvania; R. J. Dunglison, Albert Fricke, S. D. Gross, Casper Wistar. Assistant Secretary, I. N. Hines, Cleveland, Ohio.

#### ESTABLISHMENT OF AN ASSOCIATION JOURNAL.

The president announced, at this stage of the proceedings, that the time had arrived for the consideration of the special order, which was Dr. Packard's report in reference to the establishment of a journal of the Association.

Dr. DAVIS, of Chicago, said that although he was a member of the committee which made its report yesterday, upon reflection he was convinced that some amendments were required, and he therefore offered the following resolutions:—

*Resolved*, That the interests of the Association would be promoted by the publication of its transactions in a weekly medical journal under its own control, instead of in an annual volume as heretofore, provided it could be done without involving pecuniary embarrassment, or so far engrossing its funds as to prevent the annual encouragement of original investigation by its members.

*Resolved*, That so much of the report of the Committee on Printing the Transactions as relates to the increase of membership of this Association by application from members of State and local societies be and the same is hereby approved.

*Resolved*, That so much of the report of the Committee on Journalizing the Transactions of the Association as relates to the appointment of a board of trustees, nine in number, and their duties, be, and the same is hereby adopted, and that the president of the Association shall appoint a special committee of seven to recommend to this meeting of the Association the names of nine members for election to constitute said board of trustees.

*Resolved*, That the board of trustees so appointed be requested to agree upon a plan of a medical journal, to be called the *Journal of the American Medical Association*,

and to send circulars explaining such plan, and asking pledges of support by actual subscriptions, to the members of the medical profession throughout the whole country, and thereby ascertain as reliably as possible what degree of support the proposed journal can have as a basis for commencing its publication; and that said board also proceed to ascertain and agree upon the best methods of publishing said journal, the best editorial services it can secure to take charge of the work, and the best plan for its issue.

*Resolved*, That said board of trustees be and are hereby instructed to retain under all circumstances, in whatever plans or contracts proposed for adoption, entire control over the advertising as well as other pages of the journal that is proposed to be established, and that said board report in full at the next meeting of this Association, the plans upon which it has been able to agree, together with the response of the profession to its circular asking actual subscriptions to the proposed journal, and that the constitutional amendments proposed by Dr. Packard last year be continued upon the table until the report of the board of trustees is received and acted upon.

*Resolved*, That the treasurer of this Association is hereby authorized to pay out of funds in the treasury the necessary expenses of the board of trustees in printing and distributing its circulars and in conducting its proper correspondence.

*Resolved*, That the Committee of Publication proceed to publish the Proceedings and Transactions of the present meeting in a volume as heretofore, using all diligence to give it an early distribution to those entitled to receive it.

Dr. DAVIS supported his amendments in an earnest speech, and they were equally as earnestly seconded by Dr. Brodie, of Michigan, and were unanimously adopted.

Subsequently, the president appointed the following named delegates as a committee to appoint the Board of Trustees, in accordance with the resolutions:—

Dr. L. A. Sayre, of New York; Dr. J. M. Toner, of District of Columbia; Dr. J. Foster Pratt, of Michigan; Dr. R. J. Dunglison, of Pennsylvania; Dr. Robert Battey of Georgia; Dr. W. J. Peck, of Iowa; Dr. H. O. Marcy, of Massachusetts.

At the conclusion of the reading of the report, Dr. KELLER, of Kentucky, said that a resolution had been passed at the last annual meeting of the Association, to the effect that no members should be appointed to office unless they were present. He noticed by the reading of the report that a number of nominations had been made of those not present. He therefore moved that the report be referred back to the committee for correction in this respect.

This motion gave rise to some debate, and Dr. PRATT explained that the committee was aware that such a rule had been adopted, but, after a full consideration of the matter, and for the best interests of the Association, they had unanimously agreed upon the report as made. The matter was finally referred back to the committee for further consideration.

Dr. A. L. GHON, United States Navy, offered a resolution to the effect that in the opinion of the Association medical witnesses called as experts should be subpoenaed directly by the courts, which was tabled.

A resolution expressing the earnest hope that Congress will make the appropriation for the Army Medical Library of the usual amount was also tabled.

## A NATIONAL MUSEUM OF HYGIENE.

DR. GHON also offered the following resolution, which was unanimously adopted:—

*Resolved*, That the American Medical Association heartily indorses and commends to Congress the proposition of the Surgeon-General of the Navy to establish at Washington, in connection with the Bureau of Medicine and Surgery of the Navy, and in cooperation with the American Public Health Association and the American Medical Association, a national museum of hygiene, which shall exhibit the history and progress of sanitary science by a collection of publications, articles, models, drawings, etc., illustrating defects and improvements in food, in water-supply, bedding, clothing, marine architecture, house and hospital construction, and removal of excreta and refuse, culinary, laundry, and bath facilities, and for physical culture and exercise, and whatever else tends to the preservation of health and the prevention of disease.

*Resolved*, That this Association earnestly urges upon Congress the appropriation of the sum of \$10,000 which has been recommended for the purchase of exhibits and their consequent care and preservation; and that the permanent secretary shall without delay send a copy of these resolutions to each member of the Senate and House of Representatives in Congress assembled.

## THE MEDICAL BUREAU OF THE U. S. INDIAN SERVICE.

DR. DAVIS offered the following, which was adopted, and the secretary instructed to forward a copy of the same to each member of Congress:—

*Whereas*, There are now employed between sixty and seventy physicians in the United States Indian service, by authority of the Secretary of the Interior; and

*Whereas*, All physicians appointed to positions in the United States Indian Service are required to be graduates of some regular medical college; and

*Whereas*, There are now between 150,000 and 200,000 Indians depending entirely upon these appointed physicians for all medical and surgical treatment; and

*Whereas*, The present humane policy of the government is rapidly advancing the Indian civilization, thereby lessening the dependence in, and consequent power of, the "Indian Medicine Man," and greatly increasing the demand for, and labors of, the regularly qualified physician; therefore be it

*Resolved*, That the constitution of the American Medical Association be so amended as to provide for the admission to its membership of two delegates from the Medical Bureau of the United States Indian Service, to be nominated by the Surgeon-in-Chief of the Indian Medical Bureau and appointed by the Secretary of the Interior.

*Resolved*, That this resolution shall take immediate effect.

DR. TONER, of Washington, submitted the report of the Committee on Necrology, which was referred to the Committee on Publication without reading.

## METEOROLOGICAL AND CLINICAL RECORDS.

DR. DAVIS, from the Committee on Atmospheric Conditions and their Relations to the Prevalence of Disease, reported that in accordance with the action of the last annual meeting stations of observation had been established at Boston, New York, Philadelphia, Baltimore, Charleston, New Orleans, Cincinnati, Pittsburgh, Chicago, St. Paul, Denver, and San Francisco. The committee secured the services of Professor J. H. Long, to prepare the material and supervise the work for determining the relative proportions of the ozone and other active oxidizing agents in the atmosphere in the several localities. Through the efforts of Professor Long a number of eminent professional men of the country were secured to cooperate in the work, in which the United States Signal Service was also induced to cooperate, and to which the committee acknowledges itself under great obligations.

The report concluded with the presentation of two resolutions, one for the continuance of the committee, with the unexpended balance of the appropriation of last

year to remain at its disposal, and the other recommending an appropriation of \$500, for the employment of Professor Long. The resolutions were adopted.

DR. TUCKER, of California, submitted an invitation to the Association to hold its next annual meeting at San Francisco.

## RESECTIONS OF THE ALIMENTARY CANAL.

DR. W. A. BYRD, of Quincy, Ill., president of the Section on Surgery and Anatomy, read a paper on Excisions of Portions of the Alimentary Canal covered by Peritonium. From the cases and the analogous ones which the author has studied, he draws the following conclusions:—

(1.) Resections of the small intestine may be done to a considerable extent without interfering in any appreciable degree with digestion.

(2.) Practiced under suitable conditions the operation is to be considered perfectly legitimate.

(3.) The resection may be performed by bringing the divided ends directly into apposition and closing the abdominal wound, or by forming an artificial anus.

(4.) Resections of fibrous and cicatricial strictures, which are probably more frequent than is generally supposed, may cause a radical cure, and the same is the case with epithelioma. On the contrary, resections of cancerous obstructions gives only temporary relief, and at a greater risk.

(5.) By proper diet after the operation, the risk of fecal extravasation may be reduced to a minimum, and the best diet for this purpose is one containing as little fluid as possible.

(6.) By introducing liquids per anum, water is absorbed as by the mouth, and there is no sense of thirst; the flow of intestinal fluids is lessened considerably, and the patient is more comfortable.

The paper was attentively listened to, and referred to the Surgical Section for disposal.

## ADDRESS ON STATE MEDICINE.

The address by DR. A. L. GHON, chairman of the Section on State Medicine, was one of the most notable papers of the entire session. He stated that, when elected chairman of the section, he thought he would endeavor to impart more interest in the matter, and, together with the secretary, sent out several hundred circulars asking suggestions from physicians. To these he received only twenty-three responses, and eleven of these were announcements that they could not be present at the annual meeting. He summarized the responses received and regretted the lack of interest felt. He said:

"Benighted pagans employ physicians to keep them well, and cease their stipend when disease stalks in; but the most civilized and self-sufficient of races limits the functions of the medicus to the relief of ills they have deliberately herited, and without his office paraphernalia, his prescription papers, and his pocket cases say to him, 'What have we who have neither ache nor ailment to do with you?' Hence, it is not strange that the physician himself has come to look upon this as the chief function of his office, especially as it only brings him his daily bread; that associations of medical men have less interest in the problems of health preservation than in the means by which the dire effects of disease may be overcome, and profits and revenues accrue from working miracles, and that when doctors meet, the ethical apple of discord has only to be thrown into their midst to make them squabble like children as to

who shall not and who shall be recognized in the guild of bidders for public patronage. When the physician can practice his vocation in a community where his first thought can be given to the unventilated room, the foul drain, the faulty and intemperate diet, the contaminated water; when he can prescribe fresh air for the pallid cheek, and nutritious food for the dilating pupil, and exercise for the flabby muscle, and thick shoes and stockings and proper underwear for the fragile girl braving inclement weather, and sleep and rest for the worn, tired, brain, instead of ringing changes on iron and quinine and strychnia; when to be considered to have earned his fee he need not sit mumbling over the sick-room ritual, 'Let me feel your pulse — Let me see your tongue — How are your bowels?' and then gravely muse while writing a harmless placebo, which shall go to enrich an apothecary, or put in the stomach some drug with a vague idea of its doing something; when medical schools shall themselves exalt hygiene to its proper eminence, instead of giving it a quasi-recognition as a tail-piece to the chair of physiology, then the Section on State Medicine will not be compelled to beg for favor in the American Medical Association, but its standard will overtop all the rest. But this will not be until health primers are placed in every child's hands as soon as it can read, and the masses of the people are educated to understand that health is not the hand-maid, but the mistress.

"So long, however, as society in its highest development of rank and culture, ignorantly jostles and wedges itself in contracted salons and drawing-rooms, already defiled by blazing gas-jets and defective furnaces, where hundreds of lavishly dressed human beings be-foul the air and poison one another with the noxious gases and their own effete animal products in deadlier quantity than the ragged rabble which herd in the open streets, and call this pleasure —

"So long as godly people drowse and yawn in badly ventilated churches, surcharging their brains and impairing their minds by blood not half aerated, and ungodly ones exhaust their whole reserve nerve force to resist the insubstantial influence of the no less badly ventilated theatre and exhibition hall, and call the one pious worship, and the other rational amusement, —

"So long as men toil to amass riches, and then build residences, palatial, semi-palatial, or sham-palatial, and in the name of luxury and æstheticism flood them with artificial light and heat to consume the oxygen which prince and beggar both must breathe, and admit the invisible filth by the same sumptuously decorated closet and bath-room by which they think to exclude the vile necessities of humanity, which prince and beggar alike cannot escape, and call this comfort and refinement —

"So long as our children are sent to over-crowded, unwholesome schools (sixty-seven cubic feet, reports Sanitary Inspector Moreau Morris, as the average for seven hundred and fifteen scholars in a New York primary school of this day), where their eyes are bleared, their hearing dulled, their plastic bodies distorted, and their brains fuddled, and this called education, —

"So long as men and women daily violate in themselves and in their children the simplest precepts of hygiene; parents countenancing half-dressed daughters, wearing out their strength in unwholesome ball-rooms, seeking the slumber that cannot refresh only when the dawn appears; sons launched upon the world to encounter physical wreck in a thousand channels, where

no beacon warns of danger; old men, senators, judges, divines, perchance learned doctors, uncomplainingly breathing the foul air of public conveyances and apartments, in which every door and window has been carefully closed, and every ventilator carefully ignored; streets reeking with filth, which decrepit laborers play the farce of sweeping in broad daylight, and whole blocks of buildings, in fashionable quarters, hermetically sealed from garret to cellar to exclude night air, —

"What can State medicine hope to accomplish in legislative chambers and halls of Congress which are themselves evidences of sanitary ignorance, sanitary neglect, and sanitary indifference?"

After explaining the branches which have commonly been assigned to this department, he thus states how it *should* be organized: —

"(1.) The collection of information and advice from the principal sanitary organizations and sanitarians of the United States as to the best plan for a national health organization, including the subject of quarantine, both maritime and inland, and the relations which should exist between State and local systems of quarantine and a national quarantine system.

"(2.) The collection of information with regard to the sanitary condition of some of the principal cities and towns of the United States, with special sanitary surveys of the coast of New Jersey bordering on New York harbor, Memphis, Tennessee, etc.

"(3.) The appointment of a commission to investigate yellow fever in the island of Cuba.

"(4.) The collation of the sanitary laws of the United States and of the several States, including not only the statutes but the decisions of the several courts on all questions involving the public health.

"(5.) Investigations as to the best method of determining the amount and character of organic matter in the air; as to the effects of disinfectants, and especially the composition and merits of patent disinfectants; as to the prevalence of adulterations in food and drugs; as to the diseases of food-producing animals; as to the flow of sewers in relation to their sizes and gradients; as to the influence of various soils upon sanitation, especially with regard to drainage and methods of disposal of excreta; as to the outbreak of diphtheria in Northern Vermont, etc.

"(6.) The suggestion of legislation to improve the sanitary condition of the mercantile marine."

Dr. Gilson forcibly argued in favor of a more stringent quarantine to prevent disease from being brought into the country. He then reviewed at some length the various State board of health organizations, showing their respective nature, scope, and workings. Florida, Kansas, Maine, Missouri, Nebraska, Nevada, Ohio, Pennsylvania, and Vermont are the States without boards of health. The statistics supplied by the National Board of Health came in for criticism, it being claimed that they did not properly show the true condition of affairs. The statistics of Washington as collected by the local authorities, and given to the National Board, were sharply contrasted with those secured by the Navy Department, the latter showing Washington to be far from the healthy city which has generally been supposed.

The Section on State Medicine was advised that no work it could perform was so important as the securing of accurate health statistics. He concluded as follows: —

"The people and their representatives must yet be

educated to the real dangers to the public health, and this can best be done graphically by the simple diagrams of Pridgin Teale; by the meetings and popular addresses of the American Public Health Association; by the development of a great national museum and library of hygiene, which the surgeon-general of the navy has taken the initiative in establishing, in connection with the Bureau of Medicine and Surgery, and which it is proposed to make a central repository of whatever relates to sanitary science, and these accessible to every one throughout the land by the loan of books under proper guarantees of safety; and, lastly, by the American Medical Association, through its State Medicine Section, making physicians alive to their responsibilities as sanitary guides, encouraging the formation and development of State boards of health, and through them influencing the legislation of the country to the practical sanitary needs of this advanced age."

When the long-continued applause subsided, Dr. CAMPBELL, of Georgia, arose, and in eloquent terms defended the Association from the implied strictures upon it contained in Dr. Gilton's paper. Dr. Campbell characterized the American Medical Association as the best organized and most efficient body in the world, and as being immeasurably superior to that of England. He concluded by moving the reference of the paper to the Committee on Publication.

The report of the Judicial Council upon Dr. Demison's resolution as to the improper use of the term "allopathy," after some discussion, was laid over until the fourth day.

The session then adjourned.

#### FOURTH DAY, JUNE 9TH.

Dr. A. J. STONE, on behalf of the committee of arrangements, urged the members to take part in the excursions to Great Bear Lake, Duluth, Winnipeg, the Yellowstone, and other places of interest which had been mentioned.

#### THE REPORT OF THE LIBRARIAN.

Dr. WM. LEE, of Washington, was read. It stated that during the past year there had been added 167 distinct titles. This addition makes the library consist at present of 1702 distinct titles, which comprehend about 4448 volumes, inclusive of pamphlets. The Boston Medical Library Association has generously placed a large number of its duplicates at the disposal of this library, which have gone far towards completing imperfect sets of periodicals, and thus materially assisted in its growth, due credit for which will be found to be given in the catalogue. With the exception of monographs donated by their authors, the library has been left entirely to its own resources to obtain periodicals by exchange and purchase. I have only to recommend, in conclusion, that the home and foreign exchanges be continued; that two hundred dollars be placed at the disposal of the librarian to be expended, as heretofore, for the especial purpose of binding and the purchase of periodicals, proceedings, and transactions, which are to assist in the completion of sets, and that fifty dollars be subscribed to the *Index Medicus* under the same conditions as last year. This important and valuable periodical seems now to be established upon a more permanent and firmer basis, but this offer of pecuniary aid on the part of the Association

is simply an appreciation of its merits, and a desire to insure its success.

The report was accepted and the recommendations adopted.

The report of the Treasurer, Dr. DEXTER, of Philadelphia, showed a balance of \$111.38.

The Committee on Publication submitted their report.

On motion, it was ordered that, if sufficient funds for the purpose should remain after paying all the expenses, a general index of all the volumes of Transactions should be issued to members with the volume for 1882.

#### CREMATION.

Dr. KELLER, of Arkansas, offered the following resolution:—

*Resolved*, That in many of our large cities in the near future, if not now, cremation will become a sanitary necessity.

Which was referred to the Section on State Medicine.

The resolution offered on the second day by Dr. CHARLES DENNISON, of Colorado, was reported back to the Association by the Judicial Council without recommendation, and it was laid on the table.

#### MEDICAL EXAMINATIONS.

Dr. J. G. THOMAS, of Georgia, offered the following resolution:—

*Resolved*, That the Association approve the organization of faculties in medicine having no other foundation than the examination for degrees, as a measure which will increase the value of the present methods of education in medical colleges in this country.

Dr. N. S. DAVIS, of Illinois, seconded the resolution in a speech defending the establishment of independent boards by the universities.

Dr. RASSEHOFF, of Cincinnati, opposed the measure as casting a slur upon medical colleges and medical teachers.

Dr. GARCELON, of Maine, moved that it be laid upon the table. Lost—ayes, 75; noes, 132.

Dr. N. S. DAVIS, of Illinois, said he was fully in favor, and had been for thirty years, of the principles of independent examination, but now having brought the matter to the notice of the Association, thought that the same should be further postponed, which was done by a unanimous vote.

Dr. DENNISON, of Colorado, moved the following: That no action of this Association, either in its code of ethics or in its annual meetings, should be construed to commit members of the American Medical Association to adherence to any dogma, and members should have the care not to allow their names to be erroneously registered as "allopathists," etc., in State or city registers of physicians, which was adopted.

On motion of Dr. EUGENE GRISSOM, of North Carolina, an honorarium of one thousand dollars was presented to the permanent secretary for his services during the past year.

Dr. H. O. MARCY, of Boston, moved a vote of thanks to the treasurer for his faithful services to the Association. Unanimously adopted.

#### AMENDMENT TO THE CONSTITUTION.

Dr. TONER, of Washington, D. C., gave notice of an amendment by which the secretary should serve without compensation.

## A NATIONAL MEDICAL COLLEGE.

Dr. Laurence, of New York, offered the following resolution:—

That the President of the Association appoint a committee consisting of one representative from each State in the Union whose duty it shall be to investigate the feasibility of creating and endowing such an institution as shall in their judgment meet the demands of this age of investigation and progress, and shall include in their report, at the next annual meeting, a more exact character of the school we need and the ways and means that will best conduce to the accomplishment of the undertaking.

Laid on the table.

## AMENDMENTS TO THE CONSTITUTION AND BY-LAWS.

DR. FOSTER PRATT, of Michigan, gave notice of an amendment so that the requirement that officers shall be nominated only from gentlemen present at the meeting.

Dr. Foster Pratt, of Michigan, gave notice of the following amendment to Article XIII. of By-Laws, so that it shall read: "None but members present shall be eligible for election as president, vice-president, treasurer, secretary, chairman, and secretary of sections, and as members of the Judicial Council."

## BIENNIAL MEETINGS IN WASHINGTON.

Dr. N. S. DAVIS, of Illinois, introduced the following:—

*Resolved*, That after the next annual meeting, the permanent interests and influence of this Association would be best promoted by again holding every second meeting in Washington, as its home on common national ground, and not as invited guests, while each alternate meeting should be held in such section of the Union as would be most useful in promoting the society organizations in all parts of the country.

Being an amendment to the Constitution, this was necessarily laid over.

Dr. KELLER, of Arkansas, gave notice of another amendment to the effect that "The Nominating Committee may appoint any date at their discretion as late as the first Tuesday in September, for the annual meeting."

Notice was also given by Dr. SEARS, of Texas, of an amendment, making the office of librarian permanent.

Dr. BROOME, of Michigan, read an elaborate vote of thanks to the committee of arrangements, the profession and citizens of St. Paul, and railroads, for courtesies extended, which was seconded by Dr. N. S. Davis, of Chicago.

Dr. D. H. GOODWILLIE, of New York, delivered the

## ADDRESS IN DENTAL SURGERY.

He believed that the teaching of this specialty should be established in medical colleges, where all students, before graduating, should be examined on the principles and practice of this department. Besides, practical instruction should be given in an infirmary devoted to this class of affections. He gave cases from his personal experience illustrative of disease of the mouth and neighboring parts, such as intra-oral extirpation of the bones of the maxilla, with reproduction of bone; intra-oral extirpation of bones of the nose; a new operation for closure of the hard palate and lip in early infancy; treatment of abscesses of the jaw, etc. These cases were illustrated by diagrams, and over twenty models in wax.

He closed with the hope that the time was not far distant when there would be endowed universities where every branch of the healing art and would be theoretically and practically taught.

Delegates to foreign societies were then announced: Drs. T. A. Emmett, D. Lewis, W. M. Carpenter, and E. M. Brush, of New York; and J. M. DaCosta, of Pennsylvania.

## THE PRESIDENT ELECT.

On motion Dr. DAVIS, of Chicago, was appointed to escort Dr. JOHN L. ATLEE, the president elect, to the platform. Dr. Atlee was greeted with loud applause, and, on being introduced by President Hooper, made the following address:—

"*Gentlemen of the American Medical Association*: It is with no ordinary emotions that, by your partiality, I occupy a chair that I have seen filled by a Chapman, a Warren, a Storer, a Knight, and a host of worthies, living and dead, who were and are the ornaments of our profession. I beg you to accept, gentlemen, my heartfelt thanks for the honor you have conferred upon me. I accept it also with gratitude as a tribute to the memory of a dear brother, who, were he now living, would more deservedly occupy this position. My chief motive in coming here on this occasion was to assist in carrying out the instructions unanimously given by the Lancaster County Medical Society to uphold the honor and dignity of our noble profession by putting the seal of condemnation upon the recent action of a State society, the sanction of which would have given character to a system of practice derogatory to common sense, and professional integrity. In the performance of my duties I shall endeavor to be firm and impartial, and I trust that I may be supported by your kindness and courtesy in trying to uphold the right."

The thanks of the Association were tendered to Dr. P. O. Hooper, of Arkansas, the retiring president, and at 12.10 P. M., the Association adjourned to meet at Cleveland on the first Tuesday in June, 1883.

## MASSACHUSETTS MEDICAL SOCIETY.

## ONE HUNDRED AND FIRST ANNUAL MEETING.

The programme for Tuesday, June 13th, the day preliminary to the one hundred and first annual meeting of the Massachusetts Medical Society, opened with operations, surgical visits, and exhibition of patients at the Massachusetts General, the City, Carney, and Lying-in Hospitals.

The most interesting features of these hospital entertainments were the following: At the Massachusetts General Hospital, Dr. J. C. WARREN operated for cancer of the tongue in a man aged twenty-five years, involving nearly the entire left half of the organ. The diagnosis had been verified by microscopic examination. The lingual artery was first tied and the growth then removed with scissors, little or no blood being lost. Edges of wound were brought together by sutures. Dr. Warren also excised a knee-joint for bony ankylosis, with much deformity, in a woman aged forty years. Among the cases shown in his wards, was one of recent lumbar colotomy in a woman of twenty-five, afflicted with cancer of the rectum, and one of varicose aneurism of ten years' duration, caused by a wound of the femoral artery and vein, from a jack-knife. The sac, the size of an adult head, had been laid open by the "old method."

At the City Hospital, Dr. CHARLES D. HOMANS excised the head of the femur in a case of hip-joint disease. The operation was done neatly, handsomely,



and quickly. Dr. Romans also did some minor operations.

Dr. INGALLS showed cases in his wards, all being in too good condition to require operative interference. Surgical dressings were shown, not as an exhibition, but merely to illustrate the ordinary dressings of the hospital. The internes of this year have evinced ingenuity and skill in the elegance of their appliances, especially of silicate and plaster, as was proven by their fine exhibit in Horticultural Hall.

At the Lying-in Hospital Dr. SINGLAIR illustrated the method of intra-uterine injections, and the manner of introducing pessaries.

At twelve o'clock, M., the President, Dr. HENRY W. WILLIAMS, called the Society to order in Horticultural Hall, only thirty Fellows being present, and at once introduced the readers of papers, namely: Dr. Lucius W. Baker, of Baldwinville, his subject being "Cottage Hospitals." He was followed by Dr. James W. Hannum, subject, "Disease Germs." Dr. Walter Eka, of Cambridge, next read a paper on "The Coincidence of Anal Fistula and Pithiasis: A Clinical and Pathological Investigation." An interesting essay on "Obscure Mental Symptoms of Disease," by Dr. Charles F. Folsom, of Boston, terminated the forenoon programme of the first day. The papers elicited but little remark from the Fellows, no actual discussion occurring. It may be said that the emptiness of the hall, the noise of passing vehicles, and too frequently the lack of power in the voices of the readers, made it exceedingly difficult for the audience to follow closely the various subjects presented.

The meeting was adjourned at two P. M.

During the afternoon of Tuesday, the Warren Museum at the Medical College, the Warren and the Berkeley Street Museums of Natural History, also the Children's Hospital were opened to the Society.

#### THE ADMISSION OF WOMEN.

At four o'clock, P. M., "an adjourned meeting for the transaction of business," was called to order in Horticultural Hall, President Williams in the chair. Every Fellow knew that the "business" pending was a renewal of the perennial question of the admission of women to the Society.

Dr. HODGDON, of Arlington, fired the first gun, in the shape of a motion to this effect:—

*Resolved*, That the first four lines of the first By-Law of the Society be stricken out, and in their place be substituted: Candidates for admission to the Massachusetts Medical Society may be male or female, and every candidate must, by proper credentials and examination, satisfy the censors of said Society that he or she possesses the proper qualifications for fellowship.

THE PRESIDENT then ruled that there could be no change of by-laws without concurrent vote of the Council and the Society.

Dr. HODGDON then said, that with all respect to the President, he must appeal from this ruling, and that he would speak to his appeal.

THE PRESIDENT at once ruled that by the By-laws the motion might be discussed by the Society, but could not be acted upon until it had first been reported to the Council and passed by that body.

Dr. HODGDON's appeal was sustained by the meeting, and he then said he believed the Society had met for the purpose of voting upon the question. He proceeded to give reasons why women should be admitted, and declared that the responsibilities assumed by the

Society make it incumbent upon it to examine all candidates for admission, of whatever sex. Legal authority has said there is nothing in our charter which forbids admission of women, and therefore, as a matter of right, we have moved that they be admitted. In October, 1880, by a vote of forty-eight to thirty-two, this position was accepted by the Council. In February, 1881, this motion was said by the Council not to be in proper form, and the vote was rescinded. To-day I commence *de novo*, and make the motion again. The President rules that the Society cannot change a by-law without first reporting the matter to the Council. I therefore appeal.

(1.) Common sense and common parliamentary usage show that any society has a right to alter its own by-laws and rules.

(2.) Our charter and by-laws have clearly and definitely given us that right, and any meeting of a proper number of Fellows may revise any by-law they choose, if the proper number so decide.

(3.) Ordinary usage gives us that right. All changes should be proposed in writing. All changes should be proposed at an adjourned meeting. This we have done.

The present by-law, is that no change of by-law shall be made without concurrent vote of the Council and Society. That means by the two together. The Council can reject or not as it sees fit afterward. There was a by-law (he had never seen it) which declared that the Council must first consider any change in by-laws. This has been blotted out. What is this Council? A respectable body appointed since the charter was made. There is no allusion to it in the charter except that it may vote with the Society. In 1870, at a society meeting, Dr. Sullivan proposed a change of by-laws, and Dr. H. K. Storer moved to adjourn for five minutes. This was done. The change was discussed and carried at the adjourned meeting. Was sent to Council and carried on motion of Dr. H. J. Bigelow, seconded by Dr. Ellis, men of high merit. This precedent shows that the Society has never abandoned its right to change by-laws, and I hope that the Massachusetts Medical Society will stand by its right this afternoon.

Dr. JOHNSON, of Salem, thought Dr. Hodgdon was wrong in regard to common sense. It is a question of method. In parliamentary usage it is customary to refer changes of by-laws to committees. The proper way is to refer this matter to the Council.

Dr. EASTMAN, of Boston, expressed the belief that a body which makes can unmake. In any case the Council is our own creation. We made and can unmake it. That body was wisely provided as a wholesome check on anything which was done by the Society. But we have a right to change our laws irrespective of the Council. He was sorry to differ from the President. The Society has a right to do as it pleases.

Dr. GEORGE C. SHATTECK said, it was a matter of convenience in the Society to refer business to the Council for consideration. This body is a varying body of 1400, not all of whom are even expected to be present. It is a law of the Society that a meeting of ten Fellows can bind the whole Society. It is, then, a proper plan to refer an important matter to the Council. Is it wise or expedient to make a radical change in the way proposed? Besides, this change is a revolution. Friends of the movement urge those interested to come and vote. The uninterested do not come. It would therefore be unfair to the whole Society to decide this mat-

ter in the absence of so many of the whole body. He therefore sustained the President.

Dr. H. A. MARTIN expressed the view that under the ruling of the chair the Council is not the servant but the master of the Society. That the Society has no rights but those granted by a smaller body of its own creation, and that it therefore is steadily gaining in disrepute for illiberality upon all subjects.

Dr. C. H. WILLIAMS, of Boston, said, there was on record only one instance in which the Society acted first. On the other hand, there were thirty instances in which the Council acted first. It seemed to him this was a precedent which should be followed.

THE PRESIDENT said, this was not a question of common sense but of rule and precedent, — a question of law. He had no personal feeling, but having good ground for his decision, and wishing to serve the Society, he must abide by his decision. He then explained the ground he had taken, that the question is one of law. Formerly the by-laws expressly stated that the action of the councilors should precede that of the Society in enacting by-laws. When the new code of by-laws was enacted, it was voted, that all by-laws inconsistent therewith, or superfluous, should be repealed. The present by-law retains the spirit of the old. The change in phraseology is not one of fact or rule. The councilors have taken initiatory action dozens of times. When in the meeting of 1870 there was a seeming variation from the precedent, there was raised at that time a question of legality, and the amendment which was offered was, in reality, to do away with something which had already been annulled by an act of legislature; so that the action was one of mere form, and, as it were, spurious. At the same meeting a motion was offered to expel certain members for irregularities. The motion threw the meeting into confusion, but was carried. This confusion, and the question of legality as to the proceedings of that meeting, indicates the need of the Council. And for various other reasons this one instance is no precedent.

Dr. E. W. CUSHING, of Boston, thought the time had come when the Society should be unmuzzled. As things now are, it gets but small chance to speak on any question.

The question as to the decision of the chair was then put to vote. A majority of six (131 to 125) sustained the ruling of the President.

Dr. HODGDON's motion was then declared to be before the Society for discussion, if desired.

Dr. HARVEY, of Westborough, moved that the motion be referred to the councilors for discussion that evening.

Dr. HODGDON proposed to amend the motion by moving that the matter be referred to the Council, with recommendation for favorable action.

Dr. LYMAN hoped the amendment would not prevail. It would show that the Society dared not vote, and wished the Council to decide for it. There is an error of feeling in the Society in regard to the relation of the Council to the Society. If the councilors do not act so as to please district societies, members can turn them out and send others.

Dr. H. I. BOWDITCH said if this ruling of the chair holds, then the Society has given up everything to the Council.

Dr. FRANCIS, of Worcester, said he should be willing to refer any matter to an *annual* meeting of the Council. The other two were not representative meet-

ings. But even at the annual meeting matters under pressure were referred to committees instructed to report at other meetings. At these meetings territorial influences prevail, and the conditions are quite different. He thought the course should be reversed. Questions should be discussed at an adjourned meeting, like the present one, and then be referred to the Council in the evening for concurrence.

Dr. G. C. SHATTUCK said the councilors are our servants. We refer to them matters for discussion. But to give them a bias and prejudice ourselves is not wise. The other way is better.

Dr. H. A. MARTIN declared that the councilors are not the servants but the masters of the Society. Questions sent to them if decided adversely are never again heard of by the Society. He then bitterly criticised the manner in which the Council is formed and concluded by saying that, as matters now are, the Society can neither pass nor change the smallest by-law.

Dr. WINSOR then offered a substitute for Dr. Hodgdon's amendment:—

*Voted*, that in the opinion of members present it is expedient to admit women on the same terms as men, and that the secretary be instructed to lay the motion before the Council to-night for consideration.

Dr. WAKEFIELD, of Leicester, next delivered a vigorous appeal in favor of the admission of women.

Dr. DEBLOIS, of Boston, moved that the meeting be adjourned. Decided in the negative.

It was then voted that the question be called, namely, Upon Dr. Winsor's amendment to Dr. Hodgdon's amendment. The Society voted to adopt Dr. Winsor's amendment by one hundred and one to fifty-four.

The question was then put as to whether Dr. Hodgdon's original motion as amended by Dr. Winsor be referred to the Council. Carried by one hundred and four to sixty.

#### MEETING OF THE COUNCIL.

The Council was called to order at the hall in the Boylston Library Building at seven P. M. President in the chair.

The election for officers for the ensuing year resulted as follows: President, Dr. Alfred Hosmer, of Watertown; Vice-President, Dr. John H. Mackie, of New Bedford; Treasurer, Dr. Frank W. Draper, of Boston; Corresponding Secretary, Dr. Charles W. Swan, of Boston; Recording Secretary, Dr. F. W. Goss, of Roxbury; Librarian, Dr. D. H. Hayden, of Boston.

The question of a more uniform standard for admission was referred to committee to report at the next meeting.

The question of the admission of women was introduced by the reading of the vote taken in the afternoon.

Dr. G. C. SHATTUCK moved to refer the matter to a committee. Defeated.

Dr. MORRILL WYMAN urged that the Society owed to the community the duty of deciding as to which of the women physicians now practicing were competent for their work. He believed the community had a right to demand that in this matter it should have the protection of the Society.

Dr. HARVEY, of Westborough, then moved that the whole matter be indefinitely postponed. Carried, sixty-five to thirty-six.

Dr. WINSOR, of Winchester, offered a motion to the effect that there should be a change in the by-laws, so that either the Society or Council might have the right



speaking further in eulogy of Dr. Holyoke, closed by proposing the memory of the first president in the first century, the first president of the Massachusetts Medical Society.

The toast to the retiring president brought response from DR. HENRY W. WILLIAMS, of Boston, who was received with marked cordiality. He said: The rich heritage we have received from the experience of a hundred years allows no self-complacent indolence. It impresses the obligation that the cumulated wisdom of generations shall be not only utilized, but added to, that this Society shall be the better for our having thought, and spoken, and acted in it. We must secure respect by leading the way in our communities in exploring the ocean of undiscovered truth which lies before us. Among the resources in which this Society is most fortunate are the vigor, the activity, the harmony of her children. The proceedings of the district societies are marked by a spirit of true, scientific inquiry, by evidence of mutual confidences and regard, and by growing attachment for this venerable parent. They not only offer the advantages which result from coöperation, but they are a means for the dissemination of whatever of value to medical science is discovered by alert observation or divined by keen intuition; and the most solitary physician, alive to the teachings of nature and the phenomena of disease, may learn much which may be contributed in the meetings of these societies for the good of all, and the words of one man's mouth become instant ideas in other men's minds. Individual attainment is limited by the swift flight of time and personal action restrained by the narrow bounds of life; but of our Society we may say in the sublime confidence of an assured hope: —

"We may not follow with our senses frail  
The glorious way along the endless years."

The next toast was "The Commonwealth of Massachusetts," and, in the absence of the governor or any representative of the State, Dr. Osborne read a letter from Governor Long, stating that he was snatching, at the only possible interval open to him, a few days' very much needed rest in Maine, and regretting that he could not, as in former years, pay his tribute to one of the most beneficent of the professions. The next toast, to "Harvard University," was responded to by COL. HENRY LEE, president of the association of the alumni of the university. He alluded to the surprising growth in the resources of the institution, by which money to the amount of from three to four millions had been poured into the treasury and the college become expanded into a university. Coincident with this was the transfer of the choice of overseers from the State to the alumni, a change which awakened new interest in the school among all its former friends. That the alumni had done their work successfully was evident from the long list of gentlemen conspicuous in every department of educational work and public life, which now formed the board of overseers, and from the happy selections which had been made of a president and instructors. About ten years had now passed since the introduction of several reforms into the medical department. Salaries had been established, and the course extended for one year. Any further changes which may be made in Harvard Medical School, will be in the direction of a higher standard, a longer course, more severe examinations, that medical instruction may be more complete. Speaking of medical science in his youth Mr. Lee said that the treatment was very heroic,

and that some of the physicians of the time were like Saul and David, who had killed their thousands and tens of thousands. Yet, after all the physician was like the good Samaritan, but with this difference — that while the good Samaritan poured in oil and wine, he as a patient had generally poured in the wine himself and the physician the oil.

The REV. LEIGHTON PARKS, responding for the clergy, said that the hundred years past had given the people the most unbounded confidence in the medical profession — a reputation which could be held by the continual justification of that confidence year by year. There is, said he, standing before your profession, as before mine, the sphinx which will ask its question of every human soul, and whose question must be answered, or death will be the penalty. You have in the past hundred years answered the question more fully than could have been thought possible. What the human mind is, and what nature is; and every step taken has brought you nearer to the question of the coming century — what have you to say about man's destiny and man's soul? You may say that is not your question; but you must all recognize that you hold the place of most unbounded confidence in the minds of the people. If you should say that death was the end of all things it would not alter the contrary fact, but it might sink despair into the hearts of men. The thing I fear is that you will deal with this question as though it were not worthy of your consideration. But I think that your profession and mine are tending toward a substantial unity which is more than a dogmatic unity. Your duty is, as ours is, to make the new man take the place of the old. We are both seeking the same things — you for the flesh, we for the spirit. I look for a day when these voices, sometimes discordant, shall be drawn together, when "this corruptible shall put on incorruption, and this mortality shall have put on immortality." Then shall be brought to pass the saying written by the hand of God across the sky of the future of humanity, "Death is swallowed up in victory."

Mr. Parks's speech elicited great applause, which was renewed when MAYOR GREEN was presented. His honor said that this city had received, more than any other, the benefits of the Society. The Harvard Medical School was largely the child of the Society, and some of the greatest medical doctrines and propositions of the day had received their first recognition in this town. The value of inoculation was declared almost as soon in Boston as in England, and from here was made known throughout the other colonies. Then came the discovery of vaccination, first introduced by Dr. Waterhouse, of Cambridge, and later, the great discovery of Dr. Morton, of the value of ether as an anæsthetic. Boston and the towns about her — parts of her intellectual life, if not of her legal domain, — are closely and directly linked in interest and history, with the cause and the victories of medical science.

DR. GEORGE M. LEFFERTS, of New York, President-elect of the American Laryngological Association, acknowledging that he was in a sense a specialist, said that without the regular profession the specialists are nothing. The profession gives tone and *morale* to each of its branches, and all are laborers in the same field, contributing something to the magnificent edifice of medicine.

GENERAL WILLIAM COWSWELL, of Salem, pointed out in a humorous way how closely allied were the

three professions of law, medicine, and divinity. The dying man goes to the doctor first; when he gives him up he calls in a lawyer, and finally the minister. The speaker also paid a hearty tribute to the bravery of the men who served as surgeons in the army.

GENERAL FRANCIS A. WALKER, president of the Institute of Technology, after paying a graceful tribute to the public spirit and genuine worth of the society, spoke most eloquently and feelingly of the late Professor Rogers. In a community of so much culture as this, said he, the decease of a man possessing such acquirements cannot fail to be mourned. Easily a master in every department of exact knowledge, endowed with powers of eloquence which have been conferred on few statesmen, and which, as I believe, no man of science ever possessed in an equal degree — which, indeed, but for his brilliant example, might have been thought inconsistent with the strictness of scientific methods and the exactitude of scientific results; equally gifted in investigation and in exposition, not less fortunate in the laboratory than in the lecture-room, Professor Rogers occupied with peculiar fitness and peculiar felicity the proud position of President of the National Academy of Sciences. Who shall ascend to his place? Men of science we have indeed, able and wise and skilled; but when again shall the heart of the poet beat in such perfect unison with the brain of the scientist? When shall the two divine gifts of investigation and exposition be conferred again, in the prodigality of nature, upon one man? Professor Rogers popularized science, not in an unworthy sense, but only as the Lord popularized the gospel, to make it plain to men. To the creation of the Institute of Technology he gave the last twenty years of his life. In a high sense he lived for it, and in a most literal sense he died for it — died telling the story of its trials and its triumphs, falling midst his colleagues and his pupils with a benediction on his lips. In closing, General Walker spoke of the proposed enlargement of the scope of the Institute, so as to comprehend mental as well as physical sciences in its curriculum.

ROBERT S. RANTOUL, Esq., responding to the sentiment, "The City of Salem," made a speech partly humorous and partly serious, congratulating himself on the close connection between the doctor's interests and his humanity, and paying a warm tribute to the painstaking conscientiousness of the members of the medical profession.

The last speaker, Mr. GEORGE A. MARDEN, answered for the press in his usual inimitable and mirth-provoking manner, pointing out that the influence of the press was potent even eighteen hundred years ago, when Zaccheus climbed a tree to see his Lord, not daring to remain on the ground "for fear of the press."

The committee of arrangements left nothing to be desired in the successful smoothness of their conduct of the entire meeting, and especially of the dinner.

—The eminent surgeon, Baron von Langenbeck, has tendered his resignation of the professorship of surgery in the University of Berlin, which he has held for many years, with advantage to surgical science and honor to himself. His resignation has been accepted by the Prussian government, and instructions have been given to take the necessary steps for the appointment of a successor, to enter on the duties of the chair in October.

#### MEETING OF DELEGATES FROM THE BOARDS OF CENSORS OF THE MASSACHUSETTS MEDICAL SOCIETY FOR THE VARIOUS DISTRICT SOCIETIES.

The delegates from the district boards of censors met by adjournment from last year in the reading room of the Medical Library, 49 Boylston Place, June 14, 1881. The following District Societies were represented: Bristol North, Dr. Alfred W. Wilmarth; Hampden, Dr. George C. McLean; Middlesex East, Dr. W. S. Brown; Middlesex South, Dr. J. G. Nichols; Dr. H. C. Cook; Suffolk, Dr. W. E. Boardman; Dr. A. N. Blodgett; Worcester, Dr. W. Davis, Dr. J. B. Rich; Worcester North, Dr. Hartwell, Dr. Russell.

The meeting was called to order by Dr. H. C. HAVEN. Dr. W. E. Boardman was chosen chairman and Dr. A. N. Blodgett secretary.

The chairman explained briefly the object of the meeting, which was chiefly for purposes of consultation and conference upon the duties of censors of the Massachusetts Medical Society, in the hope that a comparison of the methods employed by the different boards, and discussion of the subject might lead to the adoption of some plan by which a greater degree of uniformity in examinations might be obtained, and some general system by which the examinations were to be conducted might be established. Friendly replies upon the subject of the conference were received from every subordinate Society in the State, excepting the Norfolk District Society, from which no delegates were sent to either the previous general meeting of the censors held some months ago or to the one on this date. At the former meeting a letter was read from the Norfolk Board of Censors opposing the meeting, and on this occasion a letter was also read from this Society stating that its Censors had not appointed delegates to the present meeting. When we consider that the sole object of the meeting is to secure a greater degree of usefulness and efficiency, with uniformity of method and requirements in the examination of candidates, the action of the Norfolk District Society seems very strange.

DR. BLODGETT gave a short account of the doings of the previous meeting, and presented an outline of the method of examination which had been followed by the censors of Suffolk District, which consists of an oral examination extending over a very few minutes before each censor, upon the chief departments of medical science, followed by a written examination comprising ten printed questions, which are presented to each candidate, together with a book for the answers. On a subsequent day the censors again meet and present the standing of the several candidates in both oral and written examination, from the sum total of which the result of the examination of each candidate is obtained. The Suffolk censors regard the written examination as very important, and the speaker hoped that some action might be taken looking to the adoption of this as a part of the method to be employed by each District Board.

DR. BROWN said that the object of the meeting was very important, and urged that in future all the censors be invited to attend, and not simply to send delegates.

DR. NICHOLS urged some uniform grade of examination for all parts of the State. It is easy to violate the spirit of the law in the methods used at present, and, as an illustration, he mentioned a case in which the oral examination of the candidate consisted solely

of the question, "if he were a homœopath?" and the written examination in a single prescription. This, he said, showed that some uniform method was desirable.

Dr. McLEAN stated that within the past few years the examinations in the Hampden District have been conducted in a way to prove the fitness or unfitness of the applicants to receive the diploma of the State Society. He mentioned the case of the *dean* of a so-called medical college, located on Essex Street, in this city, who presented himself as a candidate for admission to the Massachusetts Medical Society, and was rejected. The speaker suggested, as a further improvement upon the system at present advocated, the following: First. The examinations to be wholly in writing. Second. The censors should *recommend* those candidates for membership who have passed a successful examination, and they should then be elected by ballot in the general meeting of the District Society. Third. The time of meeting of the Boards of Censors should be changed to some other day than that upon which the stated meeting of the District Society occurs, as the two meetings often seriously inconvenience each other.

Some discussion followed these propositions in which nearly all present took part.

Dr. BROWN made the following motion which was carried:—

"That a committee of three be appointed by the chair, whose duty it shall be to ascertain the methods of examination used by the several boards of censors, and to request the Boards of Censors to make such suggestions upon this subject as may occur to them. This committee to report at the next meeting."

The chair appointed as this committee Dr. Nichols, of Middlesex South District, Dr. McLean, of Hampden District, Dr. Hartwell, of Worcester North District.

Dr. NICHOLS moved that when this meeting adjourn, it do so to meet at some time during the next annual meeting of the Massachusetts Medical Society, at such date and place as the secretary may designate. Carried.

Dr. McLEAN moved that the chairman and secretary of this meeting be a committee to confer with a committee from the Board of Councilors of the Society in regard to the functions of the Boards of Censors. Carried.

Adjourned. ALBERT N. BLOGETT, Secretary.

#### THE AMERICAN LARYNGOLOGICAL ASSOCIATION.

THE fourth annual congress of the American Laryngological Association was held in this city, on the 12th, 13th, and 14th inst., the sessions being in the hall of the Medical Library, on Boylston Place, the use of which had been offered by the Library Association for the purpose. The following names were registered: Frederick I. Knight, M. D., of Boston, President; E. L. Shurley, M. D., Detroit, First Vice-President; Geo. M. Leferts, M. D., New York, Secretary and Treasurer; Frank H. Bosworth, M. D., New York, Librarian, and Drs. Morris J. Ash, New York; E. W. Cushing, Boston; William H. Daly, Pittsburgh; D. B. Delavan, New York; L. Elsborg, New York; T. R. French, Brooklyn; J. H. Hartman, Baltimore; E. Holden, Newark; E. F. Ingals, Chicago; W. C.

Jarvis, New York; Samuel Johnston, Baltimore; S. W. Langmaid, Boston; R. P. Lincoln, New York; George W. Major, Montreal; E. C. Morgan, Washington; Beverley Robinson, New York; J. O. Roe, Rochester; T. F. Rambold, St. Louis; Carl Seiler, Philadelphia.

#### THE ADDRESS OF WELCOME

was delivered at the opening of the first day's session, by Dr. Langmaid, who congratulated the Association upon the increasing interest manifested by its members; its standing and influence among medical organizations; and the evidence of activity made manifest by the fullness and variety of the subjects contained in the order of proceedings presented by the secretary and the committee of arrangements. The programme showed the Association in the light of hosts as well as guests in the richness and attractiveness of the entertainment provided; but the amount of material for discussion made the time too short for more speech making; he therefore would, while congratulating the Fellows upon the auspicious opening of another meeting, simply bid them a hearty welcome to Boston.

#### ANNUAL ADDRESS.

Dr. FREDERICK I. KNIGHT then delivered the president's address, in which he first called attention to the evidences of the progress of laryngology during the past year, especially its excellent record at the International Medical Congress at London, and the creation of professorships in several colleges. The remainder of the address, besides what was given to the internal affairs of the Association, was devoted to a consideration of the way in which the Fellows of the Association could promote their specialty, and particularly how that amount of knowledge could be insured to the student, which the community is entitled to expect from the general practitioner. Laryngology is only one of many subjects which needs more time and consideration, and they can never receive it, nor will the medical course be ever again a satisfactory one until the time of study is extended to four years. Dr. Knight said that it seemed unnecessary for first-class colleges to keep down their requirements to satisfy the demands for second-class doctors. Let these graduate from schools of confessed second rate. A plea was then made for the active interest of the Fellows in securing *enlightenment* for their schools in order that they might be freed from the commercial element.

The annual meeting of this Association was mentioned in conclusion, and the recommendation given that it should be held within one night's journey of New York city, inasmuch as so many of the members of the Association reside there; and an explanation was given why the present meeting was held in this city instead of at Niagara, as had been decided at the last meeting; by correspondence with the Fellows he had learned that the Congress would be likely to prove less successful and satisfactory to the Association if held in the latter locality, than here.

#### PAPERS AND DISCUSSIONS.

Dr. L. ELSBERG read a paper on Paralysis of the Laryngeal Muscles, in which he discussed the physiological effects of the different forms of paresis as affecting individual muscles, and illustrated, by a diagram, their characteristic laryngeal images. The following points were submitted for discussion:—

(1.) Relative to the cricoid cartilage, the position of the thyroid is fixed by the sterno-thyroid, hyo-thyroid, and laryngo-pharyngeal muscles; the usual effect of the contraction of the anterior, *i. e.*, thyro-cricoid muscles, therefore, is to lift up the front portion of the cricoid cartilage and thereby rotate the posterior plate with all attached thereto downward and backward.

(2.) The interior, *i. e.*, thyro-arytenoid, muscles are not laxors of the vocal bands, but internal tensors, regulators of form, and straighteners of inner edge.

(3.) Is my schema of images produced by paralysis of the intrinsic laryngeal muscles, isolated and combined, correct?

(4.) The order of the frequency of occurrence of isolated paralysis is the following, namely: paralysis of (1) transversus, (2) anticus, (3) posticus, (4) interioris, (5) lateralis; the latter being very rare. With paralysis of lateralis is usually combined paralysis of either the transversus or interioris, or of both. With paralysis of anticus is frequently combined that of transversus, and with the latter that of interioris. Spasm of perverse innervation of the adductor muscles is apt to occur with or after paralysis of the posticus, and spasm of the laterales with or after combined paralysis of transversus and interiores; and both conditions are dangerous to life.

(5.) Is there a difference recognizable in the mirror between the "cadaveric position" of the vocal bands and the position due to isolated paralysis of the recurrent nerves, and if so, is it the convexity of the edges of the vocal bands in the former case?

(6.) The adductor filaments are relatively more prone to recover than the abductor, and then to be affected with spasm or abnormal contraction during inspiration.

Some difference of opinion was shown during the discussion with regard to the points presented. With regard to the junction of the thyro-arytenoid muscle, there was entire want of agreement with the reader. Drs. Bosworth, Seiler, Roe, Hartman, and Morgan discussed the paper.

An essay on Laryngeal Asthma, by WILLIAM C. GLASGOW, M. D., of St. Louis, was read for the author by Dr. Louis Seiler. The argument of the paper was that in a particular class of cases bronchial spasm would be found associated with chronic laryngeal disorder, which was the point of reflex irritation determining the asthmatic attack; the conclusion being that the proper local treatment of the larynx would remove the cause of the disease, and cases were reported of this character. Discussion followed, in which Drs. Jarvis, Rumbold, Seiler, Robinson, and Roe participated.

Dr. T. R. French, of Brooklyn, exhibited some photographs of the human larynx, taken during life, and explained his process.

The remainder of the morning session was devoted to a business meeting, at which Drs. S. H. Chapman, of New Haven, Conn.; Thomas Amory DeBlois, of Boston; F. H. Hooper, Boston; Frank L. Ives, New York; D. N. Rankin, Allegheny, were elected Fellows.

In the afternoon, DR. D. B. DELAVAN read a paper On the Question of Hypertrophy of the Osseous Structure of the Turbinate Bones practically considered. During the discussion of this paper by Drs. Seiler, Bosworth, Ingals, Bosworth, De Blois, the various methods of treatment were referred to for the re-

lief of nasal stenosis, and the various operations reviewed.

A discussion on Ozena, its Pathology and Treatment, was opened by Dr. BOSWORTH, who condemned the use of the term, and recommended the substitution of more definite titles descriptive of the various chronic diseases usually classed under this head. If the offensive discharge be produced by chronic inflammation with retained secretions, or by a foreign body, it should be so described; and if due to ulceration, it should be appropriately classed under the head of syphilitic, scrofulous, or tuberculous ulcer, of the part affected.

Drs. Robinson, Johnston, Roe, Elsborg, Jarvis, Lang-mail, Rumbold, and Lincoln discussed the condition and the treatment by various methods. The principles of treatment were summed up by Dr. Bosworth as consisting in means directed to keeping the nasal passages open and clean, in order to facilitate the removal of discharge, and the application locally of astringent solutions by the spray or stimulating applications.

In special cases powdered galinga root was recommended; while in all cases where the local condition is due to a general cause constitutional treatment is necessary.

On the morning of the second day a business meeting was held, and reports from the secretary and treasurer, librarian, and several committees were received, and some miscellaneous business transacted.

A paper by E. Fletcher Ingals, M. D., of Chicago, entitled Deflection of the Septum Narium, was followed by one from Wm. C. Jarvis, M. D., of New York, on A New Operation for the Removal of the Deviated Septum in Nasal Catarrh, and by one on Lupoid Ulceration of the Nasal Septum, by E. L. Shurley, M. D., of Detroit; discussion being deferred until after the reading of the papers.

Drs. Major, Delavan, Seiler, and Ingals discussed the Treatment of Deviation of the Nasal Septum, and Drs. Ingals, Morgan, and Shurley considered the subject of Lupus.

In the afternoon a highly interesting paper on Impaired Cardiac Power as an Efficient Cause of Congestive Affections of the Throat was read by Dr. Beverley Robinson, and discussed by Drs. Shurley, Seiler, and Daly, who cited cases in point. In the absence of the author a paper by Harrison Allen, M. D., of Philadelphia, on Pharyngeal Irritation, was read by the secretary, which was discussed by Drs. Bosworth, Ingals, Rumbold, and Daly.

THE PRESIDENT exhibited a case of Aphonia Spastica in a man of about forty-eight years of age, otherwise in good health, in whom the affection appeared rather suddenly about nine months before. The larynx appears normal except slight congestion of the cords, and one of the ventricular bands is swollen. In speaking he appears to use great effort, and the speech rapidly sinks to a whisper. No treatment had as yet been instituted but local and central galvanization, with rest to the voice, and general nerve tonics, such as strychnia, were proposed. In the discussion of the case Dr. Elsborg recommended systematic training by vocal gymnastics, or in singing, somewhat after the plan used in treating stammering and stuttering, which is an allied condition.

WM. H. DALY, M. D., of Pittsburgh, read a clinical paper on cases of Catarrh Involving the Antrum of Highmore, in which treatment was unsuccessful until drainage was effected through the floor of the antrum,

by extracting the second molar tooth, perforating the septum, and introducing a metal drainage tube. Drs. Sharley and Seiler reported similar cases.

A discussion On the Nature and Forms of Laryngeal Ulcer, Especially the So-called Catarrhal Ulcer, was opened by DR. CARL SEILER, who was followed by Drs. Bosworth, Jarvis, Asch, and Robinson, the discussion being closed by Dr. Seiler. Considerable diversity of opinion was shown with regard to the existence of so-called catarrhal ulcer, and indeed a want of agreement as to the definition of an ulcer was evident.

On Friday morning a report of a rare case by CLINTON WAGNER, M. D., of New York, of Ossification of the Right Arytenoid Cartilage, and its separation and expulsion following thyrotomy for the removal of a papilloma, was presented by the Secretary, and the specimen exhibited by Dr. Delavan.

DR. CARL SEILER reported two cases in which ossification had occurred in the arytenoid cartilage of one, and both sides respectively. He noticed that these cases were preceded by chronic laryngitis; he did not believe that ossification had occurred except in cases in which syphilitic poison was present.

A spirited discussion upon the singing voice, its physiology, pathology, and treatment was inaugurated by DR. S. W. LANGMAID, in which several illustrative cases were referred to, in which alterations of voice were dependent upon various conditions of the larynx and nasal chambers. Drs. Jarvis, Seiler, Roe, Rumbold, Ingalls, DeBlois, Daly, Delavan, Morgan, Elsberg, participated in the discussion, which Dr. Langmaid promised to renew at the next meeting of the Society.

A discussion on the utility or non-utility of local applications in chronic catarrhal laryngitis was opened by J. O. ROE, M. D., of Rochester, in which Drs. Bosworth, Rumbold, and French took part. The advantage of various topical applications by means of a probe wrapped with absorbent cotton over the spray was urged by several speakers.

DR. SHURLEY, of Detroit, exhibited an electrode for the galvanocautery; and DR. DEBLOIS showed a modification of the tube forceps, and also an instrument for applying a wire snare in Jarvis's operation, both of original design and construction.

#### OFFICERS FOR 1882-1883.

As the result of a ballot for officers for the ensuing year, the tellers announced the following: President, George M. Lellerts, M. D., of New York; First Vice-President, Carl Seiler, M. D., of Philadelphia; Second Vice-President, E. F. Ingalls, M. D., of Chicago; Secretary and Treasurer, Dr. Bryson Delavan, M. D., of New York; Member of Council, Morris J. Arch, M. D., of New York.

The place of meeting selected by the Association for the fifth Congress was New York City.

—The editors of the JOURNAL take occasion to express their regrets to subscribers residing outside of Boston who are members of the Massachusetts Medical Society that the very stringent interpretation of their own regulations by the committee of arrangements of the Society prevented the publishers from offering to country members the usual conveniences for payments of subscriptions to the JOURNAL. It is not the fault of the publishers if members of the Society are given the trouble of remitting by mail to No. 4 Park Street.

## Medical and Surgical Journal.

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### THE MEETING OF THE AMERICAN MEDICAL ASSOCIATION.

THE JOURNAL has this week the pleasure of laying before its readers a first instalment of the report of the American Medical Association. The thirty-third meeting seems to have been, in point of sociability and friendly intercourse, fully the equal of any of the preceding gatherings. The boundless hospitality of the West, as the local papers put it, was well illustrated, and the nine hundred delegates present must have caused a strain to the capacity of a much larger city than St. Paul.

We feel sure that all our Eastern brethren, at least, who attended the Association, are better and healthier men, mentally and physically, than before the excursion; wiser, too, undoubtedly as to the great Northwest: how much wiser they are in strictly professional matters it is not so easy to determine. While there were many papers read which were worthy of the occasion they do not seem to have been proportionate in numbers to the importance, or what should be the importance, of the gathering.

If we may judge by the number of papers omitted from the programme because of the absence of their readers, those gentlemen who were present and fulfilled their engagements deserved especial praise. Even had the papers been less valuable and fewer in number than they actually were it would not by any means diminish the good obtained by the interchange of views and extension of acquaintance between men of widely different sections.

The most important absence was that of the president officer. The choice of Dr. Woodward as President of the Association was a singularly fortunate one. His own ill health, which prevented his attendance to assume the active duties of his office, was a cause for sincere regret, and the profession generally will heartily join in the expressions of sympathy telegraphed by the Association.

The business, properly so called, occupied a prominent part in the proceedings. The refusal to receive the delegates of the New York Society was expected; it was impossible for the Association to consistently act otherwise; it must either abrogate a fundamental principle, the refusal to sanction fellowship with men professing an exclusive dogma, or refuse to acknowledge as members those who openly defy that principle. Permanent members from New York were present, however, and took prominent part in the exercises.



A most interesting item of the business proceedings was the report of the committee on an Association journal which should take the place of the bulky and slow-appearing Transactions. The committee was a strong one, well adapted to consider the subject, and their report shows a full appreciation of the somewhat anomalous constitution and financial weakness of the Association, and marks out a course which seems to promise a better state of affairs. To properly choose an editor for the Journal of the American Medical Association will require no small power of discrimination. When the choice is finally made it is to be hoped that it will be as fortunate as the choice of the British Association, which seems to furnish in some sort a model upon which the report of the committee was based.

The resolution of Dr. Dennison, of Colorado, deprecating the use of the term "allopath" was a timely and judicious one. Its adoption ought to be useful in putting before the public the high and liberal ground on which the regular profession stand, and in impressing more strongly upon the individual members of the profession itself the fact that the Association is not the union of a sect for the promulgation of a dogma and the extermination of heretics.

It is a cause for regret that the rule adopted last year, which deprives of office all persons not present at the meeting, should deprive the society of the services of its hard-working librarian, who has faithfully performed the duties of his office for the past ten years, and who this year, though unavoidably absent, forwarded a report which showed his interest and his industry. During his service the library has grown from a handful of miscellaneous books to a collection of over four thousand volumes, and a regular system of exchanges has been established with journals and learned societies at home and abroad. So far as it is possible to learn, his services have not been acknowledged by even the cold formality of a vote of thanks.

#### THE ONE HUNDRED AND FIRST ANNUAL MEETING OF THE MASSACHUSETTS MEDICAL SOCIETY.

THE meeting last week of this venerable Society, of which a report is presented in the present issue of the JOURNAL, was a pleasant and successful occasion. The Centennial Anniversary of the founding of the Society was celebrated last year, but in one sense, as was suggested by the president elect, the present should be regarded as a centennial year, for although the charter of the Society was granted in the year 1781, it did not enter upon its regular functions till the following year.

The general features of the two days devoted to this annual medical reunion were those to which previous years have accustomed our readers, and require but little comment. The general surgical exhibit, which all seem to unite in regarding as a very instructive feature of these meetings, has without doubt won its way to permanency. Some account of it was

given in the last issue of the JOURNAL. Very general praise from all sides was given to the contributions from the Boston City Hospital, nearly all of them being of a novel and very practical character, showing genuine skill and interest, both on the part of those who devised and those who executed the appliances. Here is a good and useful field for friendly emulation.

Papers were read, as usual, on the mornings of both days, some of them being on subjects of especial present importance. The annual discourse, by Dr. James P. Lynde, of Athol, on The Proper Feeding of Children, in view of the present high rates of mortality, was a practical and sensible exposition of the speaker's views upon a subject to which he has given much attention.

The annual dinner was attended by about six hundred and fifty members, and the speeches were happy and appropriate. The absence of the Governor of the Commonwealth and of the President of Harvard University was noticeable, but their places were most acceptably filled by the Speaker of the House of Representatives and the President of the Alumni Association of the College, neither of whom were perceptibly cast down in the presence of so many physicians. The new dispositions adopted by the committee of arrangements, by which the older members of the Society upon entering the hall were directed to the part of the tables nearest the platform, proved an acceptable and suitable innovation.

Owing to the simultaneous meeting of the American Laryngological Association in Boston, the Society was fortunate enough to be able to entertain at its social gathering a number of physicians distinguished in their specialty from various parts of the country.

Alfred Hosmer, M. D., of Watertown, and John H. Mackei, M. D., of New Bedford, were elected respectively president and vice-president of the Society for the ensuing year: the other officers were re-elected to positions which they have acceptably filled already for a number of years.

The Society passed unanimously a resolution calling the attention of the Massachusetts Senators and Representatives in Congress to the importance of passing a joint resolution, reported during this session of Congress by the committee on naval affairs, authorizing the President to initiate an international commission in reference to color-blindness and visual acuteness in navies and merchant marine. We have advocated the importance of this matter on several occasions.

At the adjourned meeting of the Society, held on Tuesday afternoon for the transaction of business, two hundred and fifty-six members were present, as indicated by the first vote taken. Though only about one sixth of the total membership of the Society, it was evident that those favoring the admission of women had mustered in force, and were much in earnest about pressing this question. A motion to amend the By-Laws so that women as well as men may become candidates for admission into the Society was ruled to be out of order by the presiding officer, on

the ground that no by-law shall take effect until it receives the concurrent action of the councilors and of the Society. Appeal being taken from this decision the president was sustained by a vote of 131 to 125. It was evident that in the minds of many present this was supposed to settle the main question before the meeting, for somewhat later, after a good deal of vague talk about tyrants and tyranny, on a motion that it was the opinion of the members that women be admitted, and that this opinion be communicated to the Council, only 164 votes were cast, the motion being adopted by 104 votes to 60.

The net result of the councilors' meeting in the evening was, that a motion to indefinitely postpone the further consideration of the subject of the admission of women was carried by a vote of 65 to 36; and a motion to change the By-Laws of the Society, so that hereafter proposed changes in the By-Laws may be originated in the Society as well as in the Council, was defeated by a vote of 46 to 45.

In the course of the discussions at the adjourned meeting of the Society and at the meeting of the councilors one or two points were brought prominently forward by gentlemen opposing or advocating the admission of women which give the pith of the question, and which should be pondered by members calmly and without prejudice in view of any future action upon this question.

The charter of the Massachusetts Medical Society undoubtedly confers upon it duties to the public as well as privileges, for itself, though just what its especial privileges at present are would not be easy to define. It is a duty for the Society, as far as lies in its power, to protect the public; in what way that duty may best be performed each member must decide. A public which cannot be controlled may perhaps be guided. Whether public feeling has reached such a stage in regard to the question of female doctors that intelligent physicians should sacrifice their convictions to the fancies of the hour time must show, and each individual must decide for himself. Experience in Great Britain would not indicate, if the reported practice of one of the oldest and most prominent female doctors there may be reasoned from, that it is worth while to revolutionize existing institutions. Were the public demand really such at any time as to justify such a step, a change might possibly be effected in the constitution of the Society by which women, upon examination, could become licentiates without becoming members. It is obvious that questions of the character of those under discussion at the late meetings are better left to such a body as the Council than to so unwieldy a body as the general Society with its fifteen hundred members, a large representation of which it is hard to get together for such a purpose.

Any reference to tyranny in this matter is absurd. The Council is a representative body, elected by the District Societies; if a majority of the members of a majority of these District Societies wish women admitted, or not wishing it think they ought to be, they have simply to elect representative men as members of the Council

to vote on this subject, and the thing will be arranged in some fashion or other with sufficient haste to deprive the most ardent agitator of his occupation, and leave enough leisure for repentance when the public has ceased to care for the subject.

#### THE AMERICAN LARYNGOLOGICAL ASSOCIATION.

FROM the report of the proceedings in another column it will be seen that the fourth annual congress of the American Laryngological Association was, in the attendance of Fellows, the attractiveness of the proceedings, and in the number of subjects discussed, quite as successful as any that have preceded it. The papers read were of good material, and reflected credit upon their authors as well as upon the Association; they will appear in full, with the discussions upon them, in the *Archives of Laryngology*, which is to this extent the organ of the society.

The president of the society, Dr. F. I. Knight, of Boston, occupied the chair during the several sessions, which were remarkable for decorum and dignity, worthy of an organization composed of many of the leading members of the profession devoted to the special department of laryngology, both in this country and in Europe. Five new members being elected at this meeting, the roll now comprises the names of forty-eight active, nine corresponding, and two honorary Fellows. The history of this organization, extending over only four years, shows remarkable growth and activity; owing its existence to the energy of its projector, Dr. F. H. Davis, of Chicago, himself an invalid, and whose existence was prematurely ended by consumption, it remains a monument to his memory, and at this meeting a proper minute of respect was presented by a committee appointed for the purpose, and ordered to be inscribed in full on the records of the society.

The Association has published two volumes of a character that challenges criticism. There has been an unfortunate delay in the appearance of the first volume, but it is stated that it has finally reached completion; although, owing to some misunderstanding with regard to the correction of the proofs, it is believed that it is less satisfactory to the Association than the second and third volumes, and probably will not be distributed. As a radical change has been made in the management of the publication in the later volumes, no such misadventure is likely to occur again.

The Fellows of the Association during their stay in Boston were too much occupied with the two daily sessions to devote much time to entertainments; lunches were given on Monday and Tuesday by the resident Fellows, and the courtesies of the Somerset and St. Botolph Clubs were extended to them; the president held a reception at his house on Monday evening, at which the Association was invited to meet the Medical Faculty of Harvard University and the physicians and surgeons of the Massachusetts General and

City Hospitals. On Tuesday evening the annual dinner was held at the Parker House, and on Wednesday many gentlemen partook of the hospitality of the Massachusetts Medical Society at their annual dinner.

Altogether, the fourth annual congress was thoroughly satisfactory to hosts and guests. May the fifth give equal evidence of prosperity and equal promise of increasing usefulness!

## Miscellany.

### LETTER FROM ST. PAUL.

MR. EDITOR,—When the American Medical Association met at Atlanta in 1879 a warm invitation was tendered by the citizens of St. Paul, through the City Council and Chamber of Commerce, to visit that city, and the Association, though not accepting the invitation at that time, assured the delegates from Minnesota that in the near future St. Paul should be selected as the place of meeting. In accordance with that promise, this beautiful city has been the scene of probably the most successful convention of the entire thirty-three that have been held thus far. So much has been said and written, both in the medical and popular journals, in regard to the health-giving climate of Minnesota, especially during the last few years, that the members of the Association were glad of the opportunity of making a personal examination of the locality and obtaining experience of its advantages; for this reason mainly the unanimous vote which selected the place has been ratified by the largest attendance; for while the total number registered (including many members by invitation) greater at New York, the attendance of delegates and permanent members was probably larger at St. Paul. Probably one or two ethical questions that were on the programme added not a little interest to the meeting.

St. Paul is situated in a beautiful rolling country, on the north bank of the Mississippi, which makes a turn to the east here; its elevation is such that the drainage, through a good sewerage system, is claimed to be perfect. The water for drinking is not taken from the Mississippi, but is brought from Lake Phalen, a few miles away, water which is clear, pure, and abundant. In the respect of drainage St. Paul has the advantage of Minneapolis, which is on more level ground on the flat shores of the Mississippi, probably depends largely upon wells for its water supply, and has a good many cases of typhoid fever. The fact that St. Paul is so far from the centre of population in the United States makes the thronged streets a surprise to an Eastern visitor. The stores are large and handsome, the hotels commodious and richly finished, having electric bells, steam elevators, and telephonic communication. The markets are supplied with abundance of meat and game, but fruit and vegetables are as yet relatively scarce, although the markets are supplied with both California and Eastern vegetables. In summer the air is clear and the skies have the depth of blue, on account of its dryness and rarefaction, so highly praised by travelers in Southern Europe. In winter, with the mercury way down to thirty below, there is not much suffering from the cold. The inhabitants claim that the rigor of winter is not felt near as much as it is nearer the lakes or the ocean. It is a stimulating, bracing climate, and is well adapted to cases of incip-

ient or threatened phthisis in young adults. Physicians observe that new-comers gain in weight about fifteen or twenty pounds within the first month or six weeks. The expenses of living are not as great as in the older cities; the health of St. Paul is remarkably good.

The committee of arrangements, under the chairman, Dr. A. J. Stone, deserve unstinted praise for the excellence of their plans, and the manner in which they were carried out. Everything for the comfort and pleasure of the delegates seems to have been thoroughly thought out beforehand. The governor of Minnesota delivered a cordial but brief address of welcome, and was in the spirit of Dr. Stone's announcement to the convention "that the railroads had sent passes to every member to go where he pleased, when he pleased, and as many times as he pleased, so that he had the pleasure of welcoming them not to St. Paul only, but the whole Northwest." When the Association met next morning, Dr. Stone said that he had not himself known all that his invitation meant, but that he had just received a telegram from the mayor and council of Fargo, D. T., tendering the hospitalities and freedom of that city to the entire Association, and inviting them to make an excursion to this young but vigorous and most enterprising city.

A grand reception was given at the Metropolitan Hotel, Tuesday evening. The guests were received by Mayor Rice on the part of the citizens at large, and General Sanborn, president of the Chamber of Commerce, with other distinguished gentlemen. Seven receptions were given on the following evening by Drs. A. J. Stone, J. H. Murphy, D. W. Hand, and Messrs. Alex. Ramsey, J. J. Hill, and Geo. L. Becker. Thursday evening was devoted to the excursion to Stillwater, and reception at the residence of D. M. Sabine, Esq. Over sixteen hundred persons participated in this magnificent entertainment. Two steamboats, each having at its sides two large barges, were filled with the guests of the occasion. After a sail on Lake St. Croix, a landing was made, and the company dispersed over the grounds around Mr. Sabine's mansion, which were beautifully illuminated by five hundred Edison electric lamps; and twelve large tables were set, where every delicacy that could be found East as well as West was at the choice of the visitors, while fluid refreshments were within easy reach of the thirsty, and champagne flowed like water. This *fête champêtre* as a complete surprise, in fact a revelation to most of those present; it was pronounced the most *meritorious* affair ever seen in the history of the Association, and on the way home appropriate resolutions were adopted by the company, and carried by acclamation.

It would seem that this meeting was devoted, like some that have preceded it, to social enjoyment. The various sections were fairly well attended with one or two exceptions, but there then was but little serious discussion, and the papers appeared simply as a part of the programme for general enjoyment rather than for scientific work; and, indeed, it may well be thought that some of the features of these meetings, if not the constitution of the Association, are not rather unfriendly to serious scientific work. This may, perhaps, be accomplished indirectly by offering prizes for original investigation by this Association rather than by attempting to detract from the pleasure of the annual meeting by making it an occasion for labor rather than recreation and enjoyment.

The action of the New York State Medical Society on the ethical question of consultations excited the most opposition in those regions of our country in which the regular physician has the keenest struggle with irregulars of every description.

In other communities where the ignorant quack has but little following, the fact that the practice of irregulars is founded largely on rational medicine is no secret; the so-called homœopath is not a Hahnemannian, but where he finds the infinitesimals insufficient he uses drugs with the same freedom although with less right than the regular physician. Without in the least defending such a course, it becomes explicable with this light why the Spartan band was able to carry off the New York Medical Society with it; indeed it was claimed in the discussion by one of the advocates of the course that in New York there is no difference between homœopathic and regular practice. The sophistry of the proposition that because an individual adopts some of the principles of scientific medicine, that, therefore, the regular physician should consult with him, is very evident. Rather should the charlatan be instructed to bring forth fruits meet for repentance. The door of the medical profession stands invitingly open; the entrance from some directions is only too easy; and if the schismatic wishes to renounce sectarianism there are good examples in our Eastern cities that might well be followed. But it is evident that a man cannot be in the regular profession and out of it at the same time, unless all distinction is dropped between the physician and the quack. This was the view taken by the Association; and the members of the Association from parts of the country where the quack is most aggressive and shameless applauded the decision of the Judicial Council most warmly. In all probability the delegates of the New York Medical Society, next February, will institute such a change in the hastily adopted resolutions of last year as will restore to the Society its right of representation in the national organization; at least this is foreshadowed in the action of the several county societies that has been announced.

The publication of the proceedings in the form of a weekly medical journal may now be regarded as almost an accomplished fact; as soon as the board of trustees of this new enterprise receive the necessary assurance of support from the profession the editor and place of publication will be decided upon. There were hopes expressed that this might be done so as to issue the journal in January, 1883, but in all probability another meeting of the Association will be held before any such decisive step is attempted.

The place of meeting selected for next year, Cleveland, and the elected officers, give general satisfaction.

F. W.

ST. PAUL, June 9, 1882.

#### TO THE LATE DR. JACOB BIGELOW ON HIS EIGHTY-NINTH BIRTHDAY.

FROM a volume of poems by Mrs. John G. Blake, whose initials, M. E. B., are well known to the readers of some of our daily papers, we reproduce some verses to the late Dr. Jacob Bigelow, written on the occasion of his eighty-ninth birthday to accompany a basket of flowers sent by some friends. We hope others will take as much pleasure in reading them as we have ourselves.

#### TO DR. JACOB BIGELOW.

(ON HIS EIGHTY-NINTH BIRTHDAY.)

O head that wears the kindly state,  
God grants to favored men!  
Slight bowed beneath the reverend weight  
Of fourscore years and ten;  
O hand that worked with earnest night  
The thoughtful brow's behest,  
And hewed a path for truth and right  
Where other feet might rest,—

What wish is left for us to frame  
That hope or pride hath known  
Of love or trust or honest fear,  
But life hath made thine own?  
Amid the wreaths our hearts entwine  
We hide no withered leaves,  
Where autumn suns serenely shine  
Above thy ripened sheaves.

All joy is thine that good life brings  
To memory true and fond,  
For eyes grown dim to earthly things  
See clearer light beyond.  
The message as of old it ran  
Still to our hearts is given,  
And man who loves his fellow-man  
Is still the nearest Heaven.

Hail and Godspeed! May golden days  
Yet wait thy lingering feet,  
Love rest on thy accustomed ways,  
Fond hands be stretched to greet;  
Till, rounding all its poorer gifts  
Earth's varying pathway trod,  
The passing shadow falls,—then lifts  
And bears thy soul to God.

— In April, 1881, a sudden and extensive outbreak of small-pox occurred in the neighborhood of St. Mary Cray, West Kent, England, among the rag-workers at the paper mills at that place. A report by Dr. Baylis, medical officer of health for the West Kent District, indicated the probable source of infection to be in the rags in process of manufacture at the mill. Dr. Parsons was accordingly instructed by the local government board to institute an inquiry, with a view especially to ascertain whether any precautions could be taken to prevent the spread of infection by means of rags. The final conclusions at which Dr. Parsons arrived are as follows: (1.) That cases of infection by means of rags do occasionally occur, although, comparatively speaking, not very frequently. (2.) That small-pox is the disease most likely to be thus conveyed. (3.) That all rag-workers should be vaccinated and revaccinated. (4.) That dust should be avoided. The preliminary dusting of the rags before sorting is to be recommended, but the dust should not be allowed to contaminate the air of the work-room. (5.) That certain measures of disinfection are available, such as exposure to air, fumigation with sulphurous acid, and exposure to high-pressure steam. (6.) That in the absence of means by which it may be known whether or not rags have been infected, the cases in which disinfection would appear especially desirable are those of rags from places where epidemics are known to exist, and of rags in a filthy state, and foreign rags, especially if coming within the two previous categories. (7.) That under existing circumstances it is not advisable that any obligation as to the disinfection of rags, other than that already imposed by Section 126 of the Public Health Act, 1875, should be imposed upon persons engaged in the rag trade.

## REPORTED MORTALITY FOR THE WEEK ENDING JUNE 10, 1882.

| Cities.                           | Population by Census of 1880. | Reported Deaths in each. | Deaths under Five Years. | Percentage of Deaths from         |                |                       |                |                     |
|-----------------------------------|-------------------------------|--------------------------|--------------------------|-----------------------------------|----------------|-----------------------|----------------|---------------------|
|                                   |                               |                          |                          | The Principal "Zymotic" Diseases. | Lung Diseases. | Diphtheria and Croup. | Scarlet Fever. | Diarrheal Diseases. |
| New York.....                     | 1,206,590                     | 659                      | 283                      | 24.88                             | 14.86          | 6.22                  | 7.59           | 2.88                |
| Philadelphia.....                 | 816,984                       | 345                      | 114                      | 13.05                             | 7.83           | 4.35                  | 1.74           | —                   |
| Brooklyn.....                     | 566,689                       | 271                      | 112                      | 25.83                             | 8.49           | 5.54                  | 8.12           | 2.58                |
| Chicago.....                      | 503,304                       | —                        | —                        | —                                 | —              | —                     | —              | —                   |
| Boston.....                       | 362,535                       | 159                      | 53                       | 13.21                             | 15.09          | 4.41                  | .63            | 3.77                |
| St. Louis.....                    | 350,522                       | 142                      | 51                       | 19.01                             | 10.56          | .41                   | 4.22           | 7.04                |
| Baltimore.....                    | 332,190                       | 134                      | 51                       | 16.30                             | 2.17           | 2.72                  | 3.26           | 2.17                |
| Cincinnati.....                   | 255,708                       | 160                      | 77                       | 23.75                             | 5.23           | 1.88                  | 10.62          | 1.25                |
| New Orleans.....                  | 216,140                       | —                        | —                        | —                                 | —              | —                     | —              | —                   |
| District of Columbia.....         | 177,638                       | 59                       | 18                       | 10.14                             | 14.16          | —                     | 1.69           | 6.76                |
| Pittsburgh.....                   | 156,981                       | 68                       | 38                       | 32.34                             | 5.88           | 4.41                  | —              | 7.35                |
| Buffalo.....                      | 153,137                       | 84                       | 33                       | 40.49                             | 4.76           | 4.76                  | 8.33           | 2.38                |
| Milwaukee.....                    | 115,578                       | 50                       | 33                       | 20.00                             | 16.00          | 6.00                  | 2.00           | —                   |
| Providence.....                   | 101,857                       | 38                       | 11                       | 18.42                             | 13.16          | 2.63                  | —              | 26.32               |
| New Haven.....                    | 62,882                        | 18                       | 5                        | 11.11                             | 22.22          | —                     | 5.55           | —                   |
| Charleston.....                   | 49,999                        | 35                       | 15                       | 28.57                             | —              | —                     | 2.86           | 2.86                |
| Nashville.....                    | 43,161                        | 16                       | 6                        | 25.00                             | 12.50          | —                     | —              | 6.25                |
| Lowell.....                       | 59,485                        | 23                       | 3                        | 24.04                             | 4.35           | —                     | —              | 4.34                |
| Worcester.....                    | 58,295                        | 18                       | 5                        | 11.11                             | 16.66          | —                     | —              | —                   |
| Cambridge.....                    | 52,740                        | 19                       | 2                        | —                                 | 10.52          | —                     | —              | —                   |
| Fall River.....                   | 49,006                        | 23                       | 10                       | 21.73                             | 18.69          | 4.35                  | —              | —                   |
| Lawrence.....                     | 39,178                        | —                        | —                        | —                                 | —              | —                     | —              | —                   |
| Lynn.....                         | 38,284                        | 9                        | 2                        | 11.11                             | 11.11          | —                     | 11.11          | —                   |
| Springfield.....                  | 33,340                        | 6                        | 2                        | 33.33                             | 16.66          | —                     | —              | 16.66               |
| Salem.....                        | 27,598                        | 8                        | 2                        | 12.50                             | —              | —                     | —              | 12.50               |
| New Bedford.....                  | 26,875                        | 5                        | 3                        | 20.00                             | 20.00          | —                     | 20.00          | —                   |
| Somerville.....                   | 24,985                        | 7                        | —                        | 14.28                             | 28.56          | 14.28                 | —              | —                   |
| Holyoke.....                      | 21,851                        | 8                        | 7                        | 12.50                             | 25.00          | 12.50                 | —              | —                   |
| Chelsea.....                      | 21,785                        | 2                        | —                        | —                                 | —              | —                     | —              | —                   |
| Taunton.....                      | 21,213                        | 8                        | 1                        | 12.50                             | —              | —                     | —              | —                   |
| Gloucester.....                   | 19,329                        | 8                        | 2                        | 12.50                             | —              | —                     | —              | 12.50               |
| Haverhill.....                    | 18,473                        | 3                        | —                        | —                                 | —              | —                     | —              | —                   |
| Newton.....                       | 16,995                        | 8                        | 2                        | 12.50                             | —              | —                     | —              | —                   |
| Brockton.....                     | 13,608                        | 5                        | 1                        | 20.00                             | 40.00          | 20.00                 | —              | —                   |
| Newburyport.....                  | 13,337                        | —                        | —                        | —                                 | —              | —                     | —              | —                   |
| Fitchburg.....                    | 12,405                        | 4                        | —                        | 25.00                             | —              | —                     | —              | 25.00               |
| Malden.....                       | 12,017                        | 4                        | —                        | 25.00                             | —              | 25.00                 | —              | —                   |
| Nineteen Massachusetts towns..... | —                             | 37                       | 11                       | 10.81                             | 8.11           | 2.70                  | —              | —                   |

Deaths reported 2443 (no reports from Chicago and New Orleans); 954 under five years of age; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and fevers) 562; consumption 331, lung diseases 275, scarlet fever 121, diphtheria and croup 106, diarrheal diseases 67, small-pox 63, measles 52, typhoid fever 40, whooping-cough 33, malarial fevers 28, cerebro-spinal meningitis 23, puerperal fever 15, erysipelas 11, typhus fever three. From *small-pox*, Cincinnati 52, New York four, Baltimore three, Philadelphia and Pittsburgh two each. From *measles*, New York 16, Brooklyn 12, Baltimore five, Philadelphia, Cincinnati, and Pittsburgh four each, Milwaukee three, Buffalo two, Boston and St. Louis one each. From *typhoid fever*, Philadelphia 15, Charleston four, Boston and Cincinnati three each, St. Louis, Providence, and Lowell two each, New York, Baltimore, Pittsburgh, Buffalo, Milwaukee, Nashville, Fall River, Plymouth, and Holliston one each. From *whooping-cough*, New York 14, Brooklyn five, Charleston four, Pittsburgh three, Boston, Baltimore, Cincinnati, Buffalo, Providence, Nashville, and Fall River one each. From *malarial fever*, Brooklyn eight, New York and St. Louis six each, Buffalo three, Baltimore two, Boston, New Haven, and Nashville one each. From *cerebro-spinal meningitis*, Buffalo seven, New York five, Pittsburgh, and Worcester two each, Baltimore, Cincinnati, District of Columbia, Fall River, Springfield, and Spencer one each. From *puerperal fever*, Buffalo seven, Milwaukee two, New York, Philadelphia, Pittsburgh, Providence, Taunton, and Newton one each. From *erysipelas*, New York five, Philadelphia, Brooklyn, Boston, Milwaukee, Providence, and Fall River one each. From *typhus fever*, New York two, Baltimore one.

One hundred and thirty-six cases of small-pox were reported in Cincinnati, Baltimore 18, Pittsburgh five, Brooklyn three; scarlet fever 22, diphtheria 20, typhoid fever four, in Boston; diphtheria 11, and scarlet fever 11, in Milwaukee.

In 56 cities and towns of Massachusetts, with a population of 1,023,945 (population of the State 1,783,086), the total death-rate

for the week was 17.84 against 16.68 and 21.32 for the previous two weeks.

For the week ending May 20th, in 173 German cities and towns, with an estimated population of 8,429,190, the death-rate was 25.7. Deaths reported 4164; under five 2017; pulmonary consumption 641, acute diseases of the respiratory organs 522, diphtheria and croup 212, diarrheal diseases 177, scarlet fever 81, whooping-cough 64, typhoid fever 46, puerperal fever 27, measles and rubella 23, small-pox (Essen two, Duisburg, Koblenz, Strassburg, Memel, Breslau, and Munich one each) eight, typhus fever (Danzig and Königsberg two each, Thorn, Benthien, and Euphen one each) seven. The death-rates ranged from 17 in Wiesbaden to 38.1 in Essen; Königsberg 23.4; Breslau 31.5; Munich 30.6; Dresden 22.0; Berlin 22.7; Leipzig 20.0; Hamburg 24.1; Cologne 31.5; Frankfurt a. M. 20.8; Strassburg 27.3.

In the 28 English towns, with an estimated population of 8,469,571, for the week ending May 27th, the death-rate was 21.5. Deaths reported 3488; acute diseases of the respiratory organs (London) 242, whooping-cough 220, measles 146, scarlet fever 57, fevers 55, diarrheal 54, diphtheria 19, small-pox (London 10) 18. The death-rates ranged from 16.8 in Plymouth to 41.1 in Preston; London 19.2; Leicester 20.7; Leeds 21.3; Sunderland 22.8; Sheffield 23.2; Portsmouth 24.1; Liverpool 25.5; Manchester 27.3. In Edinburgh 18.6; Glasgow 27.6; Dublin 24.7.

For the week ending May 20th in the Swiss towns, population 494,390, there were 38 deaths from consumption, acute diseases of the respiratory organs 28, diphtheria and croup nine, typhoid fever three, scarlet fever and whooping-cough each two, small-pox one. The death-rates were, at Geneva 12.4; Zurich 10.1; Basle 20.9; Berne 33.6.

The meteorological record for the week ending June 10th in Boston, was as follows, according to observations furnished by Sergt. O. B. Cole, of the U. S. Signal Corps:—

| Date.            | Barom-eter. | Thermom-eter. |       |          | Relative Humidity. |            |            |             | Direction of Wind. |            |            | Velocity of Wind. |            |            | State of Weather. <sup>1</sup> |            |            | Rainfall.   |                       |                   |
|------------------|-------------|---------------|-------|----------|--------------------|------------|------------|-------------|--------------------|------------|------------|-------------------|------------|------------|--------------------------------|------------|------------|-------------|-----------------------|-------------------|
|                  |             | Mean.         | Mean. | Maximum. | Minimum.           | 7.23 A. M. | 3.23 P. M. | 11.23 P. M. | Mean.              | 7.23 A. M. | 3.23 P. M. | 11.23 P. M.       | 7.23 A. M. | 3.23 P. M. | 11.23 P. M.                    | 7.23 A. M. | 3.23 P. M. | 11.23 P. M. | Duration, Hrs. & Min. | Amount in inches. |
| June, 1882.      |             |               |       |          |                    |            |            |             |                    |            |            |                   |            |            |                                |            |            |             |                       |                   |
| Sun., 4          | 29.683      | 58            | 67    | 50       | 87                 | 100        | 93         | 93          | SE                 | NE         | NW         | 7                 | 3          | 6          | O                              | G          | O          | —           | —                     |                   |
| Mon., 5          | 29.687      | 60            | 69    | 50       | 67                 | 51         | 83         | 67          | W                  | W          | W          | 4                 | 13         | 3          | F                              | F          | C          | —           | —                     |                   |
| Tues., 6         | 29.801      | 55            | 66    | 52       | 74                 | 83         | 86         | 81          | NW                 | E          | NW         | 5                 | 4          | 0          | F                              | F          | C          | —           | —                     |                   |
| Wed., 7          | 29.779      | 70            | 84    | 54       | 60                 | 33         | 58         | 50          | W                  | SW         | SW         | 5                 | 12         | 7          | C                              | F          | C          | —           | —                     |                   |
| Thurs., 8        | 29.736      | 73            | 86    | 62       | 57                 | 27         | 68         | 51          | SW                 | W          | W          | 5                 | 18         | 5          | F                              | F          | C          | —           | —                     |                   |
| Fri., 9          | 29.712      | 70            | 83    | 60       | 65                 | 38         | 42         | 48          | SW                 | SW         | NW         | 6                 | 25         | 6          | O                              | F          | C          | —           | —                     |                   |
| Sat., 10         | 29.871      | 58            | 67    | 52       | 74                 | 64         | 86         | 75          | W                  | E          | Calm       | 2                 | 4          | 0          | O                              | O          | R          | —           | —                     |                   |
| Means, the week. | 29.753      | 63            | 86    | 52       |                    |            |            | 67          |                    |            |            |                   |            |            |                                |            |            | 2.14        | .20                   |                   |

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; X., clearing.

# OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM MAY 27, 1882, TO JUNE 16, 1882.

BROWN, J. M., major and surgeon. Having reported at these headquarters, is assigned to duty at Newport Barracks, Ky. S. O. 57, Department of the South, May 29, 1882.

O'REILLY, R. M., captain and assistant surgeon. Now at Washington, D. C., to report in person to the attending surgeon at this station for assignment to temporary duty in his office. S. O. 124, A. G. O., May 29, 1882.

BROOKE, JOHN, captain and assistant surgeon. To be relieved from duty in Department of the South when Major Brown shall have reported for duty therein, and to proceed, on July 1, 1882, to Presidio of San Francisco, Cal., and report in person to the commanding general, Military Division of the Pacific, for assignment to duty in Department of California. S. O. 121, C. S., A. G. O.

BROWN, PAUL R., captain and assistant surgeon. Granted leave of absence for six months on surgeon's certificate of disability. S. O. 121, C. S., A. G. O.

MOSLEY, E. B., captain and assistant surgeon. Granted leave of absence for four months. S. O. 120, A. G. O., May 24, 1882.

SELMIE, B. G., captain and assistant surgeon. Granted leave of absence for one year on surgeon's certificate of disability. S. O. 121, C. S., A. G. O.

DAVIS, WILLIAM B., captain and assistant surgeon. Having reported at these headquarters, will proceed to Fort Totten, D. T., and report to the commanding officer of that post for duty. S. O. 86, Department of Dakota, May 24, 1882.

CARTER, E. C., first lieutenant and assistant surgeon. Having reported at these headquarters, is assigned to duty at Camp Price, A. T. S. O. 78, Department of Arizona, May 24, 1882.

RAYMOND, H. L., first lieutenant and assistant surgeon. Having reported in compliance with S. O. 103, C. S., A. G. O., is assigned to duty at Whipple Barracks, A. T. S. O. 77, Department of Arizona, May 22, 1882.

MCGHEE, D. L., major and assistant surgeon, medical director, Department of the Missouri. Granted leave of absence for one month. S. O. 110, Department of the Missouri, June 1, 1882.

TEXAS, L. S., captain and assistant surgeon. Relieved from duty at the cavalry depot, Jefferson Barracks, Mo., and to proceed, on July 1, 1882, to San Antonio, Tex., and report in person to the commanding general, Department of Texas, for assignment to duty. S. O. 126, C. S., A. G. O.

TAYLOR, M. E., captain and assistant surgeon. Now awaiting orders at St. Louis, Mo., to report in person to the superintendent mounted recruiting service, for temporary duty at the cavalry depot, Jefferson Barracks, Mo. S. O. 126, A. G. O., June 1, 1882.

GRAY, WILLIAM W., first lieutenant and assistant surgeon, Fort Townsend, W. T. Granted leave of absence for one month, to take effect the 2d proximo. S. O. 67, Department of the Columbia, May 24, 1882.

LEWIS, F. W., captain and assistant surgeon. To be relieved from duty in Department of the Missouri, July 1, 1882, and to report in person to the Surgeon-General in this city. S. O. 127, A. G. O., June 14, 1882.

REED, W., captain and assistant surgeon. To accompany the troops from Washington Barracks, D. C., and Fort McHenry, Md., on their march to the summer camp at Gaithersburg, Md., and to remain on duty with them during the encampment. S. O. 104, Department of the East, June 9, 1882.

APPOINTMENTS. To be assistant surgeons, to rank from May 23, 1882. WILLIAM E. HOPKINS, of California, *vice* Yeomans, deceased.

CHARLES C. BAIKOWS, of Mississippi, *vice* Brewer, deceased. BENJAMIN MUNDAY, of Virginia, *vice* H. E. Brown, promoted.

GEORGE E. WILSON, of Oregon, *vice* J. M. Brown, promoted.

WILLIAM E. OWEN, JR., of Tennessee, *vice* King, resigned.

PETER R. EGAN, of New York, *vice* Hubbard, promoted.

WILLIAM J. WAKLIMAN, of Connecticut, *vice* Coates, resigned.

EDWARD EVERTS, of California, *vice* Whitehead, deceased.

A. G. O., June 12, 1882.

APPOINTMENT.—Dr. B. F. Davenport has been appointed Inspector of Vinegar for the city of Boston.

BOOKS AND PAMPHLETS RECEIVED.—The Treatment of Delay in the First Stage of Natural Labor, with special reference to the Early Use of the Forceps. By Joseph Eve Allen, M. D., Augusta, Ga. Read before the Augusta Academy of Medicine, March 3, 1882. (Reprint.)

Our Thirtieth Year: Annual Address before the Kentucky State Medical Society, delivered April 5, 1882. By J. W. Holland, M. D., President. (Reprint from the Louisville Medical News. 1882.)

The Opium Habit: Its Successful Treatment by the Avena Sativa. A paper read before the New York State Medical Society, February 9, 1882. By E. H. M. Sell, A. M., M. D. (Reprint from the Medical Gazette.)

A Brief Statement of the Aims and Objects of the New England Manufacturers' and Mechanics' Institute, with a Report of the Third Annual Meeting, etc.

Health in the Common Schools. Practical Illustrations and Conclusions relating to Essential Sanitary Requirements of School-houses. For the use of School Officers and Teachers. Reprinted from the Second Annual Report of the State Board of Health of New York.

The Sewage of Worcester in its Relation to the Blackstone River. Hearings before the Joint Standing Committee on Public Health on the Matter of Restraining the City of Worcester from Polluting Blackstone River. February and March, 1882. Boston: Rand, Avery & Co., 1882.

The Death Rate of Memphis. By George E. Waring, Jr., Newport, R. I. (Reprinted from the American Architect.)

International Medical Congress. Galyano-Cautie Method in Nose, Pharynx, and Larynx. By Dr. J. Solis-Cohen, Philadelphia. London: J. W. Kolkman, 2 Langham Place. 1881.

The Separate System of Sewerage: A Reply to a Paper published in the Report of the State Board of Health, Lunacy, and Charity of the State of Massachusetts, 1880, by Eliot C. Clarke, Esq. By George E. Waring, Jr. (Reprinted from the American Architect, March and April.) 1882.

## Original Articles.

WAS GUTEAU SANE AND RESPONSIBLE FOR THE ASSASSINATION OF PRESIDENT GARFIELD?<sup>1</sup>

BY T. W. FISHER, M. D.

THE two clauses of this question have been answered in different and opposite ways by physicians whose experience and knowledge of insanity ought to have led to correct opinions. A dozen or more experts, some called by the government and some by the defense, testified at the trial that Guiteau was both sane and responsible. Three gentlemen called by the defense testified that he was insane and irresponsible. Most of the experts for the defense were practically debarred from expressing any opinion whatever. They were forced, in some cases under protest, to answer a hypothetical question, which assumed the homicide to have been committed under the delusion of divine inspiration, a supposition not fairly based on the evidence in the opinion of many, and which begged the whole question of insanity in its very terms. In the absence of any further examination or cross-examination the jury were left in as profound ignorance of the real opinions of these gentlemen as if they had not testified. The defense was strictly limited to proving this particular form of insanity, and all expert testimony not in harmony with this theory was unexpectedly suppressed. The opinions of Drs. Nichols and Godding, who had had special opportunity for examining the prisoner, and had given much thought to the case, would have been very valuable to the defense if they had been elicited. This unforeseen and absurd suppression of expert testimony was, it seems to me, a great mistake.

Several of the experts called by the defense have since published statements of opinion in the medical press, and it seems proper for all of them to do so in view of the exclusion of their opinions at the time of the trial. I was summoned by the defense, and went to Washington supposing the theory of homicide under delusion of divine inspiration would be easily shown. This belief was, I think, shared by others, and the peculiar difficulties in the way of proving this theory were not foreseen. The persistency of the defense in adhering to this theory in spite of these difficulties was hurtful to their case. If an able lawyer had brought out the real opinions of all the experts for the defense, regardless of this or that theory, and had elicited from the government experts admissions of general unsoundness or ill arrangement of mind, a disagreement of the jury might have resulted if not an acquittal. Some of the government experts would, no doubt, have admitted in some terms Guiteau's mental disarrangement, and some of the experts called by the defense did admit his responsibility under the test of knowledge of right and wrong. Unsound but responsible under the ruling of the court was the middle ground occupied by some of the experts on both sides.

But this compromise between science and law is not at all satisfactory to one who is desirous of determining the form and degree of Guiteau's unsoundness, and of reconciling justice to the public with the rights of the prisoner. Mental unsoundness, bad arrangement

of mind, and medical insanity are but clumsy expressions used by some to avoid a direct admission of the mental disease which is seen to exist in Guiteau's case; and if insanity exists at all, I cannot, for one, assent to the justice of any legal test which mutes out to one so afflicted the full penalty of the law. To hang an insane man is neither just nor expedient, in my opinion, since such a judicial act has no deterrent effect to offset its inhumanity. This proposition may not be susceptible of proof, but some recent events are very suggestive of its truth. Bellingham's execution did not seem to prevent subsequent attempts on Queen Victoria's life. If hanging insane homicides has a deterrent effect, why was she shot at in a railway station so soon after Guiteau's conviction for a similar crime? The probabilities are that the latter act suggested and set the fashion for the former. Why, also, was Dr. Gray selected by another supposed lunatic as a victim for his homicidal attempt so soon after the former's assertion of Guiteau's responsibility, and on the night of his return from Washington? By what process of reasoning did this man or Victoria's last assailant expect to escape the impending fate of Guiteau? I have little faith in the deterrent effect of capital punishment on the sane, and still less on persons incapable of reasoning on the affairs of every-day life. How could Guiteau, for instance, have expected to be punished for an act which his warped judgment told him would be applauded by half the nation at least? No one doubts that he honestly believed this, whether it was an insane delusion or not. In many cases the insane homicide is in such a desperate state of mind that it is a mere toss-up whether he kills himself or some one else, or commits the double crime of homicide and self-murder. How can such be deterred by the death penalty?

But leaving these general considerations, let us look at some of the reasons for regarding Guiteau as insane. In the first place his case seems to fall within one of our best definitions of insanity. Dr. Beard, in his recent paper on Guiteau, makes at least one good point when he insists that insanity should always be judged by its mental rather than its physical symptoms, which latter may or may not be present. The best evidence of insanity lies in what a man has said and done, and it may usually be determined by a statement of his acts and conversation without a personal examination. Dr. Ray's definition is, I think, a safe one for most purposes. He says, in substance, that insanity is a prolonged departure, without adequate external cause, from the ways of thinking and states of feeling, and he might have added manner of acting, usual to the individual in health. Here the physical cause is assumed to exist in the absence of adequate external causes, and it is not necessary to prove its existence for the purposes of the definition. In how many of our patients do we find physical symptoms that would suggest, much less prove, insanity in the absence of mental manifestations? The absence of decided physical symptoms may indicate a chronic stage or a calm interval of insanity, and should have little weight in discussing Guiteau's mental condition.

I do not propose to rehearse the evidence in the case of Guiteau, as that has been so fully done by Dr. Folsom and Dr. Channing in recent articles, but merely to recall such parts of it as may be convenient for my purpose. The experts who assert Guiteau's insanity all agree that he has been insane most of his life. The whole aspect of the case and the condition of the pris-

<sup>1</sup> Read before the Boston Medico-Psychological Society, April 6, 1882, and the Association of Medical Superintendents for American Institutions for the Insane at Cincinnati, June 9, 1882.

over suggest chronicity. Dr. Kiernan was quite decidedly of the opinion that it was a case of *primäre verrücktheit* or the primary insanity of the Germans, a disease of congenital origin, developing *pari passu* with the mental unfolding of the child, and usually due to hereditary influences. The terms moral imbecility and *folie raisonnante* are, I believe, nearly synonymous with this form. These and other forms, as the "imbecility in the first degree" of Ray, chronic mania with religious delusions, chronic subacute mania with exacerbations of excitement at long intervals, and, finally, megalomania and general paresis, were all carefully discussed by the experts for the defense. The inception of Guiteau's insanity was placed by some at the age of eighteen, when a student at Ann Arbor, Michigan, and with much probability.

The evidence is meagre, but it all tends to show a boy of ordinarily good disposition, and intellectually rather above the average. His maternal grandfather believed he had more brains than all the rest of his family, and left him a thousand dollars as evidence of this opinion. He was quick-tempered, and once struck his father. After six or seven winters at school he spent a term at a commercial college in Chicago. Here his sexual instincts became active, and it is said he indulged in masturbation, and occasional sexual intercourse. He also had the laudable ambition to get a collegiate education, and went to Ann Arbor for the purpose of completing his preparation.

The few letters saved from the Chicago fire, which were put in evidence, give only glimpses of these youthful days. They resemble the usual "good boy" letters of a student away from home, up to 1859. He writes for money for school-books and board bills, speaks of his health, of headaches, and feverish spells, and of the news in general, and signs himself C. Julius Guiteau, after the conceited style of youngsters the world over. He writes from Ann Arbor that he is determined to go to college, and is learning more in five weeks than others in ten. He writes wisely about physiology and gymnastics, and says he finds German hard, as who does not? A little later in 1859, when eighteen years of age, his style suddenly changes. He writes his sister, who is out of health, in terms recalling his father's ideas upon similar subjects. He says: "Place your attention on God, and not on your health, and you will be cured. You want salvation, believe and be saved." He speaks of recent religious experiences in a conceited way, and asserts his respect for the doctrines of the Oneida Community. His sister, in alarm, visits him to find that he has abandoned his studies, and is reading only the Bible, and the publications of Noyes. She finds him "clean gone daff," as she says, on theology, and determined to join the Oneida Community in spite of her earnest protest. She gives up the attempt to dissuade him after a day or two, and considers him "crazy."

He soon joins the Community, and in 1861 writes of this period that, when homeless and destitute at Ann Arbor, he was turned toward God, and attracted to the Community by an irresistible power. He believes it to be the beginning of the kingdom of God on earth. He says he has forsaken honor, riches, and worldly renown for the love of truth, which draws him with irresistible influence. He speaks of his vital union with Christ, of his eternal marriage to Jesus in Hades and the next world. He thinks the Community far in advance of all human governments, and inde-

pendent of all laws. He says God is leading it to a position at war with the kingdoms of this world, and he must labor with it to exterminate social slavery, and to emancipate women from it.

Here was a departure from accustomed modes of thinking, feeling, and acting sufficient to suggest to his family the idea of his insanity. To be sure he shared his opinions with his father and the rest of the Community, not all of whom were probably insane. His father had only been prevented from joining the Community by his wife's influence. Although the son abandoned his own rational plans for an education to enter this company of religious and social fanatics, considering his father's opinions and influence it may not have been an insane act. On the other hand, considering his undoubted inherited tendency to insanity, it may have been the first important insane act of a life-long series of them. The father did not join the Community, and did sustain the relations of a competent business man and good citizen to the public. The son's life from this time forward was a history of failure, degeneration, and depravity. Starting with his father's principles firmly implanted in his mind, and carrying them out more practically and thoroughly, why was his career not equally honorable and successful? It may be that insanity turned the scale, and changed an honest fanaticism in one generation into moral and intellectual aberration in the next.

At the Community Guiteau gave evidence of the insane temperament if not of insanity. He was conceited, ambitious, studious of the Bible, the works of Noyes, and the *Tribune*, but lazy and inefficient in the field and workshop. At times he was moody, abstracted, or sullen, and would gesticulate and mutter when angry. He attempted to lecture, but was laughed at for his pains. He was restless, fickle, emotional, and out of favor with the women of the Community. He admits the practice of self-abuse, and the circumstances were well fitted to develop this symptom as well as cause of early insanity. After five years of this harmful experience he eloped from the Community to avoid the disagreeable alternative of explaining his withdrawal to a committee. He went to New York, as he says, in a desperate state of mind, feeling that he was imperiling his soul by deserting the Community. He had formed a plan, however, of serving the Deity on a vaster scale, and in a new way, by means of a religious daily paper, to be called the *Theocrat*. A chain of similar papers through the country would, he thought, spring up, which would disseminate the doctrines of the Community, and supersede the pulpit. He distinctly claimed inspiration for this idea, and wrote his father that he was still one with him in faith and doctrine, and in the employ of Jesus Christ & Co.

In six months he had exhausted every available resource in his efforts to carry out his scheme. Having lived with extreme economy, as he says, and having failed to find editorial employment on the *Tribune* or *Independent*, he was glad to return to the Community. The next year he claims to have had his eyes opened to the social iniquity of the society and left it, taking with him the remainder of the \$1000 he had put in. He also began a suit against Noyes for loss of time, estimating the damages at \$1500 a year, and threatening to expose the vile practices of the place in the daily papers. Noyes, it is said, intended to allege in denial the insanity of Guiteau from masturbation, and his consequent unreliability. This defense again alleges Guiteau's in-



sanity, six years after his sister had made the same statement, and in a form not unlikely to have existed. His relations with women up to the present suggest the weak-minded and sexually-inclined lunatic. His persistent and unwelcome attentions to ladies, his correspondence with unknown parties with a view to matrimony, and his recent apparently honest expectations of marrying a New York heiress, are suggestive in this respect.

His insanity was alleged for the third time when he threatened his sister with an axe in 1875. This time he was examined by Dr. Rice, the family physician, who was satisfied of his insanity, and advised his commitment to a hospital. His history after leaving the Community is too familiar to need repetition. He tried matrimony, law, theology, authorship, and politics, making a bad failure of each. He committed adultery to give his wife a divorce, after failing to support her, a piece of magnanimity which has an insane aspect. His law practice twice brought him into that temporary confinement from which he was accustomed to extricate others, equally undeserving, by means of legal trickery. He brought baseless suits for large sums against the newspapers, after the manner of Count Johannes. Doubts of his sanity enabled him to escape the more serious consequences of his acts. His theology was of the kind professed at Oneida, with additions and improvements by Guiteau. He stole most of his theories and opinions from Noyes. His authorship also was a piracy of ideas if not of language. His lecturing was to some extent an imitation of the methods of Moody and other evangelists of less note. His style, whether originally copied from Greeley and Beecher or not, had come to be his own, and was really quite vigorous and effective. His harangues in court, though lacking in length and logical continuity, were sharp, forcible, direct, and slangy. His skill at retort was considerable, and his enjoyment of his good hits great. An utter lack of respect and loss of all sense of propriety, with little appreciation of the effect of his conduct on the court and jury, enabled him to skillfully blackguard in turn the judge, jury, opposing counsel, and his own, as well as his near relations, witnesses, and public men generally, present or absent. That there was any feigning in this I do not believe.

It is evident that law with Guiteau was a makeshift. He returned to theology as often as he failed in other directions, and always mingled his peculiar religious studies with whatever work he had on hand. He read the Bible with assiduity, and his whole mind was absorbed in the perfection of his book, *The Truth*. He persisted in his absurd attempts to lecture, in spite of all discouragements, for several years. His religious theories were a controlling element in his character, and in spite of his vagrant and dishonest mode of life he probably believed himself to be a high-toned Christian gentleman.

How shall such a complex character be designated? Was Guiteau a fraud, a fanatic, or a lunatic? It is a pity he cannot be distinctly classed as one or the other. It would be convenient if none of our patients stepped over the narrow boundaries of the class to which we have assigned them, but such is the erratic and willful nature of disease. Lunatics are men after all, and will show their depravity or their fanaticism, and either may obscure at times their true character. No doubt Guiteau was a fraud at many times and in many things. He, no doubt, sometimes suspected the hollowness of

his pretensions to manual piety, and the necessity of living, in the absence of any capacity for business or inclination for work, made him a dishonest religious tramp, a shyster lawyer, or a politician, as the case might be. In the latter capacity he was ready to claim magnificent rewards for imaginary services, and in all his borrowing and dead-beating he was a swindler, and probably knew it. His moral sense was blunted, and he put his cunning and experience in methods of raising the wind at the service of his back and stomach without much compunction.

Yes, he was a fraud, but he was something more. I believe there was a better side of his character, wherein his father's fanatic but high-minded religious theories had deep root and produced fruit of their own kind. He drew the line in his fraudulent career at borrowing. He would not beg nor steal. He believed he had a special fitness for the dissemination of religious ideas. He found support and stimulus in the belief that, like Paul, he was working and suffering for Jesus Christ. His insane conceit made him certain that he was a man of brains, of great religious knowledge, destined to serve the Lord in some grand way. If he had not discovered, he had promulgated, a new doctrine about the coming of Christ of immense importance to the human race. He believed himself equal in point of logic and eloquence to Mr. Ingersoll. There was a large share of genuine fanaticism in his make-up. Was he insane also?

It seems to me that he must not only have been weak in judgment and lacking in common sense, but at times under positive delusion. What is called his conceit was really a general delusion of self-importance. Train, Count Johannes, Mellen, Pratt, and hundreds of cranks the country over have been distinguished chiefly by this very delusion. Out of it grew the specific grand ideas of fitness for leadership in the Oneida Community, for the control and editorship of a chain of Theocratic papers and of the *Inter-Ocean*, for lecturing, for authorship, for the promulgation of new religious truth, and for the high offices of consul-general and president.

As Guiteau's fortunes failed and his mind deteriorated his sanguine expectation of great success in the near future increased. I do not believe he was in the desperate and despondent condition he has been imagined by some to have been in. He was no more impecunious than he had been all his life. He was succeeding as usual by not paying his debts. He borrowed money up to the last with his usual skill and success. As his prospects for the consul-generalship failed I believe his deluded mind conceived new and grander opportunities to be opening before him, dependent on the removal of the President. This idea, suggested by the extravagant newspaper comments on the political situation, seized upon his mind with the force of an imperative conception. He saw himself in fancy the hero of the hour, applauded by the Stalwarts, and forgiven by the rest of the country in view of an averted civil war. He imagined himself rich and famous, his book selling all over the country, himself wedded to a New York heiress, and visiting Europe in state, returning to take the presidency from Arthur's hands. This was his programme, and to this he saw the finger of Providence plainly pointing. For years he had been in the habit of attributing each new departure in his career to the leading of a divine pressure or inspiration. In common with others of the Com-

munity he had had a general belief in divine inspiration as controlling his movements. And he tested this new and startling idea, as he says, in every possible way to see if it was from the Deity. As the idea took root and held his attention more constantly, and as the situation of the country seemed to him more and more to demand the removal of Garfield, he became firmly convinced it was from God. And it seemed perfectly natural to him that a man of brains and decision, a man with a new religious truth to promulgate, should have had this great idea suggested to him. It was not at first a delusion of divine command, but in his reasoning about it he grew to think that the Deity required this service of him. There was no vision or voice, and the idea was an outgrowth of the political situation, but he adopted it as part of his religious experience.

It is not necessary to comment on the act of assassination, except to say that it was deliberate and not impulsive, the outgrowth of false reasoning, and not the result of passion or revenge, in my opinion. It was under consideration for six weeks, the prisoner meanwhile sleeping and eating well. He meant that this great act should be done with grace and propriety of time and place. He desired publicity, but dreaded the hasty passions of the crowd, which would at first misinterpret the act. He was nice about the looks of the pistol, made a revision of his book, and had his boots blacked at the last moment. When arrested he was the coolest person in the crowd. He behaved like a man who had performed a great act, beyond the comprehension of the vulgar mob in its far-reaching significance. It was the crowning act in his career to him, and he had only to insure his immediate personal safety, to receive his reward at the hands of a grateful party and country. It seems to me the crowning act of an insane life. There is not an element of sanity in it, as far as I can see. It is not explainable on any rational hypothesis as the act of a sane man. It requires vastly more straining of probability to suppose Guiteau sane than the reverse.

If, when he was haunting the White House or soliciting the Paris consulship of Mr. Blaine or Senator Logan, he had been arrested as the insane vagrant he was, and appeared to be, he could have been committed to an asylum, and would have been held on the strength of his history and absurd claims. Since the assassination scores of persons have been sent to asylums on slighter evidence of insanity, owing to an awakened public dread of "cranks." It would not be possible for another individual to repeat Guiteau's conduct previous to the assassination, without instant arrest and commitment to an asylum. Every hospital has reasoning lunatics no more insane than Guiteau. Why, then, should a homicide, so much resembling an insane act, discredit Guiteau's insanity? Viewed dispassionately it would seem to be strong confirmative evidence. The fact that he put his absurd theories to the test and staked his life on the result is abundant evidence of his sincerity.

I can hardly conceive it possible that a sane man, however desperate and depraved, could have simulated insanity before and in the commission of such an act to cover his real motives, and arrange for his escape in advance on the plea of insanity. It is much more within the bounds of probability that an insane man, having committed an act which he supposed could be justified to the world, should, having failed in that ex-

pectation, fall back on the technical plea of legal insanity. He might even feign some other form of insanity. It is possible that Guiteau, by advice of counsel or of his own motion, seized upon a delusion of divine inspiration as an adequate defense. It was a claim of the existence of certain conditions at the time of the homicide rather than a feigning of present insanity.

The conduct of the case, both on the part of the government and the defense, was, it seems to me, open to criticism. Guiteau should have been put under the observation of some physician skilled in the study of insanity immediately after the assassination. An act so indicative of insanity, committed by a person whose sanity had been long suspected, ought to have suggested the propriety of this course. Instead, the apparent object of the government was to discover his accomplices, and elicit a confession of motives, and a detailed account of the circumstances of the act. This was proper in its way, but need not have precluded a study of his mental condition by some competent physician. The statements of the prisoner, taken verbatim at this time, were, strange to say, destroyed and could not be put in evidence. Any serious attempt to discover his real mental condition was neglected by the government until it was insisted on by the defense many weeks after the homicide.

Having been carefully observed from the first, a commission of experts should have been appointed, whose report would have determined the necessity for a trial. In spite of the unfortunate disagreement at the trial of experts called in the usual way by both sides, and in a wholesale and indiscriminate manner, it is not too much to believe that such a commission, by a candid discussion of the case, might have arrived at a common opinion. It would certainly be the best way theoretically to put the question of insanity before a small commission of carefully selected experts, protected by the terms of their appointment from undue bias or influence. This plan has worked satisfactorily in France for a long time, and is coming into use in Massachusetts. This commission being put in possession of all the essential facts could have determined their scientific bearing, and their report might have prevented the cost and other disagreeable accompaniments of the trial.

If by reason of doubt or disagreement a trial had been deemed necessary, the testimony of this commission would have furnished a valuable part of the evidence. At the trial in Washington I proposed and urged at the meetings of the experts for the defense that the government experts should be invited to join us in our discussion of the case, but was only partially successful in bringing it about. Theoretically we were all there on the same footing as advisers of the court, and unless each was specially directed to make an independent examination, general conference and discussion was proper and desirable. Why should such a body of experts divide for the time being into two hostile camps, as it were, each party seeking to conceal its own opinions, lest they should give aid and comfort to opposing counsel. This mistaken method of deciding a scientific question reached the climax of absurdity in the trial at Washington.

The counsel for the defense, I think, failed also in the management of his own experts, keeping aloof from most of them, failing to learn their individual opinions, and to what extent they agreed or differed. He insisted, as I said before, on a too narrow line of defense

in claiming delusion of divine inspiration, against what would probably have been the judgment of a majority of his experts. He sprung his hypothetical question on them without warning, and without giving them any chance of explanation. The government shrewdly declined to cross-examine as a natural consequence. In our surprise at this procedure we failed to protest as indignantly as we ought at such a travesty of justice. For this reason, as I said at the beginning, it is incumbent on each of these gentlemen to give his opinion publicly now.

As to Guiteau's responsibility, I have only to say that under the ruling of Judge Cox he was no doubt responsible. He knew right from wrong in the abstract; and he knew the act he was about to commit was against the law and would be regarded by many as murder. But I think there was in his mind, in relation to the assassination, under the peculiar circumstances of the case, an obscurity of moral perception, which was the result of insanity. If he was impelled to the act by a dominant and controlling delusion, no doubt he believed it right. He had by some insane process of reasoning justified the homicide to his own mind, and therefore as regards the specific act did not perceive its immoral character. I do not think Judge Cox, in his charge, discriminated between the general and this specific knowledge of right and wrong. Many insane persons know the homicide they are about to commit would be wrong for another or for themselves under other circumstances, or they know this if they reflect at all. They know that murder is contrary to law, though they may be driven to commit murder in spite of this knowledge, and with a full realization of the penalty. The insane usually perceive the moral quality of the acts of others, but justify their conduct according to the nature of their own delusions. They commit acts of violence out of all proportion to the grievance they wish to revenge. An insane man with an exaggerated idea of such an offense, or an exalted notion of his own personality, may justify his act of revenge on the basis of these insane ideas. The vicegerent of Deity on earth may innocently act in a manner which would be simply criminal in an ordinary individual, and he might plainly see its criminality in another. How far Guiteau's exalted ideas of himself as "God's man" would furnish an insane basis for his crime depends on our opinion of the sincerity of his claim. If correct reasoning as to the moral character of the act as conceived by him was essential, I should strongly doubt his responsibility.

## Reports of Societies.

### THE AMERICAN MEDICAL ASSOCIATION.

#### SECTION OF SURGERY AND ANATOMY.

##### FIRST DAY.

CHAIRMAN, Dr. William A. Byrd, of Quincy, Illinois. Secretary, Dr. Hugh McCall, of La Peer, Michigan. One hundred and fifty members present.

##### ELECTRICITY IN SURGERY.

DR. CARL SEILER, of Pennsylvania, read a paper entitled Remarks on the Uses of Electricity in Surgery, in which he described a battery which he had devised, so arranged that the zinc plates were sus-

pended above the fluid, and the amount of immersion regulated by a treadle under the control of the operator, the amount of immersion controlling the temperature of the platinum loop. A double cell had been arranged for alternate immersion to continue the current indefinitely. He further stated that the battery could be utilized for running a surgical engine by using cells with partitions instead of ordinary plates.

##### GASTROTOMY FOR INTESTINAL OBSTRUCTION.

DR. WILLIAM HILL, of Bloomington, Illinois, then presented a paper, which was read by the chairman, entitled *Gastrotomy or Abdominal Section for the Relief of Intestinal Obstruction*. A case was cited where Dr. Hill, on the third day of an obstruction, had opened the abdomen, found the point of impaction, and by manipulation had passed the mass onward, a rapid recovery ensuing.

An interesting discussion ensued, many members relating cases which had occurred in their experiences. The antiseptic treatment of abdominal wounds was not discussed.

Dr. Hill's paper was referred to the committee on publication.

DR. GAY, of Buffalo, New York, read a paper on

##### ANCHYLOSIS OF THE HIP-JOINT.

The reader devoted some time to a consideration of the various methods of differential diagnosis, and then took up the various surgical procedures which are advised, the reader preferring fracture to subcutaneous osteotomy.

DR. C. T. POORE, of New York, did not regard osteotomy as a dangerous operation. In fibrous ankylosis, the result of hip-joint disease, the disease is much more likely to return after breaking up of the adhesions than after osteotomy.

The sentiment of the Section was decidedly in favor of subcutaneous osteotomy.

##### SECOND DAY.

The Section was called to order in Sherman Hall at 3.10 p. m., by DR. WILLIAM BYRD. The attendance was very large, every seat in the hall being occupied, and the session was unusually interesting. The regular business was commenced by the reading of the minutes of Tuesday's session, which were adopted.

##### FRACTURES, SPLINTS, AND PLASTER DRESSINGS.

The Chairman announced that he had received a paper from Dr. Ephraim Cutter, of New York, entitled, *My Refracted Patella*, with a plaster cast of the knee. The paper was to have been read on Tuesday, but was now at the disposition of the Section. On motion it was referred to a sub-committee to examine and report. This committee were also empowered during the remainder of the sessions to receive the papers read and determine whether the same shall be referred to the Publication Committee.

The first paper, *Plastic Splints*, by Dr. O. J. Caskery, of Baltimore, and the second one, *Aspiration with Compression in Diseases of the Joints*, by Dr. H. A. Martin, of Boston, were omitted on account of the non-attendance of the authors.

The third paper, *Fracture of the Elbow-Joint*, by Dr. Stewart, was read by the Chairman, and a sample of a new and ingenious splint for the treatment of this manner of injury was shown.

The fourth paper, *Genesis of Bone*, by Dr. Edward Borek, of St. Louis, was omitted owing to absence.

The fifth paper, entitled *Ununited Fracture of the Femur Treated by Exercise*, by Dr. George W. Nesbitt, of Sycamore, Ill., was read by the author.

The treatment was the use of a plaster-of-Paris splint and compelling the patient to move around without the use of crutch or cane.

Dr. KELLER, Arkansas, thought any fracture of the long bone should be treated by plaster-of-Paris dressing rather than splints.

Dr. CARPENTER, of Kansas, said he had used plaster-of-Paris dressing for fifteen years, and thought, when properly applied, it was the only dressing.

Dr. SAYRE, New York, said he had talked so much to the Society on the subject of plaster dressing that he should think they would be tired of hearing him. He, however, explained in detail his manner of treating simple and compound fractures. He detailed a case in which the patient, suffering from comminuted fracture of the humerus, had been treated with permanent dressing, and in six weeks, when the mould was removed, the arm was practically well and the union complete. He always had his plaster bandages prepared, and could put one on in a parlor without any litter or dirt.

In answer to a question by Professor McLean, of Ann Arbor, he said he had had no cases of non-union in his own individual practice where he had applied his permanent plaster dressing, and he thought that if the plaster bandage were applied properly union would always be perfect.

Dr. PIERCE, Missouri, wished to ascertain how Dr. Sayre prevented shortening in fractures of the femur.

Dr. SAYRE said he never confined himself to one class of splints, but he had in cases of fracture of the leg obtained good results, no shortening, and had allowed the patient to be out the second day. He then explained the situation of his patient in bed, the counter extension apparatus to which he was attached, the fractured limb then extended till the fractured ends were in apposition, then with the leg still held in that position the bandage of plaster was applied from instep to above the pelvis, and retained till the bandage had dried; then, as the plaster could not shrink, the plaster would necessarily, according to the anatomy of the leg, retain the full length of the limb.

Dr. McLEAN, of Ann Arbor, said that an outsider would gain the impression, from the remarks, that where non-union occurs the surgeon is responsible for the result. He held that in some cases, even where the surgeon treated the fracture correctly, non-union occurred.

Dr. SAYRE explained that the constitutional condition had much to do with the union of a fracture, and that he did not mean to say that in all cases union would result, even if cared for properly, but in the majority of instances it would.

Drs. Ather, Philadelphia; Gareelon, Maine; Pratt, Stillwater; Forbes, Iowa; Flanner, Michigan; Keller, Kansas; McClaine, Michigan; Pruett, Missouri; Freeman, Illinois, and others took part in the discussion, during which the kind of cloths and the best manner of preparing bandages and dressing fractures was discussed at length.

The sixth paper, *Elastic Tension in the Management of Cases of Delayed Separation of Ligatures*, by Dr. J. R. Weist, was called, but no response was made.

The seventh paper on the programme was *Lupus*

*Exedens of the Face*, by Dr. A. C. Post, New York City. Dr. Sayre stated that owing to illness Dr. Post was unable to attend the convention.

The Chairman called for volunteer papers, and in response one entitled *Local Joint Extensions*, by Dr. Charles F. Stillman, New Jersey, was handed in to be read by title. Objection was made, the idea being advanced that the paper treated of some surgical instrument which the author of the paper had patented.

A sharp discussion ensued, and after several motions the paper was laid on the table. The member of the section, who objected to the paper being read, explained that perhaps he might be wrong in the matter.

The eighth paper, *Sub-Peritoneal Surgery*, by Dr. W. M. Fuqua, was omitted and the motion made to adjourn.

#### ANEURISM OF THE ORBITAL.

At this point, Dr. McLEAN, of Ann Arbor, asked leave to bring before the Section an interesting case. The Section agreed and the patient was conducted to the platform. The lady's left eye and forehead was disfigured by an aneurism of the orbital blood-vessels about the size of a hen's egg.

Dr. McLean explained that she was twenty years old, perfectly healthy, and that the sight was not impaired; that the tumor commenced with a simple birthmark over the eyebrow and had grown gradually, but more rapidly of late, to its present size; that it was a common pulsating tumor involving the eyebrow, scalp, and orbit, but had not caused any absorption of the bone. An operation had been performed on the patient six years ago, without success. He thought, from the partial examination he had made, that if the common carotid artery was tied the tumor could be removed without serious results.

After an examination by a number of those present a short discussion followed.

#### THIRD DAY.

The Section met at two p. m., at Sherman Hall, with Dr. BYRD in the chair, and an attendance somewhat smaller than at the previous sessions. The first paper, *Excisions of the Intestinal Canal where covered with Peritonaeum*, by Dr. Wm. A. Byrd, having been read at the general session, was passed.

The second and third papers, namely, *Fatal Influence of Anæsthetics in Disease of the Kidneys*, by Dr. L. Turnbull, Philadelphia, and *Osteotomy and Exhibition of Instruments* by Dr. C. T. Poore, New York City, were also omitted. The fourth paper,

*CONTRIBUTIONS TO THE SURGERY OF THE LIVER*, by Dr. JOSEPH RANOSHOFF, Cincinnati, was read by the author, who reported the removal of five gall-stones by Sims's operation. The incisions were made with the galvano-cuttery, and the gall-bladder stitched to the abdominal wound. The case proved fatal.

The fifth paper, *The Proper Points for Incision in the Drainage of Suppurating Knee-Joints*, by Dr. Edmund Andrews, of Chicago, was referred to the Committee on Publication.

#### SECTION ON THE PRACTICE OF MEDICINE, MATERIA MEDICA, AND PHYSIOLOGY.

#### FIRST DAY.

Chairman, Dr. J. A. Oesterlony, of Louisville, Ky.; Acting Secretary, Dr. Thomas N. Reynolds, of Detroit, Mich.

## PAPERS PRESENTED.

The first paper presented was by Dr. J. Hilgard Tyndale, of New York, on Home Treatment of Pulmonary Consumption by General and Local Antiseptics on the Basis of Strict Individualization.

Dr. Shoemaker, of Pennsylvania, then read an article entitled Therapeutic Action of Chlorate of Potassium, which, after discussion, was referred to the Committee on Publication.

## SECOND DAY.

In the absence of the chairman, the Section was called to order by Acting Secretary Prof. Thomas N. Reynolds, of Detroit.

Dr. J. C. Tucker, of San Francisco, Cal., presented for Professor Gibbon, of the same city, a paper on Astringent Plants of the Pacific Coast. The speaker read the paper by title, and on motion it was referred to the Committee on Publication.

## HYPODERMIC INJECTIONS FOR SYPHILIS.

DR. JOHN V. SHOEMAKER, of Philadelphia, exhibited some new oleates and described their therapeutic action. The same speaker then read a paper on The Treatment of Syphilis by Subcutaneous Sublimate Injections.

Some three or more years ago he began this treatment in all the syphilitic patients presenting themselves at the Dispensary for Skin Diseases. He usually selected for his hypodermic injections a good glass syringe. Experience has proven to him that these were the best. To these syringes he ordered specially long needles, the other needles not penetrating deeply enough, thus endangering abscess. Where a long needle is used and driven down to the cellular tissue no injurious results will follow. He also used different needles for different patients to prevent contagion. In using the solution he usually began on weak patients with one eighth-grain doses (ten minims), and continued the same daily until the patient experiences relief or shows the constitutional effects of the drug. After using all the various combinations upon the cases under his care, he came to the conclusion that plain water and the sublimate gave the best results. The parts which he usually chose for the injection were the infra-scapular and sacral regions, which are the least sensitive and are also supplied with a large quantity of subcutaneous cellular tissue in which to inject the solution. He would fill the syringe with the sublimate solution, and with the needle pointed, open, and well oiled, he would pick up a fold of the integument, on one of the regions just named, with the forefinger and thumb of the left hand, and with the right, previously everted the syringe and rapping it slightly, and then forcing out the air, he would drive the needle down deep into the cellular tissue, while he gently pressed the piston to force out the contents.

The skin surrounding the puncture would become a little red or swollen in a short time, which would disappear at longer or shorter intervals, at the most in a few days' time, though in some cases they would remain for quite a time, forming hard spots about the size of a shell-bark, which would eventually disappear, as it were, by degrees, leaving no bad results. In the one hundred and thirteen cases treated there were neither inflammation nor abscesses. He believes this method to be the most speedy and certain way of eradicating syphilis, and preventing at the same time a loss of flesh and

vigor of the body that, in his opinion, immediately follows pouring mercury or iodide of potassium into the stomach. It is the belief of Dr. Shoemaker that when the hypodermic administration has failed it has been entirely due to the carelessness of the operator.

Dr. SHOEMAKER, of Philadelphia, moved that Secretary Reynolds be instructed to ask the Committee of Arrangements to select for the coming year officers who will pledge themselves to be present, and will arrange to have on hand sufficient material for the work of the Section.

Dr. GALLAGHER, of Pittsburgh, most heartily coincided, and after some debate the motion passed unanimously, after which the Section adjourned.

## THIRD DAY.

The Section was called to order at three p. m. by the chairman, Dr. John A. Oeterlongy, Dr. Thomas F. Reynolds acting as secretary.

Dr. OETERLONGY called Dr. Lester to the chair, and made a statement that the remarks made in the section of the day before had done injustice to his friend, Dr. J. D. Roberts, who, he was certain, had been prevented from being present by circumstances over which he had no control. The acting secretary has been on hand to call the Section to order, and as for himself he was unable to be present, and had sent a note informing the Section that he could not be there.

## SALICYLATE OF POTASSA.

The paper of the afternoon, Salicylate of Potassa and its Uses in Acute Rheumatism and Dyspepsia, was then read by the author, Dr. M. DONNELLY, of New York.

The salicylate of potassa is intended to utilize the prompt and efficient drug known as salicylic acid, which has proved an excellent remedy in acute rheumatism, but has, however, been found somewhat doubtful in its effects where the heart is affected. The salicylate combines the prompt action of salicylic acid with the safe and reliable powers of the bicarbonate of potash, neutralizing the lactic acid of the blood which is supposed to cause acute rheumatism, and relieving the suffering of the patient almost as promptly as an anodyne. It reduces the usual time of attacks of acute rheumatism from three to six weeks to almost as many days. One important point was the necessity of following the salicylate treatment by an alkaline form of iron, the tartrate of iron and potassa to restore the blood which has been thinned and reduced during the attack of rheumatism, to its natural healthy condition.

In dyspepsia Dr. Donnelly employed two parts of salicylic acid and three parts of bicarbonate of potash dissolved in water and tincture of vomica as a very important remedy in dyspepsia, and said that if the constipation, which usually accompanies this disease, is relieved with appropriate remedies, a permanent cure of this troublesome disease will be attained.

The following resolution was unanimously adopted:

*Resolved*, That the thanks of the Section on Practice of Medicine, Materia Medica, and Physiology be tendered the officers, Dr. John A. Oeterlongy, chairman, and Dr. Thomas N. Reynolds, secretary of said Section, for the faithful, courteous, and efficient discharge of their respective duties.

## SECTION ON OBSTETRICS.

Chairman, Dr. H. O. Marey, of Boston; secretary, Dr. C. V. Mottram, of Lawrence, Kansas.

## FIRST DAY.

Papers were read and discussed: Upon The Mechanical Treatment of Delivery from the Superior Strait, by Dr. Grainger, of Boston, and the Forceps and their Use, by Dr. R. Beverly Cole, of California, who also spoke regarding a new forceps which he had invented which were less liable to slip by reason of the blades being wider apart, especially at the heel of the instrument.

Although Dr. P. J. Murphy was unavoidably absent, his subject, the Condition of the Cervix Uteri after Emmet's Operation, and Especially its Effects upon Subsequent Gestation and Delivery, was discussed by the Section to the hour of adjournment. The general sentiment in regard to Emmet's operation for lacerated cervix was favorable when performed by a gynecologist.

Several lady members were present, conspicuous among whom were Drs. Gaston and Robinson, of Chicago, Dr. E. M. Gould, of Des Moines, Ia., and Dr. Abbey Fox Rooney, of Quincy, Ill.

## SECOND DAY.

## SUBINVOLUTION OF THE UTERUS.

DR. D. T. NELSON, of Chicago, read a paper on Subinvolution of the Uterus, its Causes, Effects, and Treatment. Dr. Nelson considered that many uterine and general disturbances are due to incomplete involution and favored securing firm uterine contractions by some means. No parturient woman should leave the bed until involution is complete.

In the debate that followed several physicians favored the daily use of quinine for a week after confinement.

DR. I. H. ROBBINS, of Lincoln, Neb., reported a case of delivery of a child of seventeen and one half pounds in weight and well formed.

## OÖPHORECTOMY. LISTERISM.

DR. BATTY, of Georgia, spoke of the progress in oöphorectomy during the past year as illustrated by the fact that English and German surgeons were rapidly increasing the number of operations. In deciding whether or not it should be adopted, each case must be studied by itself. As a rule, he preferred to remove the ovaries through the abdominal rather than the vaginal incision.

Dr. Batty referred, in this connection, to several eminent operators who have ceased to employ Listerism.

DR. COLE, of San Francisco, regarded Listerism as dead. The discussion on the subject at the International Congress in London, 1881, was reviewed at some length. Dr. Cole believed that Mr. Lister had admitted every allegation against the method known by his name.

All good surgery was antiseptic, because *cleanliness* was at its foundation. He doubted the existence of any germicide which could be used of sufficient strength to kill the germs and yet be safe for the patient.

DR. PRINCE, of Illinois, did not receive the same impression from the discussion at the International Congress as Dr. Cole. He did not believe that any man could cultivate germs in a solution of carbolic acid of the strength of one thousand per cent., while water, which had been boiled, and which Dr. Cole recommended, would not destroy them.

The brilliant success sometimes obtained without the use of any antiseptic measures whatever, did not in any way explain the remaining cases where antiseptics have been so beneficial.

DR. COLE continued by reading extensively from Mr. Lister's remarks in support of the position he held concerning the method of dressing.

The CHAIRMAN defended Listerism. He knew Mr. Lister to be right in certain directions and believed that Dr. Cole was correct in others.

## THIRD DAY.

The Section, owing to the contemplated early adjournment to enable the members to attend Dr. Sablin's reception at Stillwater in the evening, met promptly at the usual hour, with Dr. H. O. Marcy in the chair, and Dr. Mottram acting as secretary.

Dr. Joseph H. Warren, of Boston, being unavoidably absent, his paper on Elastic Serrated Uterine Scoop and Curette was omitted, as was also Dr. E. Cutter's, of New York, on The Treatment of Uterine Fibroids by the Methods of Diel.

A number of surgical instruments were exhibited by Dr. Prince of Illinois. They were of a character suited to vesico and recto-vaginal fistulae, obtaining a sewing machine stitch.

## OVIARTOTOMY DURING PERITONITIS.

In regular order was a paper from PROFESSOR DUNSTER, of Ann Arbor University, on Ovariectomy during Peritonitis; Is It Justifiable.

Dr. Dunster considered it justifiable in the following class of cases: (1.) Peritonitis resulting from the rupture of a cyst. (2.) Peritonitis following tapping or aspiration. (3.) Peritonitis with marked effusion. Where a low grade of inflammation was present due to the tumor, operations were to be advised with caution.

After Dr. Dunster concluded his address, the subject was taken up by the Section and discussed at length, and with marked interest, by Drs. Batty, Jenks, and others.

The next paper in the order was Dr. H. F. Campbell's on Gravid and Impacted Retroversion of the Uterus. This paper was listened to with marked attention and unusual interest. Special stress was laid on placing the patient in the genu-pectoral position as an assistance in reducing the retroversion.

DR. H. L. GERTZ, of Marshalltown, Ill., read a paper on a few practical points on Ruptured Perinaeum.

The reader made the statement that all cases can be treated successfully—barring those in which the sphincter is involved by position and without sutures—keeping the wound clean and the bowels confined.

Dr. Gertz also exhibited a uterine repositor.

## SECTION OF DISEASES OF CHILDREN.

The Section, which held no session on Tuesday, because of the very small number present, was on Wednesday quite well attended. The chairman being absent, Dr. Lee, secretary, took the chair, and Dr. Miller of Rockwell, Ia., acted as secretary.

## INFANTILE DIARRHŒA.

DR. N. S. DAVIS, of Chicago, read a paper on the causes of diarrhœa in infancy and early childhood, and the best means for lessening its mortality. He said in substance:—

When it is remembered that one third of the

human race perish before they reach five years of age, and that a large percentage of these early deaths are the direct result of attacks of diarrhoea and cholera morbus, it will be conceded that no subject is more worthy of careful study than the pathology and prophylaxis of these affections. Nearly all the recent writers on the diseases of children class the cases of serous diarrhoea and cholera morbus in children under two years of age, usually called summer complaint and cholera infantum, with local inflammations under the general name of catarrhal gastro-enteritis, and while they all assert that these forms of disease are most prevalent and fatal during the warmest months of summer, they set forth as the chief causes improper feeding, impure and changed milk, impure air, the process of dentition or teething, and overworked, badly fed, and unhealthy mothers.

These causes are represented to produce gastric or intestinal indigestion, or both, which so increase the irritation of the mucous membranes as to cause a more or less rapid serous exudation into the gastro-intestinal canal. Indigestion is generally regarded as the cause of the catarrhal irritation, while the indigestion is the result of bad feeding, impure air, teething, and unhealthy mothers. Bad milk is also alleged to be another cause. Other causes produce effects.

An examination of the statistics of several cities shows a ratio of only about five deaths from cholera infantum annually for every 10,000 inhabitants in San Francisco, seven in New Orleans, twenty-five in Boston, and thirty in Chicago. There must therefore be more efficient cause not common in all large cities. A record of the disease and coincident meteorological conditions of atmosphere was commenced some years ago, and for three years records were kept in Cairo, Davenport, and Omaha. The reports of these records were given in this Association and published some years ago, and showed:—

(1.) That the prevalence of the affections under consideration is limited principally to July, August, and September, commencing with the first wave of high atmospheric heat that continues days and nights for more than five days, which, in the latitude of Chicago, is sometimes the last week of June, but more frequently the first week in July, and continues more or less during the succeeding ninety days.

(2.) That while the deaths from these affections in any city or given community will be nearly the same in the two first months after they begin in July and August, the date of the initial symptoms or beginning of the disease in three fourths of all the cases will be in July, very few originating after the first of August. Many cases commencing in July continue until the months of August or September, causing wasting and death.

(3.) That it is not simply high or extreme heat of temporary duration, such as that of a single day or any number of days, with cool nights, which favors the development of the disease, but continuous high temperature day and night for several days; and if, in addition to the heat, the air be stagnant from lack of winds or obstructions, as in large cities, or from defective ventilation, the effect is greatly increased. This explains why these affections are more numerous and fatal in cities than in rural districts, and why they prevail so little in even large cities located in warm climates provided the location be such as to afford cool breezes at night.

(4.) That while the great majority of attacks which occur in any given summer are found to have their beginning in July, or during the first thirty or forty days after the first wave of protracted high temperature for the season, they are not equally distributed over the whole of the month. The capacity of the blood for taking up oxygen or holding it in suspension depends much upon the proportion of saline elements it contains, and under a continuous high temperature the increase of cutaneous exhalation rapidly diminishes the free salts of the blood and lessens the capacity to receive the oxygen from the air cells of the lungs in exchange for its carbonic acid gas. Colitis and recto-colitis or dysentery seldom occur until late in the season, when warm days are followed by cool nights, and frequent changes from wet to cold occur, and even the indigestion which has been so generally suggested as a cause of summer complaint is itself the result of the impairment of natural gastric and intestinal secretions, and the increase of serous exudation, the primary fault not being so much in the quality of food as in the morbidly sensitive and relaxed condition of the whole inner surface of the digestive canal. Children are affected more than older persons, because of the less mature development and greater sensitiveness of their gastric and intestinal mucous membranes and glandular structures, and their much more constant confinement in-doors. If this is correct, it indicates clearly that our efforts to lessen infant mortality from these diseases must embrace such measures as will secure for young children a better supply of fresh, pure air, for increasing the oxygenation and decarbonization of the blood, and maintaining the activity of the vaso-motor nervous system, and counteracting the effects of high temperature by increasing the general tonic and lessening the excitability of the tissues generally. Measures for the first object must consist in securing better ventilation of dwellings, and especially nurseries and sleeping-rooms during the warmest part of the summer, the sending of young children with their mothers and nurses from densely populated districts to moderately elevated, healthy locations, or to floating hospitals, receiving ships, or large bodies of water during the special period of high heat. For accomplishing the second purpose I know of no measures that are so efficient, and at the same time within the reach of the poorest part of the population, as the judicious use of the sponge bath. Whenever the human system is relaxed and rendered morbidly sensitive by continuous high heat, causing the infant to be languid, restless, and sometimes pale, a free bathing or sponging of the whole surface with water simply as cool as is comfortable, always produces a refreshing and invigorating influence, which continues from six to twelve hours. Consequently, if mothers and nurses could be so instructed by their family physician that during every period of high temperature in which the mercury does not fall below 70° F. during the nights, each child under two years of age should be regularly given a full sponge bath in the evening as well as in the morning, such a course would diminish the attacks of serous diarrhoea and cholera infantum one half, and consequently greatly lessen the infant mortality from these affections.

It is well known to every careful observer that a large majority of all the attacks of this form of disease show their first beginning during the last half of the night or early in the morning, owing to the long con-

fluence of the high temperature, coupled with the more still and confined air of the night. The increased tone of the whole vascular system produced by the stimulant and tonic effect of a comfortably cool sponge bath on the function of the vaso-motor nerves, applied in the evening, would enable thousands of these little restless sufferers to pass the whole night unharmed, when without it the dread weakness would begin. The views I have presented in regard to the causes and nature of the affections called summer complaint and cholera infantum also afford clear indications for the most rational and successful explanation of remedial agents in the treatment of those affections in all their grades of activity.

DR. LEE recommended bandaging the stomach, and the application of litmus paper to the discharges to recognize the acid state. He then read a paper on Rickets, which was discussed by Dr. Davis, of Chicago, Dr. Warden, of New York, and Dr. Earl, of Chicago.

### THIRD DAY.

The Section did not have a large attendance. Dr. Lee, the acting president, and Dr. E. C. Miller, of Baltimore, acting secretary, were present and, after waiting about an hour or so, and only two or three delegates dropping in, and Dr. Ephraim Cutter, of New York, who was expected to read a paper upon Potato Poutlices for Pneumonitis in Children, not being present, the few delegates present had an informal conversation on the subject of measles and headaches in children. The Section then adjourned *sine die*.

### SECTION ON STATE MEDICINE.

Chairman, Dr. A. L. Gibson, United States Navy; secretary, Dr. J. H. Sears.

#### THE VACCINE QUESTION. SUICIDE.

A spirited discussion took place on inoculation from impure or diseased virus. Dr. JOHNSON, of the National Board of Health, speaking at some length, stated that in Illinois the last year the industry had been carried to a great extent, virus having been sold to the extent of one million points, at the rate of ten cents per point, or a total money value of two hundred thousand dollars.

After an hour and a half had been passed in discussing the vaccine question, the meeting gave its attention to a paper by Dr. John G. Lee, coroner of Philadelphia, on the subject of suicide in his city and county.

The following is a very incomplete abstract of his interesting paper:—

From the 31st day of December, 1871, until the 1st day of January, 1881, out of 12,936 cases of death requiring a coroner's investigation, 636 individuals were ascertained to have ended their existence by their own hands, or a ratio of about 53 suicides to every 1000 inquests. Of these, eight only were people of color, while with the exception of one case, where the color was not entered on the docket, the remaining 627 were whites.

And we are not surprised to observe, that appearing about the age of puberty, and steadily increasing, it attains its maximum when the illusions of youth have been dispelled by the stern realities of life and the struggle for existence is keenest, afterwards gradually to decline in numbers as the bodily vitality is exhausted and the interest which individuals manifest in worldly events becomes more and more of a retrospective character.

In opposition to the experience of European observers, who state that self-destruction occurs more frequently among the unmarried of both sexes, I find the contrary to be the case, due probably to the fact that in Philadelphia, as exhibited by statistics, the most popular time for marriage for both sexes is between the ages of twenty and twenty-five years; while suicides are not of frequent occurrence until a more advanced period of life has been reached. Out of our 636 cases of suicide, 444 were married, 138 were single; and in 54 persons the condition in life remained unknown. Of the 444 married individuals, 370 were men, and seventy-four were women; 109 of the unmarried people were males, and 29 were females; of the 54 whose condition in life was not recorded 47 were of the male and 7 of the female sex. We must, however, greatly regret that no record was preserved as to how many of those classified as married were widowers or widows, whether they were blessed with children or childless; as also, whether any of those recorded as unmarried were living in a state of concubinage or otherwise.

Suicides occurred by groups of months in the following order of succession:—

May, 78; August, 71; September, 57; October, 54; July, 54; April, 54; June, 52; November, 49; December, 44; February, 44; March, 33; January, 36.

And by quarters, as follows:—

First quarter, 153; second quarter, 184; third quarter, 182; fourth quarter, 147.

His observations gave him every reason to think, that a low barometric pressure, accompanied by a high thermometric registry with sudden fluctuations from a low to a high temperature, together with moisture and prevailing southwest winds, may to some extent at least, account for the frequency of self-murder in the spring and summer months.

Each nationality exhibits a certain partiality for some peculiar form of suicide. Native born American males usually hang or shoot themselves, while the women show a preference for narcotic poison. Germans select either death by shooting, poison, or throwing themselves in front of a railroad train. Those of English nationality either cut their throats or shoot themselves, and in the rare instances of suicide occurring among our Irish population drowning or hanging are usually the modes selected. The greater number of suicides are committed within doors. Only five instances of self-destruction occurred in the county prison, and but six in the Eastern penitentiary.

On motion of Dr. DAVENPORT, of St. Paul, the paper was referred to the Publication Committee.

#### THE USE OF ALCOHOLIC BEVERAGES.

The resolutions presented at the general session on Tuesday, by the Women's Christian Temperance Union, were referred to this Section and taken under consideration at this meeting. After debate participated in by Dr. Hughes of St. Louis, Dr. Hewitt, of Red Wing, and Dr. Gibson, of the navy, it was voted to reaffirm the resolutions of the Association adopted in Buffalo, in 1878. They were as follows:—

*Resolved*, That in view of the alarming prevalence and ill-effects of intemperance, with which none are so familiar as members of the medical profession, and which have called forth from eminent practitioners the voice of warning to the people of Great Britain concerning the use of alcoholic beverages, we the undersigned, members of the medical profession of the United States, unite in the declaration that we believe alcohol should



be classed with other powerful drugs, that when prescribed it should be done with conscientious caution and a sense of great responsibility.

*Resolved.* That we are of the opinion that the use of alcoholic liquors as a beverage is productive of a large amount of physical and mental disease; that it entails disease of appetites and enfeebled constitutions upon offspring; and that it is the cause of a large percentage of the crime and pauperism of our cities and country.

*Resolved.* That we would welcome any change in public sentiment that would confine the use of intoxicating liquor to the uses of science, art, and medicine.

DR. C. H. HUGHES, of St. Louis, then read a paper on "The Rights of the Insane." The fact that massive structures are erected for their care is at once a mark of philanthropy, and a recognition of their claims for care. They are entitled to medical inquiry by medical methods into their disease. They are entitled to judicial rulings when put on trial which shall be in accordance with the whole nature of their disease.

The speaker also argued that the claim made by courts that a knowledge of right and wrong is always evidence of responsibility is incorrect. The criminal insane should be confined for life, and prevented from extending their disease to posterity.

This concluded the business of the Section, and adjournment *sine die* followed.

## NEW YORK ACADEMY OF MEDICINE.

### STATIC ELECTRICITY AS A THERAPEUTIC AGENT.

THE last meeting of the Academy before the summer vacation was held June 15th, with Vice-President DR. R. F. WEIR in the chair, in the absence of the president, Dr. Barker, who had sailed for Europe, when DR. J. KNIGHT, surgeon-in-charge of the Hospital for the Ruptured and Crippled read a paper on Static Electricity as a Therapeutic Agent.

Dr. Knight began by quoting various authorities in regard to the production and uses of electricity in nature, especially Dr. Prout in his *Bridgewater Treatise*, in which it is stated that the currents of thermoelectricity generated by the diurnal revolution of the earth, which have a direction from east to west, give rise to the electro-magnetic currents, which have a direction nearly at right angles to these, or from north to south. The same treatise was also quoted in regard to the influence of static electricity in nature upon health, the germination of plants, the production of storms, and the evolution of ozone.

In regard to the therapeutic action of static electricity, Dr. Knight said he had had a personal experience of it of fifty years. He related a case of drop-wrist which he had cured in two weeks by its application from the shoulder to the phalanges. This was in 1834, at the Baltimore General Dispensary, where he used it with very favorable results for six years, when he came to New York to reside. From that time onward he had continued to employ it from time to time; but very frequently, on account of unfavorable atmospheric conditions, he had been compelled to resort to dynamic electricity as a substitute. Much to his delight, however, about ten years ago he had seen an instrument (Holt's induction machine) at the exhibition of the American Institute, by means of which static electricity could be produced in any quantity desired at almost any season of the year. Yet it was only within a very short period (after the reading of Dr. Morton's paper on Static Electricity before the Academy of

Medicine two years ago) that he had been able to obtain one of these instruments himself. He had been so impressed with the results to be obtained with the aid of this apparatus that he said he was now disposed to discard the use of all other forms of electricity entirely. But at the same time dynamic electricity was worthy of all praise, and he could not forget to what an extent he had been indebted to it in the past.

Static electricity, he went on to say, differed in its effects from dynamic, and was also more widely applicable as a therapeutic agent. It was not only an excitant, but a decided sedative as well; while dynamic electricity acted merely as an excitant agent. Its application could also be very satisfactorily regulated. While the electric shocks from a Leyden jar gave the most powerful concussion (sufficient to destroy life in some instances), the force of the shock could be definitely regulated by modifying the area of tin-foil on the jar according to circumstances. Indeed, a glass tube with a diameter of one or two inches, when coated inside and out with tin-foil, was in the great majority of cases quite sufficient for all practical purposes. With such an apparatus decided tetanization of muscles could readily be produced.

Static electricity was, then, a powerful therapeutic agent, and in order that it could be employed with success it was necessary that the operator should have an accurate knowledge of anatomy, physiology, and the special action of the agent upon the system, as well as of the general principles of electricity. Dr. Knight then mentioned the researches of a number of investigators in this branch of therapeutics, especially those of Golding Bird and Charcot, and stated that his own experience was confirmatory of the results which they had obtained. He believed that static electricity acted in a variety of ways upon the system. In the first place it cooperated with vitality, and this was always to be regarded as the central idea in the use of electricity. It constantly worked in the direction of health, even when acting apparently in opposite ways. In the second place, it had great reactive power. This was so intense that the nervous system would respond to electricity when all other stimulants had failed to excite it. Thirdly, it was an alterant agent, changing the action of an organ by improving its general tone. Fourthly, it promoted nutrition. As a general rule, it could be said that it was better to have the current feeble rather than strong, and it was advisable to repeat it at frequent intervals, applying it at each sitting for a considerable time continuously. In most forms of hypertrophy (with the exception of some malignant growths) it was necessary to stimulate the action of the absorbents, and this was well accomplished by this agent.

As to the results which he had himself obtained with static electricity, Dr. Knight said that he might mention a very large number of cases, but that he would content himself with one or two samples. He then related in detail the case of a male patient in 1836, who, in consequence of exposure to cold and wet in the repairing of a mill-dam, contracted synovitis of almost every joint of his body, a condition upon which supervened chronic diarrhoea. It was in April when he was first taken sick, and it was in the following November that he came under Dr. Knight's care. Static electricity was applied daily with light shocks, and in the course of three months the diarrhoea had ceased, while great improvement had taken place in

the condition of the various joints. He was then troubled with great irascibility, and as there were symptoms of congestion of the head venesection was practiced with excellent results. By May he was able to ride on horseback, and during the next autumn and winter the cure was completed by a residence in the South. Dr. Knight quoted from a paper by Golding Bird, published in the *Lancet* in 1846, to show the various forms of paralysis in which static electricity was applicable; and in this it was stated that the agent was most successful in recent cases, and that it ought not to be employed in confirmed organic trouble, as it was likely in such cases to bring on fatal apoplexy. In his own practice Dr. Knight had not hesitated to use it in such cases where it seemed advisable, but he believed that venesection, in addition, was essential in these, in order to avoid such a catastrophe. He also mentioned the conditions in which Dr. Todd<sup>1</sup> had found static electricity applicable. He himself had found it especially serviceable in various forms of partial paralysis of the hand and fore-arm, and in not a single case of this kind had it failed to afford relief. In connection with the electricity an elastic support of appropriate character was often of great service. In rheumatic paralysis or wasting of muscles it was also very useful; and in only two out of ten such cases had it failed in his hands. The general method of using static electricity which he had employed was to place the patient on an insulated stool and apply it from the upper cervical vertebrae to the extremities, drawing off the electricity by means of metallic points. In conclusion, he gave a warning in regard to the abuse of the agent, and said that he had seen patients who had been irreversibly injured by this as well as by dynamic electricity. If a tendency to apoplexy was noticed during its employment hydragogue cathartics were generally sufficient to remove the danger; in some cases, as he had mentioned, it was necessary to resort to venesection.

The paper now being open for discussion, DR. DANA said that he had used static electricity to a considerable extent during the last six months, and that, as a rule, he had had reason to be pretty well satisfied with the results which he had obtained with it. There was one question in connection with its application in which he was especially interested, and that was as to how far the electricity penetrated into the interior of the body. He then related two cases of constipation and so-called "biliousness" in which the application of electric sparks over the abdomen, and particularly in the region of the liver, had apparently been followed with the happiest results, after the use of galvanism and other agents had failed to give relief. He had examined all the text-books on the subject, and had conversed with a number of electrical experts, but had been unable to get any definite information as to the penetrative force of the electric current. From his general knowledge of the principles of electricity, as well as from some rather crude experiments he had tried, however, he was inclined to believe that it was entirely superficial (as was found to be the case when an electroscope was placed in the interior of a hollow metallic globe), and that the surface of the individual to whom it was applied was, as it were, in a kind of electrical bath during the application. At the same time he could not doubt that it had a decided influence upon the internal organs; but he believed that this influence

was to a great extent, at least, reflex. In sciatica and in rheumatic pains he had seen it employed with good results, and its tonic effect was also excellent in certain instances. In only a small proportion of cases, however, did it have a tonic effect; and he believed that it still remained to be proved that static electricity was of more benefit than dynamic.

DR. WILLIAM MORTON gave a historical sketch of the use of static electricity in medicine, and said that it was only in the third phase of its history, or since the revival of Charcot in 1868 and 1869, that the agent has been thoroughly established in the profession on a scientific and permanent basis. In consequence we were now able to point out with clearness some specific uses for it. It was certainly a very valuable therapeutic agent, but a great deal depended on the methods employed in its application. It was important, he believed, to have machines of large capacity, giving out electricity of high tension, and to use large instead of small quantities. He thought the day for feeble charges had gone by, and that the reason why such uncertain results had attended the use of electricity in the past had been because it had been applied in an inadequate manner. There were no authorities to-day who claimed anything from the shock from the Leyden jar, since no practical results whatever could be obtained in this way. It was his opinion that the electricity should be applied, as far as possible, directly to the spot affected, as he did not suppose that it had any general effect upon the system at large. It was therefore a grave error to compare it with such general forces as heat, moisture, massage, passive exercise, etc.

The results that had been obtained with static electricity had been in a certain definite class of cases, and it was a mistake to employ it in self-limited affections or in many of the forms of chronic disease. Experience had shown that it was most valuable in a few affections which he would enumerate. First, there was hysteria, in which it seemed to have really a specific effect. There were many cases of spinal anemia with emotional disturbances, hemi-anesthesia, and other similar manifestations, which yielded beautifully to the free application of static electricity to the spine. Usually within a day or two the painful spots along the spinal column disappeared, and the general symptoms began to be less marked. In the soreness of sub-acute rheumatism and gout, and in all forms of paralysis where it was desirable to excite the muscles, the agent was also of the greatest possible service. The above would embrace the main forms of disease in which it could be used with advantage. In regard to the two cases mentioned by Dr. Dana, he could also relate a parallel instance; but he thought that it would require a hundred such cases to prove anything conclusively as regards the effect of static electricity in these conditions. In conclusion, he could not refrain from saying that it was very gratifying to him to find that this subject was now attracting so much attention in the profession, and no better proof of this could be found than in the fact that so many electrical machines were now being purchased by physicians in all parts of the country.

DR. ROCKWELL said that the point of greatest interest to the profession in regard to static electricity was, not so much as to its absolute benefit in disease, as to its relative value as compared with other agents. Some seven or eight years ago he had for a number of months made special investigations on the subject, and

<sup>1</sup> *Medical Chirurgical Review*, 1847.

since then he had never seen any reason to change the opinion which he at that time formed, namely, that static electricity possessed a tonic and restorative power of a high order, but that it was not really equal in value to other forms of electricity. The successful use in medicine of electricity, of whatever form, depended to a very large degree, he believed, on the details of its application. The use of dynamic electricity, there was no doubt, required far more skill than that of static, the employment of which was both easier for the operator and less inconvenient to the patient. This was certainly an advantage, and he did not wish to depreciate the value of static electricity, which, indeed, had a field of its own, and which he himself was using every day in his practice. The point he wanted to bring out was, that it would be unfortunate if the opinion should get abroad that this agent was so much better than others, when in reality it was not. For one thing the electrical apparatus was expensive, and this was an objection to many general practitioners. But at the same time he held that static electricity was most excellent as an agent supplementary to the other forms of electricity. In a number of instances he had found that after a time the improvement which had at first been noticed under their use ceased, and then the static form could be resorted to with very good results. The two forms of dynamic electricity, however, could be employed in a considerably wider field than static electricity, since the latter could not be localized so well, and was of but little service in the department of diagnosis.

Dr. KNIGHT made a few remarks by way of bringing the discussion to a close, and a paper was then read by Dr. Frederick D. Lente, entitled

#### A HITHERTO UNDESCRIBED LESION OF THE KNEE-JOINT.

Dr. LENTE said that he might be thought to be claiming too much in using the title that he had selected, since he was neither able to describe definitely or to state the pathology of the affection to which he alluded, but he thought it would at all events serve to attract the attention of the profession to a class of cases which were of great practical importance, and concerning which little or nothing could be found in the text-books. He spoke briefly of the anatomy of the knee-joint, and said that while complete luxation of the joint was very rare, it was more liable to slight injuries, on account of its exposed position, than any other of the large joints. He then related in detail the history of a number of cases in which, after a usually very slight injury to the knee, such as a little twist, sprain, or blow, very serious consequences in the long disabling of the patient resulted. In several of them there was a small amount of synovitis, but this was not at all a constant characteristic. Thickening of the tissues about the patella was also noticed in some of the cases. It was not difficult to distinguish the affection from hysteria. One point of difference was that in the latter if pressure was made upon a tender spot while the attention of the patient was diverted, no pain was felt, and another was that in this affection spasmodic starting of the muscles was experienced when the patient was either just dropping off to sleep or just awaking from sleep, while in the hysterical trouble this was noticed when the patient was wide awake. In most affections of the knee-joint the greatest comfort was experienced when the limb was

flexed, but in this when in a straight position. The treatment recommended was the early application of an immovable apparatus, such as a silicate of sodium or plaster-of-Paris bandage, and in the rare cases where pain persisted after this had been put on, the use of blisters, which could be applied through orifices cut in the dressing.

The paper was discussed by Drs. Weir, Lewis H. Sayre, A. B. Judson, and Gibney. The latter said that he had not been able to make out what Dr. Lente regarded as the lesion, and asked for information on the subject, when Dr. Lente replied that he had purposely refrained from stating definitely what the lesion was, as it was almost impossible to make an exact diagnosis in this class of cases. He surmised, however, from the fact that there was usually a painful spot on the inside of the knee, in the location of the internal semi-lunar cartilage, that there was probably a displacement or straining of the cartilage on that side.

Dr. WEIR remarked that these serious results, following slight injuries which every surgeon was constantly meeting with, might not be due altogether to displacements of the semi-lunar cartilages, but rather to an inflammation of these cartilages.

#### CONNECTICUT MEDICAL SOCIETY.<sup>1</sup>

REPORTED BY SPECIAL CORRESPONDENT.

THURSDAY.

THE second day's session commenced at half past nine A. M., with the

#### REPORT OF THE SECRETARY.

The history of the past year was characterized, he said, by the same general features as the last five or six years, a steady and uniform growth in numbers, financial prosperity, zeal and interest shown by members for the Society, and in influence upon the profession and State. The membership was now four hundred and fifty, thirty new members had been added, and eleven deaths had occurred, one more than the average for the last five years; the average death-rate was large, nearly twenty-four per thousand, but the average age was over sixty. Among the honored dead were many that could ill be spared. The president had alluded to several in his address. During our session yesterday Dr. David Nash, of Bridgeport, one of the oldest practitioners in the State, passed away leaving the record of a well-spent life. Personal friendship led the secretary to speak of Dr. Lewis Williams, of Pomfret, whose character and life were held in much esteem by all the people in the region in which he lived, as a man of broad and truly catholic spirit; every measure for the good of humanity was sure of all the assistance he could give. While remote from the centres of thought and action he kept fully abreast of the progress in the art and practice of medicine, and of the world's progress. In him the Society lost a staunch supporter and firm friend. Among the dead, particularly identified with the Society, the names of Dr. J. Hutchinson, a former president, Dr. J. C. Jackson, for many years treasurer, and Dr. L. S. Wilcox, one of the principal promoters of the revised constitution and by-laws, the adoption of which had given such an impetus to the progress and prosperity of the Society, were mentioned.

<sup>1</sup> Concluded from page 568.

The new members are graduates of the following schools: Yale Medical School, eight; College of Physicians and Surgeons, New York, seven; University of New York, five; University of Vermont, three; Harvard, two; Victoria College, Montreal, two; Dartmouth, Albany, Long Island College Hospital, University of Michigan, one each. The largest of the county societies were Hartford with one hundred and two members, and New Haven with one hundred and thirty.

#### THE TREASURER'S REPORT.

showed a great improvement in finances. The habit once established of prompt payment of the honest dues to the Society by each member is maintained without great difficulty. The only unsolved problem for the new treasurer is the delinquencies in the New Haven County Society. There has been great improvement there, however, as now very few owe more than two years' taxes, while formerly arrears of four or five years, or even longer, were not uncommon. The influence of the Society has been shown in numberless ways. The adoption by the legislature of its recommendation for amendment of the law relating to the sale of poisons is one case in point.

The president elect then assumed the chair, and presided during the remainder of the session.

The annual address was given by the retiring president, Dr. WM. DEMING.—

#### ON SOME POINTS IN THE TREATMENT OF PHTHISIS PULMONALIS.

The routine treatment was condemned, and that of symptoms recommended, with a distinct idea of cure. He discussed the fever of invasion, for which he advised quinine, the bromo-hydrate preferably; the fever of softening, in which cod-liver oil or glycerine croscote were advocated to check profuse expectoration, and arsenic as a general remedy; in the fever of resorption antiseptics were advised, as salicylic acid, thirty grains the first day, twenty the second, fifteen the third, omitting three days, and repeating if needed, but not more than twice for fear of cerebral and gastric disturbances; salicylate of soda may be substituted if the digestion is weak. Climatic treatment was advised.

Dr. WHITE spoke of the value of the hypophosphites and of cream in large quantities, and of maltine and other malt preparations.

Dr. CHAMBERLAIN discussed the

#### ETIOLOGY OF CONSUMPTION,

tracing it to unsanitary influences in seventy-five per cent. of cases, as shown by Fox and others in England. The chief of these were impure air or air re-breathed, and subsoil moisture, as taught by Bowditch. The bacillus of tubercle of Koch was discussed, and the confirmation of the contagiousness of phthisis by breathing continuously air that has passed through the lungs of the consumptive; such persons should sleep alone, and live in well-ventilated apartments.

Dr. WAINWRIGHT presented the report of the committee on

#### MATTERS OF PROFESSIONAL INTEREST.

After urging care in selecting county reporters, and showing the wealth of information that yearly went to waste for want of a chronicler, he discussed the manifestations of small pox last year, and the prevalence of

malaria; its influence upon consumption, the speaker said, is reported variously from different regions. The long-continued prevalence of malaria begins to indicate that it has come to stay. Cerebro-spinal meningitis has been very frequent, especially in malarial regions.

#### A REMARKABLE CASE OF EXTREMELY LOW TEMPERATURE

was read, reported by Dr. ALMY, of Norwich. The patient was in collapse when seen, and the axillary temperature, carefully taken with a guaranteed Hicks' thermometer, was 94.8° F.; in spite of this recovery took place, and on the third day the pulse and temperature were normal.

Dr. WHITE reported a case of dentigerous cyst where twenty-four teeth were removed; these were loose and unattached; there were also masses of hair in the cyst, also unattached.

#### SMALL-POX AND MALARIA.

Dr. CHAMBERLAIN reported, by request of Dr. Tremaine, the method of treatment of small-pox by the hypo-sulphite of soda, in doses of five grains for children, and ten to fifteen for adults, three times a day; this caused the disease to abort, prevented suppuration, and in consequence pitting; it prevents, also, the odor that is so offensive, and cures the disease rapidly.

He spoke of the spread of malaria over the eastern part of the State, its advance *per saltum*, appearing first in the extreme northeastern corner of the State, then in the middle of the uninvaded territory, and last of all in Rhode Island, near Providence. The assistance of all was asked in the joint study of the cause of malaria by the State Boards of Health of Massachusetts, New York, and Connecticut, and the National Board of Health. The germ theory was especially to be tested, and also the theory of Savaran of the causation by pigmentary particles in the blood, and any promising lines of study developed would be followed up.

Aid and cooperation was also asked for the study of school hygiene commenced by our own State Board of Health. Facts were asked for with reference to ill-health caused by school life; and physicians were requested to inquire of their patients during the year with regard to such topics as would be sent them, and carefully report the results.

Dr. WHITE recommended the study of water supplies with relation to malaria, and spoke of the appearance of malaria when brook and river water was substituted for that from wells and cisterns; whether there was any consortive relation he was unable to determine. He also spoke of polluted ice and the carelessness shown in its collection; the indifference to sewage pollution of the ponds or rivers from which it was gathered was notorious.

Dr. CHAMBERLAIN stated that a study of the water supply, with reference to organic and living impurities had been commenced, and its relation to malaria could readily be added. Facts with regard to disease caused by impure ice were asked for, and the attention to this as a cause advised.

The absence of Dr. Nickerson, on account of severe sickness in his family, rendered the omission of the annual dissertation a necessity. The president then introduced Dr. Sanborn, of Portland, Maine, who presented the greetings of the Maine Medical Society. In closing, he stated that Maine could supply this State

with unlimited quantities of pure ice. In reply to a question, he said they had no malaria there, it was too cold to allow its development.

DR. W. BROWNING, of Providence, R. I., was then introduced by the president. After extending the kind wishes and congratulations of the Rhode Island Medical Society to the Connecticut Society, he expressed his pleasure at revisiting the place of his educational training, as he had graduated from the academical and medical departments of Yale some thirteen years ago. He gave a brief account of the recent development of malaria near Providence around a large pond, which had been taken charge of by the health authorities. Interesting reports of delegates from the Society to other State societies followed, after which Dr. G. L. PORTER, of Bridgeport, read an able and scholarly essay on the

#### RECOGNITION OF DEATH.

He thought the dread and even terror which some people entertain that by chance they may be buried alive, and awoken to a sensation of their situation, has a real existence in the minds, too, of many quite sensible and intelligent persons; it is the duty of the physician to be able to reassure his patients on this point. Illustrations of the ideas held on this subject are found here and there in literature, and quotations were made to show how great minds were affected by the thought of such a fate. Physicians should be familiar with the proofs of death, and thus quiet the not wholly unreasonable fears entertained. Suspended animation was discussed and contrasted with death, then some fifteen various tests to discover the presence of death, or rather the absence of life, were mentioned and described. An interesting point was raised as to where death commences, and the opinions of various authorities given. The fact that the temperature sometimes rises after death was noted and stated to be common in death from cholera, small-pox, and cerebro-spinal meningitis. Among the tests that by the ophthalmoscope was as decisive as any. After death the capillary redness of the disk is lost, and gradually the arteries fade out and become indistinct, until at last they are wholly indistinguishable. If any circulation is maintained, at least a pale redness will enable the capillaries of the disk to be seen.

Physicians were warned against the prevalent idea that all sudden deaths are caused by heart disease or apoplexy. Certificates of the cause of death should not be given assigning either, unless a post mortem confirms the diagnosis or the symptoms were unmistakable. Bodies should not be put on ice until death is certainly ascertained. Physicians should refuse to certify death unless allowed to apply all reasonable tests. Post mortems should be encouraged, and friends taught the reasonableness of such proceedings and the value to the regular medical attendant. The folly of any one except a physician acting as a coroner was plainly shown. The defects of the coroner system in ascertaining the cause of death in violent deaths, and the loss of evidence by the present blundering methods, were forcibly shown. The recommendation of the State Board of Health that the whole system be abolished, and a medical examiner system, similar to that so efficient in Massachusetts, be adopted, was heartily indorsed, and the Society was urged to aid in securing such a law.

DR. THOMPSON, of Salisbury, mentioned a test of

death, a small black spot which appears between the iris and outer angle of the eye, round or oval, enlarges and moves downwards and inwards until it reaches the iris, when it appears as a concave spot which slowly grows larger. Its cause is supposed to be the changes after death rendering the opaque coat of the eyeball transparent.

DR. T. G. HUBBARD spoke of the disgrace to the State arising from the persistence in maintaining the antiquated absurdities of "crownor's quest law," as shown in two recent murder trials, and in other instances nearly as bad but not as well known. The medical examiner system commends itself to every intelligent mind, and should be the law of this State. Movements which will eventually result in success are on foot to secure the adoption of the plan in New York, where the abuses of the coroner system are notorious. He offered a resolution that the president appoint a committee of five to urge upon the legislature the need of change and to show the value of the new system. The resolution was enthusiastically received and passed unanimously.

The president appointed on this committee Drs. T. G. Hubbard and M. White, of New Haven, G. L. Porter, of Bridgeport, D. A. Cleveland, of Middletown, and C. W. Chamberlain, of Hartford.

#### PROPRIETARY REMEDIES.

PROF. C. A. LINDSLEY then presented a very forcible plea against the use of proprietary remedies as demoralizing to the profession and detrimental to the people. All proprietary remedies were condemned indiscriminately, but especial reference was had to such as iodia, bromidia, iodo-bromide of calcium, compound petroleum emulsion, ingluvin, essence of life, and the host of them, advertised to the *profession exclusively*, and used with the same blind faith and for precisely the same reason as the people use hop bitters or St. Jacob's oil. This destroys scientific nomenclature, renders useless scientific pharmacy, and if indulged in renders the physician unfit to combine remedies, or at least makes his knowledge useless. It renders the distinction between scientific medicine and quackery very slight, and enables the druggist to dispense remedies as well as the doctor, a boy that can read being all the skilled assistance needed. It encourages indiscriminate dosing among the people, already too prone to indulge the habit. As each circular contains a list of diseases and their symptoms, for which the compound is a *sure cure*, any one can readily fit symptoms and disease to the remedy and buy his bottles without the aid of the scientific physician, especially if his disease be of a chronic nature and he has had it named. Moreover, he can advise all his friends to go and do likewise. The complicated formulas are made so to avoid detection of fraud and adulteration, and for alleged improvements in preparation; the formula is changed frequently, so that if analysis, as has been the case often, shows difference in the real from the alleged composition, the improved formula affords a convenient loophole for escape. Some preparations must be made in bulk, and out of this has grown the host of curiously-named remedies that threatens to engulf us unless a determined stand is made. The essay was long and a scathing rebuke against a rapidly-growing evil. It was received with prolonged applause, and it was voted that the secretary be allowed to have the essay published else-

where than in the Transactions, and, if possible, to have it sent to every druggist in the State.

In the debate that followed a protest was made against the indiscriminate exclusion of trade-mark remedies, several of which had proved of value, and must of necessity be manufactured on a large scale and by expensive apparatus. The various malt preparations, and maltine especially, were instanced. While there was a general acceptance of the condemnation of all complicated formulae and all preparations that any druggist moderately well equipped could readily make, there was a disposition to allow the use of elegant pharmaceutical preparations, even if protected by a trade-mark.

#### ETHICS OF THE NEW YORK STATE MEDICAL SOCIETY.

Dr. BEACH then read a Protest against the Recent Action of the New York State Medical Society with regard to Consultations.

In accordance with the action on the previous day no discussion followed. The code is to be brought *pro forma* before the convention next year, in accordance with the recommendation in the address of the president to the Fellows, and all opinions can be aired then.

As it was very nearly time for dinner the other essays—one on Thomas's Operation by Prof. F. E. Beckwith, and one on Specialties in Medicine by Dr. Rufus Baker, of Middletown,—were read by title only, and, with half a dozen voluntary papers, referred to the Publication Committee. Much regret was expressed that there was not time for Professor Beckwith's paper, as many of the doctors in and near New Haven had waited especially to hear it, but the necessity of many to leave by the early train made delay out of the question.

The convention then adjourned to Redcliffe's, where the annual dinner was served, followed by exercises as interesting as any during the session, although the dinner itself was by no means an uninteresting feature. Professor Lindley of New Haven was master of ceremonies, and in his usual genial, kindly manner led the victims up to their fate as gently as the nature of the case would allow. President Porter, of Yale, Hon. E. J. Phelps and Professor Baldwin of the Law School, Professor Brewer of the Scientific School, and Professor Weir of the Art School each in turn contributed their crumbs to the intellectual feast. Drs. Hersey and Browning, of Rhode Island, did credit to their State and city, and Professors Carnatt and Silliman worthily represented Yale Medical School. The solid business men of the city were represented by Mr. George A. Butler, the banker, while his honor Mayor Robertson gave his countenance to the proceedings. Thus terminated one of the pleasantest conventions of this Society, which has taken a new lease of life, and with the infusion of new blood shows an increased vitality and energy.

#### PROCEEDINGS OF THE CONNECTICUT RIVER VALLEY MEDICAL ASSOCIATION.

By A. F. RICHARDSON, M. D., WALPOLE, N. H., CORRESPONDING SECRETARY.

MAY 3, 1882. The Connecticut River Valley Medical Association held its annual meeting at Towne's Hotel, Bellows Falls, Vt. Dr. PIERCE, the president, in the chair. Thirty members present.

The subject of the president's annual address was

#### MALARIA.

Its favorite haunts were mentioned. Its recent appearance in New England was noted, especially in the southern portion of the valley of the Connecticut River. Why it should appear in this region heretofore free from it was not determined. Improvement in sanitary conditions, proper drainage, and the cultivation of the soil were believed to be prophylactic.

#### ANTIPYRETICS.

Dr. R. CRANE read a paper on antipyretics, dividing them into two classes, namely: those that prevent the abnormal production of heat, and those agents that abstract it when already formed. To the first class belong quinine, salicylic acid, carbolic acid, arterial sedatives, venesection, etc.; while to the second belong chiefly the direct application of cold.

The discussion following these two papers was mostly upon the use of quinine.

Dr. FROST thought large doses were not very much used in this country. Would give from twenty-five to forty grains as an antipyretic.

Dr. CRANE asked what temperature would demand such a dose. Dr. FROST replied 105° F.

Dr. GRAY had given eighty grains at a dose. Dr. CRANE had given sixty grains thirty years ago in malarial fever with good results.

Dr. E. R. CAMPBELL thought quinine in large doses was not indicated unless the pyrexia was great, and never when the temperature is below 103° F.

Dr. BRYANT does not give large doses with much confidence in every case of high temperature.

Dr. STAFFORD sees very little difference in cases now and twenty-five years ago resulting from treatment.

Dr. WATSON has given from thirty to fifty grains of quinine in typhoid and puerperal fevers with satisfaction. Would not repeat such doses every day.

Dr. DRAPER thinks patients with typhoid fever do as well without quinine as with it.

Dr. HOLTON thinks smaller doses are required in New England than in more malarial districts. He doubts the wisdom of giving large doses. He explained its action on the sympathetic nerve. Said there is less urea formed when quinine is used largely. Has recently used baptisia tinctoria as an antipyretic with pleasing results, as well as salicylic acid.

Dr. SMITH spoke of the dangers of enormous doses of quinine as prescribed at the present time by some physicians, and referred to an article written by William O. Baldwin, of Alabama. The toxic effects are continued restlessness with a profound state of insomnia, attended with mental delusions, resulting in a state similar to delirium tremens, and ending in death. Quinine is sometimes a nerve irritant, and he deplored the fashion which now prevails of giving large doses. This fashion prevailed thirty or forty years ago to a fearful extent among Southern physicians. This is often the cause of fatal injury when its agency is not suspected. The restlessness seen after large doses, the tremors, slow and irregular breathing, dilatation of the pupils, even blindness and convulsions, bespeak most pointedly and conclusively the poisonous operation of the quinine instead of the ravages of the disease which it is expected to control. Several cases of this kind are recorded as having occurred under the observation of

M. Trousseau and others, which is convincing that quinine in large and repeated doses is capable of producing dangerous results. The toxic effects have been manifested by numerous experiments upon dogs. The amaurosis may be permanent, or vision may be partially or wholly regained after a time, where death does not ensue. The most permanent, characteristic post mortem appearances have been found to be dark, fluid, and defibrinated condition of the blood, and a congested state of the parenchyma of the lungs. The vessels of the membranes of the brain and spinal cord are engorged, as also are the liver and kidneys. It appears to resemble in its action narcotic poisons, though it does not possess hypnotic properties. It operates principally upon the nervous system, as shown by the derangements of the senses of vision and hearing and of the respiratory functions, as well as in the general muscular agitation, convulsions, etc. The speaker believed the enormous doses dangerous and unnecessary, and thought there should be more caution in the indiscriminate, not to say reckless, use of this valuable remedy.

DR. FROST, being called upon, made a few remarks on

#### THE CAUSE OF TYPHOID FEVER.

To the question: Is filth the cause? he replied, typhoid fever was not so frequent in locations of filth in crowded tenements in cities, as among the hills and farms in the country, when frequently it cannot be traced to filth or to previous cases. In trying to account for it on the germ theory great difficulties were met with.

We cannot see or always prove them to exist as a result of some previous case, yet he liked that theory best. The elements may come from inferior animals or from plants. May not come from previous case direct, but through some intermediate measure. The condition of soil and water and air may propagate the disease. The germ may have its origin in decomposition of animal and vegetable matter dependent on certain conditions of heat and moisture. Cold weather generally puts an end to its spread. If local conditions are sufficient to produce it, as often seems to be the case, then the sanitarian's influence is in demand.

DR. PORTER reported a case of

#### AN ACRANIA MONSTER.

The child was born dead, the labor being natural. Body very large. The head small compared with the rest of the body. The face had an idiotic expression with bulging of the eyelids. The neck thick, heavy, and short. The whole upper surface of the head was a brain-like tumor covered by membranes. There was absence of most of the frontal bone, both parietal bones, the squamous portion of the temporal bone, and all the portion of the occipital bone above the protuberance. He referred to a parallel case fully reported by Dr. Emil Mayer in *American Journal of Medical Sciences*, page 118, January number, 1882.

DR. MORGAN reported a case of an ancephalia where the quantity of amniotic fluid was about two gallons.

DR. BRYANT mentioned a case of encephalocoele where the bones were wanting on the top of the head. Child lived twenty-four hours.

In this connection DR. CRANE remarked that children with small anterior fontanelles were apt to die young.

#### PELVIC HEMATOCELE.

DR. CARL A. ALLEN read a paper entitled pelvic hematocoele, and reported a case as follows:—

Mrs. Nellie F., school teacher, aged twenty-two, married, previous health good; after having complained for several days of not feeling well, was taken suddenly with severe pain in the pelvic region, on the afternoon of Wednesday February 1, 1882, two weeks after normal menstruation.

Having occasionally suffered from dysmenorrhoea, she concluded her "period" was cut short, and upon trying the usual domestic remedies some relief was experienced and a comfortable night passed.

The next morning a slight show was noticed, pain nearly gone, and, after remarking that she was all right, assisted in the usual household duties.

About noon of the same day, Thursday, she was again taken with pain in the left inguinal region, so severe as to render movement impossible, and she was put to bed. The pain subsided somewhat during the night, and the next morning she was reported more comfortable, but during the afternoon became worse and I was summoned.

I found the patient in bed, lying upon her back, knees drawn up, with pale and distressed countenance and complaining of nausea, and pain in stomach and pelvic region. The pulse about 100, fair strength; temperature two degrees higher than normal; no flowing; some tympanitis and tenderness, acute over left ovary. I prescribed a full opiate, ordered perfect rest, and opiate to be repeated in diminished doses every two hours until pain was relieved.

Saw patient the next morning, Saturday, and found she had passed a comfortable night with little pain, had a better countenance, less fever, and much less tenderness on pressure. Ordered opiates continued with cooling drinks and a mild, liquid diet. She remained comfortable throughout the day without much change until seven o'clock that evening when she suddenly complained of faintness, moaned as if in great pain, and went into a condition of collapse, in which I found her four hours later, on my arrival.

The pulse was scarcely perceptible at the wrist, marked pallor, extremities cold, and mental faculties in abeyance. Alcoholic and ammoniacal stimulants were given hypodermically, and by the stomach when possible; friction and heat applied to the extremities, and all the usual methods of bringing on reaction were faithfully persevered in.

After a time the pulse improved a little and she was able to answer some questions, and called for water almost incessantly. This apparent improvement lasted until about five o'clock Sunday morning, when she sunk rapidly and died at seven, just twelve hours after the first symptoms of shock.

DR. SANBORN, of Newport, was called in consultation, who agreed at once in my diagnosis of intra-peritoneal hemorrhage.

Autopsy thirty-two hours after death. On opening the abdominal cavity immense blood-clots were found, together with three or four pints of bloody serum.

The left ovary was a unilocular cyst about the size of a large hen's egg; the peritoneum covering the ovary, uterine ligaments, Fallopian tube, and brim of the pelvis were reddened by inflammation; the utero-ovarian blood-vessels were all enlarged, and in the ovarian vein in its course along the Fallopian tube, about two inches from its free extremity, was a rupture

large enough to admit a No. 10 catheter. The appearance of the coats of the ruptured blood-vessel led me to believe that a small cyst had developed at that point.

The right ovary contained more than twenty cysts, varying in size from a hemp seed to a small marble.

The uterus was normal in every respect and unimpregnated; the other pelvic and abdominal organs were healthy.

# EIGHTH ANNUAL MEETING OF THE AMERICAN NEUROLOGICAL ASSOCIATION.

HELD AT THE HALL OF THE ACADEMY OF MEDICINE, NEW YORK, JUNE 21, 22, AND 23.

SPECIAL REPORT FOR THE JOURNAL.

FIRST DAY, WEDNESDAY, JUNE 21.

On the first day there were two sessions, one in the afternoon and one in the evening. Among the papers read was one by Dr. William A. Hammond, president of the Association, on The So-called Family or Hereditary Form of Locomotor Ataxia. The writer first reviewed the symptoms and post-mortem examinations of the six cases upon which the original paper of Friederich of Heidelberg, on degenerative atrophy of the posterior columns of the spinal cord, published twenty years ago, was based. The first and second cases were brother and sister; the third, fourth, and fifth cases were sisters, and the sixth case was brother to these. His conclusion in regard to them was, that no neurologist of the present day, after a careful examination, would regard them as instances of locomotor ataxia. That they had been so regarded by competent authorities could only be explained upon the hypothesis that they had not been thoroughly studied, and that one writer had accepted the statements of another without referring to the original source. Thus, it was found in every case that the first symptom observed was weakness of the lower extremities, and that this gradually extended so as to involve the upper extremities. Here was, therefore, a true paralysis. It was found also that in no single case, at any period of its course, was there the slightest loss of cutaneous or muscular sensibility. In no case was there any derangement of the excretion of urine. In addition, when the lancinating pains were not invariably met with,—in fact, being very rare,—when there was no swaying of the body on closure of the eyes, when the inevitable result was that the morbid process extended upward, that the speech became affected, that the pupils were always equal, not contracted, and reacting perfectly to light, he thought there was an *ensemble* of symptoms which were absolutely incompatible with the idea of degeneration in any part of the posterior columns of the cord. Then, having alluded to three other cases described afterwards by Friederich, and one by Carre, in which all the prominent symptoms met with by the former were present, and of which it was stated that eight members (seven of whom were brothers and sisters) of the patient's family were similarly affected, Dr. Hammond passed on to the consideration of the instances similar to those reported by Friederich which had come under his own observation, as well as of those reported to him by Dr. E. G. Coleman, of Hollywood, Arkansas, and three reported to him by Dr. W. C. Warren, of Holly Springs, Mississippi.

We had here, he said, after giving the details of these, a total of twenty-two cases, of almost identical morbid physiognomy,—the disease beginning with weakness in the lower extremities, and then gradually advancing upward, with nearly complete freedom from pains, and in none of which were there the peculiar sharp, lancinating, electric-like pains met with in locomotor ataxia. In all the cases the pupils, where any mention was made of their condition, were equal, and of normal size and reaction. On the other hand, he could not recall, in the whole range of his experience, a single case of real locomotor ataxia in which there had not been some aberration from their normal state or functions. In all these cases the speech was involved in a peculiar manner, while in locomotor ataxia speech-derangement was exceedingly rare, and he had never seen a case in which it existed. In no one of these cases was there the slightest loss of cutaneous sensibility, and he believed locomotor ataxia to be impossible without anesthesia at some time or other of its course. In no case was there any derangement of the functions of the bladder; while in locomotor ataxia there was almost invariably impairment of the contractile power of the bladder, or of its sphincter, or of both. In no case was the feeling of constriction around the body experienced; while, as was well known, this was a common symptom of locomotor ataxia. In all the cases there was a gradual advance of the disease upward, so far, at least, as the symptoms were concerned; while such a uniform progression was not met with in locomotor ataxia. The gait of the persons affected who came under Dr. Hammond's observation was altogether different from that of ataxics. Instead of being put down with a jerk, and in two distinct movements, the feet were moved exactly like those of a drunken man when attempting to walk. The fact of there having been well-marked incoordination in several of the cases was not in itself in the slightest degree pathognomonic of locomotor ataxia; and, finally, locomotor ataxia was very rare in children, whereas all the cases described began in persons under adult age. For these reasons he could not consider the cases in question to be instances of locomotor ataxia, or sclerosis of the columns of Burdach. Doubtless in some of them these columns were involved to some extent, but it was in all such clearly a secondary phenomenon.

In the absence of post-mortem evidence, he said he hesitated to assign a locality to the lesion which constituted the pathological entity of the cases referred to. He was inclined to think, however, that its primary seat was the medulla oblongata. He based this opinion mainly on a careful consideration of the symptoms, though it was worth while to note that in one of Friederich's cases this organ was found to be the seat of extensive and evidently slowly advancing disease. At the same time he was disposed to think that the cerebellum was also involved in the morbid process. The vertigo exhibited by many of the patients, the character of the gait, the pain in the back of the head, which existed in several of the cases, all pointed to the presence of cerebellar disease. That the spinal cord was also implicated was beyond question, but the lesion was certainly not limited to the posterior columns, which were not even its chief seat. Indeed, the whole cord, including the membranes, was undoubtedly involved. If it were objected that, in accordance with the observations of Turck, secondary degenerations ascend in the posterior columns and descend in the an-



tero-lateral, he could cite the experiments of Westphal, which established the fact that the morbid process extends in the cord in both directions and along the course of the antero-lateral and posterior columns. He thought, therefore, that the affection under notice must be regarded as a distinct form of disease, probably originating in the cerebellum and medulla oblongata, and generally extending to the spinal cord, which was, consequently, its secondary seat.

Other papers read on the first day were: The Myriography of Nerve Degeneration in Animals and in Man, by Dr. R. W. Amidon, of New York; The Symptoms of Insanity and the Diagnosis of Insanity, by Dr. George M. Beard, of New York; Contribution to the Study of Central Myelitis, by Dr. James P. Putnam, of Boston; Note on Bromide Mania, and the Supposed Compensatory Action of Epileptic Attacks, by Dr. H. M. Bannister, of Chicago; A Contribution to the Clinical Study of Arsenical Myelitis, by Dr. E. C. Seguin, of New York; and Lead Paralysis, by Dr. S. G. Webber, of Boston.

(To be continued.)

## Medical and Surgical Journal.

THURSDAY, JUNE 29, 1882.

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NO. 4 PARK STREET, BOSTON, MASS.

### ANOTHER INVESTIGATION INTO THE NATURE OF THE MALARIAL POISON.

As a result of a semi-official conference, held in Boston about six weeks since, of representatives of the National Board of Health and of several State Boards of Health, the States of New York, Connecticut, Rhode Island, and Massachusetts have undertaken, through their Boards of Health, to coöperate with the National Board in furthering certain investigations which the last has determined to prosecute upon the nature of the malarial poison. The National Board of Health desires more especially to attempt to determine the correctness of the observations published in Europe within the last two years with regard to the existence of a definite germ or parasite connected with the disease.

It is proposed to repeat the experiments of Klebs and Tommasi-Crudelli, as well as those of Sternberg, as to the effects upon animals of materials collected from or near malarial localities, and to compare these with similar material collected from localities as yet free from malarial diseases. It is also proposed to investigate blood, with a view to prove or disprove the results announced by Eklund and Saveran.

The laboratory work of the investigation, including culture experiments and experiments upon animals, will be undertaken by the National Board, and will, certainly for the present, be carried on by W. F.

Whitney, M. D., in the laboratory, at Boston, of Dr. W. S. Bigelow.

The State Boards agree to furnish the material for this research, and to collect information in their respective States as to the conditions appearing to influence local outbreaks of the disease. Circulars have been or are being issued by the several State Boards in furtherance of these objects.

In that of the Massachusetts Board an especial desire is expressed that early notice be at once given it of the appearance of malarial fever in districts where it was previously unknown. Answers to the following questions are also earnestly requested from correspondents and medical men in general:—

(1.) Has malarial fever in any of its forms prevailed in your town or vicinity during the past year, or does it now prevail?

(2.) If so, please state—

(a.) The number of cases of which you are cognizant.

(b.) At what season of the year the disease has prevailed.

(c.) Whether the persons so affected reside near any pond, reservoir, or stream, and if so, how near and in what direction?

(d.) How many of the persons included in answers to questions a, b, and c have had malarial fever in previous years, and how many have been exposed to malaria in other places?

(e.) Can the disease in any case be traced to the use of drinking-water from malarial districts?

(3.) Has malarial fever been known in your vicinity in previous years?

(4.) Did it exist the year previous to its appearance in your town in any town nearly adjacent. If so, please state where, and how far away?

(5.) If malarial fever has ceased to prevail during this or any previous year, state any causes which may appear to you sufficient to explain this relief.

(6.) What other diseases have been endemic or epidemic in the town at any time during the year?

It is also desired that the information sought in the circular should be furnished at any subsequent time, if the present condition with regard to the existence or non-appearance of malarial fever should change. It is not intended by either the National Board or the State Boards to publish at present the localities where malarial fever exists, consequently those having information to give need not be deterred from communicating with their State Boards of Health from fear of various social complications which might possibly suggest themselves.

This subject is one of the utmost importance, as the JOURNAL has for some time back been active in pointing out to the three New England States interested in it, as well as to New York, and we sincerely hope that the physicians who may have information of value to give will be prompt in doing so.

### ASSOCIATION AND SOCIETY REPORTS.

THE pages of the JOURNAL are crowded again this week with the reports of annual and stated meetings of societies and associations which the season of the year brings with it.

Last week were presented the reports of the general meeting of the American Medical Association, of the Massachusetts Medical Society, of delegates from its boards of censors for the various district societies, and of the American Laryngological Society.

This week we continue the account of the reunion at St. Paul with a report of the various sections, the annual meeting of the Connecticut Medical Society is completed, and reports of the Neurological Association meeting, of that of the Connecticut River Valley Society, and of the New York Academy of Medicine are given.

It has been the aim of the JOURNAL to give all these reports as promptly as full justice to the medical bodies involved would permit, and it is thought that the result obtained can scarcely fail to meet with the approbation of its readers.

In the mass of material given during the two weeks will be found some meat for strong men and some milk for babes, but a mixed diet is doubtless best for the average stomach.

### MEDICAL NOTES.

#### NEW YORK.

—The health officer of the port has issued a notice to the effect that on and after June 15th sanitary examinations would be made in the lower bay of all vessels arriving from ports in the West Indies, Bahamas, Bermuda, Mexico, the Spanish Main, the east coast of South America, and the west coast of Africa; also of all vessels from ports where cholera or yellow fever prevailed at the time of departure, or upon which cases of cholera or yellow fever have occurred during the passage. Pilots are also directed not to leave vessels until boarded by the health officer, and to notify masters of vessels that all communication with vessels under or subject to quarantine is strictly interdicted.

—According to advance sheets of the census of 1880 received by Dr. Nagle, of the Bureau of Vital Statistics, 346 of the 1,206,299 inhabitants of the city were over ninety years of age when the census was taken. Of these 66 were native and of the white race. The oldest native white man was ninety-eight; while there were three native white women of that age, two who were ninety-nine, and one who claimed to be over one hundred. Of the white foreign population nineteen claimed to be over one hundred. The oldest made negro was ninety-four, but nine negro women claimed to be one hundred or over. There were 167,220 children under five years of age.

—During the week ending June 17th the free baths were used by 102,020 persons.

—Recent investigations have shown that for some time past there has existed in an institution known as "The Old Gentlemen's Unsectarian Home and Asylum and Sanitarium for Children," under the management of a certain Mr. Ramsear, a state of affairs not unlike that which was found at the "Shepherd's Fold" at the time of the prosecution of the Rev. Mr. Cowley. There has been an extremely large death-rate among the children living there, and one of the inmates, by the name of Bessie Slocum, having died under circumstances calling for a coroner's inquest, the coroner's jury rendered a verdict which is in part as follows: "In regard to the death of Bessie Slocum, we find from the evidence that the said Bessie Slocum

died of pneumonia. We also find that she did not have proper and timely assistance of a physician through the neglect of the management of the institution. As to the deaths of the other children, and the causes which led to their deaths, we find that the general uncleanness of the institution, the presence of foul and impure air, the want of sufficient and experienced nurses, and the gross negligence and incompetency of the management contributed to the deaths of these children. As to who is responsible for the deaths, we believe, from the alarming death-rate recorded, according to the testimony given, the cause was chiefly from the neglect and incompetency of the general management and service of the institution." In consequence of the above verdict Mr. Ramsear has been held in five thousand dollars bail to await the action of the grand jury. At the latest advices he was still in the Tombs, although the amount of the bail had been reduced to two thousand dollars.

—Dr. George M. Tuttle, physician-in-chief of the Emigrant Hospital on Ward's Island, has written a letter to Secretary Jackson, of the Emigration Commission, concerning the condition of the immigrants who arrived on the royal Netherlands steamship *Nemesis*, from Rotterdam, on May 28th, in which he says, "The condition of the children received from the ship was wretched, five of them dying almost immediately after admission, and many others being in a weak and dangerous condition. The passengers are making complaints against those in charge of them on the trip, and they all testify that for several days the water furnished to drink was salt and bad, and that sickness immediately broke out among the children, and was very fatal, some twelve or thirteen dying on board. The sickness was chiefly measles and diarrhoea. The passengers also complain of neglect on the part of the ship's surgeon. I think that, as a whole, we have not received a ship's load in such a wretched and bad condition." In consequence the Emigration Commissioners have made an official inquiry, and the sworn statements of the sufferers fully attest the truth of the above charges, as well as of the fact that there was no separation of the sexes in the lower steerage. It was also ascertained that there have been at least twenty deaths among the passengers of the *Nemesis*. In his testimony before the commissioners, Dr. Tuttle stated that the children of the passengers were almost uniformly wasted and emaciated, with almost constant discharges from the bowels, and that two of them were little more than skeletons.

—Commissioner Thompson, of the Department of Public Works, in his last quarterly report to the mayor, states that the storage reservoirs and lakes are filled to high-water mark, on account of the abundant supply of rain, and that the average surplus of water running over the Croton dam into the Hudson River during the three months embraced in the report was 610,000,000 gallons a day; a quantity sufficient to give an additional daily supply of 200,000,000 gallons for 188 days, if there were reservoir capacity to retain the water and aqueduct capacity to convey it to the city. In view of this state of affairs the commission-

er goes on to say: "The responsibility of maintaining an adequate supply of water for the people of this city imposes upon me the duty of presenting to you (the mayor) and the people again and again the necessity of increasing the supply. With the rapid growth of the city in buildings and population, and in the various ways and channels of water consumption, the situation becomes more grave, and the consequences of delay become more alarming from day to day. It seems impossible that at this date any intelligent and unprejudiced individual who has given the matter even the slightest attention, can doubt the fact that the present supply, limited as it is by the capacity of our single aqueduct, will in a very short time be utterly inadequate for the support of life and health, the protection of property, and the necessities of commerce and manufactures." After referring to the various expedients which have so far enabled the department to maintain a moderately fair supply, he concludes as follows: "But the extreme limit of the capacity of these expedients to avert danger and injury from inadequate supply of water will be reached by the time that a new aqueduct and accessories could be completed, even if its construction were authorized and commenced to-morrow. It is no exaggeration to say that further dalliance with this great question and further delay in providing the means for a satisfactory solution of it must be characterized as criminal carelessness, perversity, or ignorance." Unfortunately, since Governor Cornell vetoed the bill providing for the construction of another aqueduct last year no effort seems to have been made to secure this much-needed additional water-supply for the city.

—Dr. T. Gaillard Thomas, much to the gratification of the friends of the school, has been persuaded to accept his former position of clinical professor of diseases of women in the College of Physicians and Surgeons. When Dr. Mundé was appointed lecturer on this branch, after Dr. Thomas's resignation, it was only for one year, and that time has now expired.

—The sixteenth anniversary of the Home for Incurables, situated at Fordham, was held at the institution on the 12th of May, when the usual reports were read. That of the superintendent, Dr. J. C. Jones, showed that during the year there had been 151 inmates, of whom 35 had died. Of the latter six had been in the Home less than a week. The daily average of patients had been 92, and the average term of residence 220 days. The number in the institution at the close of the year was 93. The board of managers reported the completion during the year of a cottage erected especially for patients suffering from cancer and other offensive diseases. The largest contribution to the funds of the Home during the year has been the sum of \$25,000 from Mr. Robert J. Livingston for the permanent endowment of two beds.

—Mr. Charles G. Francklyn, in whose sea-shore cottage President Garfield died, has just founded and endowed a sanitarium for poor children at Elberon, in memory of his young daughter, Gladys Francklyn, who died recently in Paris.

## Disceplamp.

JAMES MORISON, M. D.

On the 31st day of May, 1882, Dr. Morison was attacked with the alarming symptoms which in three days terminated his life. One month before that date, he certainly would not have been selected by those familiar with him as one likely so soon to succumb to any latent, insidious disease. His animated and expressive countenance, stalwart form and elastic step, all gave hope and promise of continued health and vigor, and of a life which would probably be protracted through many years of usefulness and happiness.

Dr. Morison was born in Peterborough, N. H., June 20, 1818. He was one of several brothers, all distinguished for energy of character and intellectual ability. Like many others in early life he had struggles to make to overcome obstacles in the way of obtaining that on which he had set his heart—a liberal education. Much to his honor and credit, his efforts resulted in success. In 1841 he graduated from Harvard University. In 1846 he received his medical diploma from the University of Maryland.

The first five years of his professional life he spent as resident physician of the Baltimore Infirmary. He then went to San Francisco, whence, after practicing his profession about four years, he sailed for Europe, where he stayed two years, passing most of his time in Paris attending medical lectures and hospital clinics. While abroad he made the acquaintance of many distinguished physicians, among whom was Sir James Y. Simpson, who showed him marked attention and honored him by an invitation to ride with him and visit his patients.

Dr. Morison did not return to San Francisco till 1858. He then seems to have entered upon the most active and important period of his life. His medical practice became extensive. He was much interested in the organization of the first medical school on the Pacific Coast, and assisted largely in bringing about that result. In this school he was appointed Professor of the Theory and Practice of Medicine and of Pathology. He held other and important positions, being elected trustee of the University of the Pacific, and also vice-president of the California Medical Society.

Dr. Morison continued in practice in California and discharging the various trusts committed to his care, until 1866, when he left that State and came East, influenced in the determination to do so by considerations of a family nature. Just thirteen years ago he came to Quincy, Mass., where he established himself in practice. He came with the prestige of an honored name, and the achievement of distinction and success in his profession, and was greeted by his brother physicians as a valuable accession to their ranks. Possessed of a ripe experience, attainments of a high order already recognized in other situations, as was to be expected, he soon secured a fair share of the business of the neighborhood. His agreeable and modest demeanor, his dignified presence, added to the reputation gained in other fields of service, contributed to win the confidence of patients.

On the change of our State coroner system, about five years ago, Dr. Morison was appointed Medical Examiner for the district in which he lived, an office for which, by his good sense and sound judgment, he was well

fitted. He continued in the satisfactory discharge of its duties to the time of his death. To some Dr. Morison might have seemed timid in his grappling with disease, and over cautious in his prescriptions for its relief and cure. But his timidity was not that of ignorance or of lack of appreciation of the gravity of symptoms; rather a true conservatism born of much experience. By nice discrimination and careful observation he had become enabled to determine with much accuracy when nature was equal to the demands put upon her, and when she called for the aid of art.

Dr. Morison was a man of extensive general information and of scholarly acquirements. He was fond of books, and was accumulating them constantly. His library was large and varied, containing many choice and valuable volumes. Nor did his books rest on their shelves to be looked at and admired, for he was a great reader, and his reading had taken a wide range. When finally leaving San Francisco, Dr. Morison disposed of his medical library, and replaced it when resuming practice in Quincy by the purchase of a new one, comprising the best standard and modern authors. His collection of medical and surgical works is particularly valuable.

It would be to omit an important trait in Dr. Morison's character if I failed to speak of his interest in everything pertaining to his profession. No member of any society or association to which he belonged was more prompt in attendance on its meetings, or interested in its proceedings. He was also ever ready to contribute his share to render the meetings interesting and profitable.

He was often appointed delegate to the meetings of the American Medical Association, an appointment which he usually accepted.

The meetings of the Massachusetts Medical Society he almost invariably attended. So also our District Medical Society meetings found in him a constant attendant. In appreciation of this interest which he so steadily manifested, I am glad to be able to state that at the last annual meeting of the Norfolk District Medical Society he was unanimously elected its president.

As a member of the Dorchester Medical Club those associated with him will not forget the warm interest he felt in its monthly gatherings. He once remarked to the writer of this notice that he seldom went from one of them without having learned something of value.

Dr. Morison made no pretensions to superior wisdom, or vaunted any superior skill. He indulged in no feelings of rivalry or of jealousy towards his brother practitioners. While his conduct towards them was always marked by the utmost fairness and courtesy, he was, it must be allowed, sensitive to any violation of professional honor or etiquette on their part.

He was simple and temperate in his mode of living. He was kindly and amiable in his private life, and in all his social and business relations. He enjoyed in a high degree the esteem and respect of his neighbors and townsmen.

He was especially tender in his sympathies. He ministered often and faithfully to the suffering poor, where he well knew gratitude could be the only return made. He leaves behind, of those who have been his patients, many to lament his death.

Such a life as his was valuable to the profession of which he was a member, doubly valuable to the community in which he lived and which he served.

## REGULATION OF THE PRACTICE OF MEDICINE IN WISCONSIN.

ACCORDING to a correspondent from Wisconsin the laws now in force pertaining to the practice of medicine, surgery, etc., in that State are as follows: Section 1420, of the Revised Statutes of 1878, reads as follows:—

No practicing physician or surgeon shall write or cause to be written any prescription, or recipe, in any characters, figures, or cipher, other than in the English or Latin language, generally in use among medical practitioners; and for every violation hereof the offender shall forfeit not less than five nor more than twenty-five dollars.

Section 1436, of the Revised Statutes of 1878, reads as follows:—

No person practicing physic or surgery, or both, shall have the right to collect in any action in any court, fees or compensation for the performance of any medical or surgical service, or to testify in a professional capacity as a physician or surgeon in any case, unless he shall have received a diploma from some incorporated medical society or college, or shall be a member of the State or some county medical society legally organized in this State.

Section 2525, of the Revised Statutes of 1878, reads as follows:—

Physicians and surgeons are exempted from jury duty.

Section 4075, of the Revised Statutes of 1878, reads as follows:—

No person duly authorized to practice physic or surgery shall be compelled to disclose any information which he may have acquired in attending any patient in a professional character, and which information was necessary to enable him to prescribe for such patient as a physician, or to do any act for him as a surgeon.

Section 1603, of the Revised Statutes of 1878, reads as follows:—

Any physician or other person, while in a state of intoxication, who shall prescribe any poison, drug, or medicine to [for] another person, shall be punished by imprisonment in the county jail not more than one year, or by fine not exceeding five hundred dollars.

Chapter 256, of the laws of 1881 (except Section 4, now repealed), reads as follows:—

Section 1. No person practicing physic or surgery, or both, who is prohibited by Section 1436, of the Revised Statutes of Wisconsin, 1878, from testifying in a professional capacity, as a physician or surgeon, in any case, shall assume the title of doctor, physician, or surgeon, by means of any abbreviation, or by the use of any word or words, letters of the alphabet, of the English or any other language, or any device of whatsoever kind, printed, written, or painted, or exhibited in any advertisement, circular, handbill, letter, or other instrument, nor on any card, sign, door, or place whatsoever. Any person violating any provision of this act, shall be deemed guilty of a misdemeanor, and shall, on conviction thereof, be punished by a fine not less than twenty-five dollars, nor more than one hundred dollars, or by imprisonment in the county jail not less than ten days nor more than sixty days for each offense.

Section 2. Upon complaint made in writing, under oath, before any magistrate, or justice of the peace, charging the commission of an offense against the provisions

of this act in his county, it shall be the duty of the district attorney to prosecute the offender, and in all such prosecutions the burden of proof shall be upon the defendant to establish his right to use such title, under the provisions of this act.

Section 3. Any person prohibited by Section 1, of this act, from assuming the title of doctor, physician, or surgeon, who shall practice or pretend to practice, physic or surgery, or both, shall not be exempted from any, but shall be liable to all, of the legal penalties and

liabilities of malpractice; and ignorance shall be no excuse for failing to perform, or for negligently or unskillfully performing, or attempting to perform, any of the duties required by law of practicing physicians or surgeons.

Chapter 256 is amended as follows: The provisions of the foregoing act shall not be so construed as to prevent students from practicing under the direction of a qualified preceptor, nor women practicing midwifery, nor veterinary practitioners in their special departments.

## REPORTED MORTALITY FOR THE WEEK ENDING JUNE 17, 1882.

| Cities.                         | Population by Census of 1880. | Reported Deaths in each. | Deaths under Five Years. | Percentage of Deaths from         |                |                       |                     |                |
|---------------------------------|-------------------------------|--------------------------|--------------------------|-----------------------------------|----------------|-----------------------|---------------------|----------------|
|                                 |                               |                          |                          | The Principal "Zymotic" Diseases. | Lung Diseases. | Diphtheria and Croup. | Diarrheal Diseases. | Scarlet Fever. |
| New York.....                   | 1,205,590                     | 608                      | 265                      | 26.63                             | 15.62          | 6.44                  | 3.78                | 5.10           |
| Philadelphia.....               | 846,984                       | 333                      | 108                      | 16.76                             | —              | 7.27                  | —                   | 3.33           |
| Brooklyn.....                   | 566,689                       | 218                      | 92                       | 21.07                             | 15.57          | 2.75                  | • 3.16              | 7.73           |
| Chicago.....                    | 503,304                       | —                        | —                        | —                                 | —              | —                     | —                   | —              |
| St. Louis.....                  | 362,535                       | 146                      | 56                       | 15.07                             | 14.38          | 6.85                  | 2.74                | 2.06           |
| Baltimore.....                  | 350,522                       | 172                      | 87                       | 27.31                             | 2.91           | 2.91                  | 13.36               | 4.45           |
| Cincinnati.....                 | 332,190                       | 164                      | 67                       | 29.88                             | 3.05           | 4.88                  | 10.36               | 1.83           |
| New Orleans.....                | 285,708                       | 137                      | —                        | 63.51                             | 10.22          | 2.92                  | —                   | 6.57           |
| District of Columbia.....       | 216,140                       | —                        | —                        | —                                 | —              | —                     | —                   | —              |
| Pittsburgh.....                 | 177,638                       | 77                       | 42                       | 18.77                             | 6.49           | 1.29                  | 14.27               | 1.29           |
| Buffalo.....                    | 156,381                       | 68                       | 37                       | 23.52                             | 19.11          | 8.82                  | 2.94                | 1.47           |
| Milwaukee.....                  | 155,137                       | 62                       | 32                       | 32.24                             | 6.45           | 1.61                  | 6.45                | 1.61           |
| Providence.....                 | 115,578                       | 49                       | 26                       | 26.54                             | 14.28          | 14.28                 | 2.04                | 2.04           |
| New Haven.....                  | 104,857                       | 37                       | 7                        | 16.21                             | 13.51          | —                     | 2.70                | —              |
| Charleston.....                 | 62,882                        | 24                       | 3                        | 8.32                              | 4.16           | —                     | —                   | 4.16           |
| Nashville.....                  | 49,939                        | 32                       | 16                       | 15.63                             | 6.25           | —                     | —                   | 6.25           |
| Lowell.....                     | 43,461                        | 29                       | 16                       | 41.28                             | 6.88           | —                     | —                   | 27.52          |
| Worcester.....                  | 59,485                        | 24                       | 8                        | 16.63                             | 12.47          | 4.15                  | 4.15                | —              |
| Cambridge.....                  | 58,295                        | 14                       | 4                        | 7.14                              | 14.28          | —                     | 7.14                | —              |
| Fall River.....                 | 52,740                        | 8                        | 3                        | —                                 | 12.50          | —                     | —                   | —              |
| Lawrence.....                   | 49,006                        | 18                       | 11                       | 11.11                             | 11.11          | —                     | —                   | 5.55           |
| Lynn.....                       | 39,178                        | 11                       | 3                        | 27.27                             | 9.09           | 9.09                  | —                   | —              |
| Springfield.....                | 38,284                        | 10                       | 2                        | —                                 | 20.00          | —                     | —                   | —              |
| Salem.....                      | 33,340                        | 13                       | 3                        | 15.38                             | —              | —                     | —                   | 7.69           |
| New Bedford.....                | 27,598                        | 8                        | 3                        | —                                 | —              | —                     | —                   | —              |
| Somerville.....                 | 26,875                        | 10                       | 1                        | 30.00                             | —              | —                     | 10.00               | —              |
| Holyoke.....                    | 24,985                        | 4                        | 1                        | —                                 | —              | —                     | —                   | —              |
| Chelsea.....                    | 21,851                        | 7                        | —                        | 42.84                             | —              | —                     | 14.28               | —              |
| Taunton.....                    | 21,785                        | 5                        | 3                        | 20.00                             | 20.00          | —                     | —                   | —              |
| Gloucester.....                 | 21,213                        | 3                        | —                        | —                                 | —              | —                     | —                   | —              |
| Haverhill.....                  | 19,329                        | 4                        | 1                        | —                                 | —              | —                     | —                   | —              |
| Newton.....                     | 18,475                        | 7                        | 2                        | —                                 | —              | —                     | —                   | —              |
| Brockton.....                   | 16,995                        | 7                        | —                        | 14.28                             | —              | —                     | —                   | —              |
| Newburyport.....                | 13,608                        | 7                        | 1                        | 28.56                             | —              | 28.56                 | —                   | —              |
| Fitchburg.....                  | 13,537                        | 5                        | 2                        | —                                 | —              | —                     | —                   | —              |
| Malden.....                     | 12,405                        | 3                        | —                        | —                                 | —              | —                     | —                   | —              |
| Twenty Massachusetts towns..... | 12,017                        | 6                        | 2                        | 33.33                             | —              | —                     | 16.66               | —              |
|                                 | 186,639                       | 42                       | 5                        | 9.52                              | 4.76           | 2.38                  | 2.38                | —              |

Deaths reported 2974 (no reports from Chicago and New Orleans); 909 under five years of age; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and fevers) 583, consumption 323, lung diseases 227, diphtheria and croup 118, diarrheal diseases 112, scarlet fever 90, measles 80, small-pox 53, whooping-cough 30, typhoid fever 29, cerebro-spinal meningitis 25, malarial fevers 23, puerperal fever 10, erysipelas eight, typhus fever five. From *measles*, Cincinnati 29, New York 21, Baltimore and Buffalo six each, Brooklyn four, St. Louis three, Boston and Milwaukee two each, Philadelphia, New Haven, and Lawrence one each. From *small-pox*, Cincinnati 37, New York six, Baltimore five, Philadelphia four, Pittsburgh one. From *whooping-cough*, New York 13, Baltimore six, Charleston three, Pittsburgh two, St. Louis, Baltimore, Cincinnati, Providence, and Nashville one each. From *typhoid fever*, Philadelphia nine, Baltimore four, New York, Boston, and Cincinnati two each, St. Louis, Buffalo, Milwaukee, Providence, Lowell, Springfield, New Bedford, Holyoke, Chelsea, and Malden one each.

From *cerebro-spinal meningitis*, New York nine, Buffalo five, Baltimore and Providence two each, Philadelphia, St. Louis, Lowell, Fall River, Lawrence, Springfield, and New Bedford one each. From *malarial fevers*, New York nine, Brooklyn six, St. Louis three, Buffalo two, Baltimore, District of Columbia, and Chicago one each. From *puerperal fever*, New York, Baltimore, and Cincinnati two each, Boston, St. Louis, Milwaukee, and Holyoke one each. From *erysipelas*, New York and Philadelphia three each, St. Louis, Providence, and Newton one each. From *typhus fever*, New York four, and Philadelphia one.

Ninety-seven cases of small-pox were reported in Cincinnati, Baltimore 21, Pittsburgh five, Lawrence three, Buffalo two; diphtheria 30, scarlet fever 13, typhoid fever two, in Boston; scarlet fever four, and diphtheria three, in Milwaukee.

In 42 cities and towns of Massachusetts, with a population of 1,130,175 (population of the State 1,783,086), the total death-rate for the week was 16.65 against 17.84 and 16.68 for the previous two weeks.

For the week ending May 27th, in 173 German cities and

towns, with an estimated population of 8,523,578, the death-rate was 27.1. Deaths reported 4373; under five 2128; pulmonary consumption 652, acute diseases of the respiratory organs 572, diarrhoeal diseases 177, diphtheria and croup 152, scarlet fever 90, whooping-cough 60, typhoid fever 36, measles and rubella 28, malarial fever 24, small-pox (Benken three), Koldenz two, Königsberg, Glanahan, and Strasburg each one, eight, typhus fever (Königsberg three, Danzig two, Benthien, and Hamburg each one) seven. The death-rates ranged from 13.1 in Metz to 45.9 in Chemnitz; Königsberg 29.8; Breslau 35.4; Munich 34.2; Dresden 22.4; Berlin 25.2; Hamburg 25.3; Cologne 25.2; Frankfort a. M. 22.6; Strasburg 28.8.

In the 28 English towns, with an estimated population of 8,469,571, for the week ending June 3d, the death-rate was 19.9. Deaths reported 2337; acute diseases of the respiratory organs (London) 222, whooping-cough 156, measles 139, scar-

let fever 82, fevers 45, diarrhoea 42, diphtheria 20, small-pox (London six) 16. The death-rates ranged from 14.5 in Birkbech to 31.2 in Oldham; London 17.5; Birmingham 19.2; Nottingham 20.8; Bristol 21.4; Leeds 22.1; Liverpool 23.3; Manchester 24.1; Plymouth 25.2. In Edinburgh 23.1; Glasgow 25.4; Dublin 25.5.

For the week ending May 27th in the Swiss towns, population 494,390, there were 41 deaths from consumption, acute diseases of the respiratory organs 30, diarrhoeal diseases 15, diphtheria and croup 11, typhoid fever five, erysipelas three, scarlet fever three, whooping-cough two. The death-rates were, at Geneva 15.5; Zurich 16.2; Basle 22; Bern 25.3.

The meteorological record for the week ending June 17th in Boston, was as follows, according to observations furnished by Sergt. O. B. Cole, of the U. S. Signal Corps:—

| Date.            |    | Barom-eter. |    | Thermom-eter. |          | Relative Humidity. |            |            | Direction of Wind. |       |            | Velocity of Wind. |             |            | State of Weather. <sup>1</sup> |             |                       | Rainfall.         |   |   |
|------------------|----|-------------|----|---------------|----------|--------------------|------------|------------|--------------------|-------|------------|-------------------|-------------|------------|--------------------------------|-------------|-----------------------|-------------------|---|---|
|                  |    | Mean.       |    | Mean.         | Maximum. | Minimum.           | 7.23 A. M. | 3.23 P. M. | 11.23 P. M.        | Mean. | 7.23 A. M. | 3.23 P. M.        | 11.23 P. M. | 7.23 A. M. | 3.23 P. M.                     | 11.23 P. M. | Duration, Hrs. & Min. | Amount in inches. |   |   |
| June, 1882.      |    |             |    |               |          |                    |            |            |                    |       |            |                   |             |            |                                |             |                       |                   |   |   |
| Sun.,            | 11 | 29.966      | 53 | 60            | 49       | 100                | 82         | 86         | 89                 | N     | NE         | NW                | 3           | 6          | 4                              | R           | C                     | C                 | — | — |
| Mon.,            | 12 | 30.209      | 56 | 63            | 50       | 57                 | 45         | 48         | 50                 | NE    | E          | W                 | 5           | 5          | 6                              | C           | C                     | C                 | — | — |
| Tues.,           | 13 | 30.198      | 61 | 73            | 49       | 64                 | 44         | 69         | 59                 | W     | E          | SW                | 5           | 4          | 2                              | F           | C                     | C                 | — | — |
| Wed.,            | 14 | 30.054      | 67 | 81            | 54       | 69                 | 41         | 75         | 62                 | SW    | S          | S                 | 1           | 8          | 4                              | F           | C                     | C                 | — | — |
| Thurs.,          | 15 | 29.765      | 66 | 79            | 56       | 62                 | 50         | 72         | 55                 | S     | SW         | SW                | 8           | 18         | 7                              | F           | C                     | C                 | — | — |
| Fri.,            | 16 | 29.658      | 73 | 87            | 59       | 84                 | 39         | 84         | 69                 | W     | NW         | W                 | 11          | 11         | 6                              | F           | C                     | C                 | — | — |
| Sat.,            | 17 | 29.750      | 63 | 72            | 56       | 63                 | 73         | 87         | 74                 | NE    | E          | Calm              | 9           | 10         | 6                              | C           | C                     | C                 | — | — |
| Means, the week. |    | 29.947      | 63 | 87            | 49       |                    |            |            | 65                 |       |            |                   |             |            |                                |             | 9.30                  | .49               |   |   |

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; X., clearing.

#### PROF. H. J. BIGELOW.

THE committee to whom was referred the communication of the President and Fellows of Harvard University informing the Overseers that they had "voted to appoint Henry Jacob Bigelow, M. D., Emeritus Professor of Surgery, in consideration of his many valuable services to the Medical School during the past thirty-three years," beg leave to report that:

Dr. Bigelow's practical wisdom and energy greatly contributed to, and controlled, the progressive steps by which the Medical Department of the University has reached its present high position. His skill in pointing out the most important facts, and in impressing broad generalizations from simple data, peculiarly adapted his instruction to the demands of American medical students, and inspired two generations of them with enthusiasm for their profession. He was one of the first American teachers to insist upon the importance of surgical pathology as a study. His far-seeing discernment identified him with, and quickened, the introduction of etherization. By his discoveries he has contributed to the enlargement of medical knowledge; and by his rare faculty of invention he has made brilliant improvements of immediate practical usefulness. Preeminent as a surgeon, possessed of varied scientific acquirements, the President and Fellows have justly recognized his services by their vote, and your committee cordially recommend concurrence therewith on the part of the Overseers. (Signed) R. M. HODGES, F. F. PARKER, R. M. MORSE, JR.

HARVARD UNIVERSITY, at its Commencement Exercises on the 25th inst., conferred the honorary degree of LL. D. upon Henry J. Bigelow, M. D.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM JUNE 17, 1882, TO JUNE 24, 1882.

NOTES.—WILLIAM M., major and surgeon. Died at Columbus Barracks, Ohio, June 23, 1882.

MORTIMER, PETER, captain and assistant surgeon. Died at Fort Contr d'Alene, Idaho, on June 15, 1882.

DR. H. P. WALCOTT, Health Officer of the Massachusetts Board of Health, Lunacy, and Charity, has been granted a leave of absence in Europe. During Dr. Walcott's absence Dr. George B. Shattuck will be Acting Health Officer.

BOOKS AND PAMPHLETS RECEIVED.—Clinical Lectures on Diseases of the Urinary Organs. By Sir Henry Thompson, Emeritus Professor of Clinical Surgery and Consulting Surgeon to University College Hospital. Sixth London Edition, illustrated with Seventy-Three Engravings. Philadelphia: P. Blakiston, Son & Co. Price 75 cents. (A. Williams & Co.)

Ovariotomy: Difficulties, Diagnostic and Operative; Continued Menstruation after Double Ovariotomy. By George J. Engelmann, M. D., Professor of Obstetrics in the Post-Graduate School of the Missouri Medical College. (Extracted from the American Journal of the Medical Sciences.)

Refraction of the Eye, as distinguished from Accommodation, and estimated as an Equivalent from the Index of Refraction. By H. Culbertson, M. D., Assistant Surgeon. U. S. A., Retired.

The Vest-Pocket Anatomist (founded upon "Gray") By C. Henri Leonard, A. M., M. D., Professor of the Medical and Surgical Diseases of Women, etc., Michigan College of Medicine. Eleventh revised edition. Detroit: The Illustrated Medical Journal Company, 1882.

Twenty-Second Annual Announcement of the Bellevue Hospital Medical College, 1882-1883, with the List of Graduates for 1882.

A Practical Treatise on Diseases of the Skin. By Louis A. Duhring, M. D., Professor of the Diseases of the Skin in the Hospital of University of Pennsylvania. Third edition, revised and enlarged. Philadelphia: J. B. Lippincott & Co. 1882.

Anesthesia and Non-Anesthesia in the Extraction of Cataract, with some Practical Suggestions regarding the Performance of this Operation, and Comparative Statistics of Two Hundred Cases. By Hasket Derby, M. D., Surgeon to the Massachusetts Charitable Eye and Ear Infirmary. Cambridge: Printed at the Riverside Press.

Annual Address delivered before the Medical Society of the State of California. By Gerard George Tyrrell, Sacramento, Cal.

THE BOSTON  
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GEORGE B. SHATTUCK, M. D., EDITOR  
ABNER POST, M. D., ASSISTANT EDITOR

VOLUME CVII.

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1882

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WHITNEY, W. F., M. D.  
WILLIAMS, E. T., M. D.  
WILLIAMS, F. H., M. D.  
WILSON, H. A., M. D.  
WITHERINGTON, C. F., M. D.  
WOODBURY, FRANK, M. D.



# INDEX TO VOLUME CVII.

THE Index of the Boston Medical and Surgical Journal is arranged by authors and by subjects. Articles relating to the circulatory, respiratory, or nervous systems are to be found under those heads respectively. This method of indexing is which followed by the Editors of the *Index Medicus*, and is believed to be the most satisfactory plan which can be adopted. F. H. B.

- Abbott, S. W.** A summary of obstetric cases, 2; uses and abuses of animal vaccination, 423.
- Abdomen.** Gun-shot wound of the abdomen, Buchanan, G., 69.
- Abortion.** Medical history of a case of abortion, with a synopsis of the criminal trial, Bush, J. F., 205.
- Abdominal section.** Resect of twenty-five cases, Mears, J. E., 609.
- Abscess.** Report of three cases of abscess of the brain, Eskridge, J. T., 124, 155; errors of diagnosis in retropharyngeal abscess, McCoy, A. W., 674; cold abscess from probable cause of the pelvis, Clever, D. W., 577.
- Adams, J. F. A.** The New Lenox malaria case, 604.
- Adier, J. M., and Hunt, W.** Hypertrophy of the prostate gland accompanied by prostatic and fatal hemorrhage, 448.
- Agnew, C. R.** Neuritis, retinitis, and conjunctivitis, 17.
- Aibmenon.** A new test for albumen, Roberts, W., 573.
- Albuminuria.** Clinical observations on albuminuria, Meigs, A. Y., 409; purpural, Brown, F. F., 579.
- Alcohol.** Susceptibility to alcohol as modified by infection, Mellière, 353; antiseptic stimulants in the forming stages of diphtheria, Putnam, S., 307; the medio-lateral relations of chronic alcoholism; its pathological aspects, Sabine, G. K., 490.
- Allport, W. W.** Education of dentists, 16.
- American Dyspepsia.** Robbins, J. H., 152.
- Ames, A.** Some sanitary aspects of Massachusetts, 1.
- Ammoinia** as a leavening agent, 68.
- Amputation.** Reamputation of the leg; fourth similar operation on the same patient, Chester, H. W., 561.
- Analysis.** Conference of State analysts of food and druggs at Montreal, 234.
- Anatomy.** Transposition of the viscera, 406; Dr. Holmes's resignation of the Parkman professorship of anatomy in Harvard University, 426; autopsy of a case of transposition of the viscera, Wilson, H. A., 435; abnormal distribution of arteries at base of the brain, Webster, S. G., 543.
- Aneurism.** Elastic bandage in the cure of, 18; traumatic aneurism, Richardson, M. H., 546.
- Animal Vaccination.** Uses and abuses of animal vaccination, Abbott, S. W., 423.
- Anus Medicus, 616.**
- Anthropometry, 306.**
- Apoplexy.** Pancreatic apoplexy, with a report of two cases, Price, M., 28, 39, 55.
- Appropriation for the National Board of Health, 42.**
- Army and Navy.** Dental and ophthalmic surgeons in the army and navy, Marshall, J. S., 18; Surgeon-General Craze, 42; annual report of the Surgeon-General, U. S. A., 42.
- Arsenic, necrosis from, Goodville, 15.**
- Asclites** due to cirrhosis of the liver, Flint, A., 215.
- Asiatic Cholera** at Newport, Cabell, J. L., 242.
- Atetosis.** A case of atetosis relieved by nerve-stretching, Hammond, G. M., 12.
- Athletics.** College athletics and professional trainers, 375.
- Atkinson, J. E.** A circinate papular syphilidum, 252.
- Autopsies.** On the collection of data at autopsies, Bowditch, H. P., 365.
- Ayer, J. B.** Scarlet fever after confinement, 341.
- Baird, S. F.** Dr. J. J. Mason on the Central Nervous System of Reptiles and Batrachians, 585.
- Baker, W. H.** Recent progress in gynecology, 11; vaginal ovariotomy, 265; laceration of the cervix uteri, 444; Free Hospital for Women, 455; frequent and painful micturition from vasculopathy of the neck of the bladder, 494; vaginal delivery, 515.
- Baltimore.** Letter from Baltimore, 571.
- Bangor.** Letter from Bangor, Sanzer, E. F., 357.
- Barker, F.** Leucorrhoea, its constitutional causes and therapeutics, 301.
- Barnes, H. J.** The water supply of Boston, 224.
- Barr, H. F.** Puncture wound of the pregnant uterus, partial escape of the fetus into the abdominal cavity, retention of the fetus five years, 261.
- Barrett, W. C.** Heredity in dental development, 15.
- Barton, J. M.** Ectymoses of the nuxious membrane of the stomach, 499.
- Beach, H. H. A.** Recent progress in surgery, 6.
- Becherer, A. C. W.** Tongue and larynx from a case of elephantiasis Gracorum, 560.
- Belleme Medical College.** Free trade in diplomas, 555.
- Benevolent Society, Massachusetts Medical, 355, 523.**
- Berkshire County.** Malaria and the courts in Berkshire County, 375.
- Bibliography.** Annual Report of the Surgeon-General, United States Army, 42; Bartholow, R., Medical Electricity: a Practical Treatise on the Applications of Electricity to Medicine and Surgery, 499; Beard, G. M., The Psychology of the Salem Whisker Excitement of 1832 and its practical Application to our own Time, 290; Boston, Tenth Annual Report of the Board of Health of the City of, 114; Boston City Hospital, Medical and Surgical Reports, third series, 254; Boston City Hospital, Eighteenth Annual Report, 232; Boston Lying-in Hospital, Forty-Third Annual Report, 255; Brighton, Eng., Transactions of the Brighton Health Congress, 1891, 298; Browne, W. A., A Clinical Hand-Book on the Diseases of Women, 472; Buckley, C. F., Cerebral Hyperemia, does it exist? 430; Butler, J., Electricity in Surgery, 59; Catell, D. W., The Physician Himself and what he should add to his strictly scientific knowledge, 239; City and Boston, Medical and Surgical Reports of the City Hospital of the City of, 114, 254, third series, 62, 88; Doan, O. S., J., Contributions to Practical Gynecology, 160; Duhning, L. A., Diseases of the Skin, 40; Granville, J. M., How to make the Best of Life, 398; Griesinger, W., Mental Pathology and Therapeutics, 35; Gynecological Society, American, Transactions, vol. 11, 271; Hardaway, W. A., Essentials of Vaccination, a compilation of facts relating to Vaccine Inoculation, and its influence in the Prevention of Small-pox, 328; Hough, E., Lectures on Diseases of Children, 398; Index Catalogue, vol. 111, 328; Johns Hopkins University, Seventh Annual Report, 559; Levin, J., The Incidental Effects of Drugs, 18; Munson, O. P., A Treatise on the Physiological and Therapeutic Action of the Sulphate of Quinine, 157; Medicine Hospital Service, Annual Report of the Supervising Surgeon of, 535; Massachusetts, Fortieth Registration Report, 285; Murrell, W., What to do in cases of Poisoning, 34; Norris, R., The Medical Digest, or Busy Practitioner's Vale-Memum, 374; Noble, R., The Physiology and Pathology of the Blood, 568; Anna, T. W., On Cancer of the Breast, 112; Ohio, Twenty-eighth Annual Report of the State Commissioner of the Common Schools to the General Assembly of the State of Ohio for the School Year ending August 31, 1881, 574; Palmer, A. B., A Treatise on the Science and Practice of Medicine, or the Pathology and Therapeutics of Internal Diseases, 374; Phillips, C. D. F., Materia Medica and Therapeutics, 207; Potter, S. O. L., Questions on Human Anatomy, 472; Raile, C. H., On the Morbid Conditions of the Mind dependent upon Derangements of Digestion, 276; Banner, Medical and Surgical Anatomy, 274; Report of the Commissioner of Education for the year 1890, 328; Rhode Island, Fourth Annual Report of the Board of Health of the State of Rhode Island, 65; Schell, H. S., A Manual of Ophthalmic Practice, 89; Treves, E., Scrofula, its Clinical Features, 307; Wells, T. S., On Ovarian and Uterine Tumors, their Diagnosis and Treatment, 327; Wilkinson, H. W., Some Practical Observations on Vaccination, 598; Wolfe, J. R., On the Diseases and Injuries of the Eye, 615.
- Bignell, H. J.** The French Academy of Medicine's award of a prize to Dr. H. Bignell, 180.
- Billings, F. S.** Plastic experiments in the abdominal cavity of domestic animals, 31.
- Biography.** On Emerson, W. C., 356; Atwood, F., 105, 192; Bell, C., 312; Brown, W. H., 528; Capron, G., 344; Cheever, D. W., 41; Clover, J. T., 379; Crane, C. H., 42; Dougherty, A. N., 629; Draper, H. L., 522; Elliot, H. M., 216; Holmes, C. C., 124; Jenkins, J. F., 401; Kewter, H., 629; Lawton, S., 318; Leavelle, A., 480; Alvord, C. E., 522; Roberts, G., 623; Watson, W., 250; Smith, A., 312; Turner, O. C., 456; Valer, G., 163; Pearson, T., 543; White, C. D., 403; Wilson, M. A., 468.
- Bishop, P. E.** A case of face presentation in the mento-posterior position, 45; threatened to phosid, 280.
- Blake, J. G.** Pancreatic apoplexy, notes of a case, 28; irritation of abdominal surfaces as a source of disease which may become malignant, 690.
- Boardman, W. E.** Certain accidents or abnormal conditions the result of labor, 289.
- Boston.** The work of the Boston Board of Health, Durgin, S. H., 242, 353; Boston Dispensary, 382; water supply of Boston, Post, A., 564; the water supply of Boston, Barnes, H. J., 585; the city water, Bowditch, H. L., 621.
- Bossworth, F. H.** Adenoma of the pharynx, 264.
- Boutelle, J. T.** Aunt Betsey's "simpsons," 248.
- Bowditch, E. W.** The sanitary aspect of Nahant, Mass., 97, 190, 351.
- Bowditch, H. L.** Severe disease of the heart, with pleuritic effusion on both sides, 320; the National Board of Health, 523.
- Bowditch, H. P.** On the collection of data at autopsies, 265.
- Bradford, E. H.** Torticollis, 87; recent progress in surgery of joints and of deformities, 337; a painful affection of the wrist-joint, 455; Dr. Haven's reply to Dr. E. T. Williams on the cancer question, 573; a case of double otopharynx and osteoarthritis, 611.
- Brain.** Notes on twelve cases of brain tumor, chiefly with reference to diagnosis, Mills, C. K., 10; hemorrhage into the pons, Miles, E. T., 14; myeloma, three cases, a review of the brain, Eskridge, J. T., 123, 166.
- Brighton.** The sewerage of Brighton, England, 159.
- Bright's Disease.** Clinical lecture on Bright's disease, Flint, A., 193; the hereditary tendency to Bright's disease, 280; Bright's disease, Flint, A., 193; a case of Bright's disease treated by piscocapric, Webster, S. G., 284, 285.
- Bronchocoele.** A case of bronchocoele, Delbois, T. A., 584.
- Broughton, H. W.** A hemorrhoid epidemic from bad drainage, 587.
- Brown, F. F.** Puergal albuminuria, 579.
- Bruce, J. M.** Symmetrical signs of basia curia, 232.
- Bruen, E. T.** Cirrhosis of liver in the stage of enlargement, 49; primary carcinoma of pancreas and liver, 497; dilatation and atheroma of the pulmonary artery, with an opening through the interventricular septum, 502.
- Buchanan, G.** Gun-shot wound of the abdomen, 69.
- Buckingham, E. M.** Criticism on Dr. J. F. Lynde's paper on infantile mortality, 211.
- Buckler, T. H.** Rheumatic leucocytosis of the pulmonary air-tubes, 406; "the nucleolar virus," 432.
- Busey, S. C.** The influence of high-heeled French shoes upon the feet, and upon the relations of the pelvic organs, 224.
- Bush, J. F.** Medical history of a case of abortion, with a synopsis of the criminal trial, 205.
- Byrd, H. L.** Treatment of fracture of the clavicle, 430.
- Cabell, J. L.** Asiatic cholera at Newport, 282; National Board of Health 420.
- Cabot, A. T.** Difficult labor; pyrocephalic abscess; carbonic-acid poisoning, 321.



- rat U. S. A., 427; the Medical Benevolent Society, 428; the National Board of Health and the American Public Health Association, 430; modifications in the calibre of vessels in the stumps of amputated limbs, 431; the corporation will consult the medical faculty in legislating for the medical department of the city, 432; the physical laboratory of the Boston water commission, 432; the contagiousness and transmissibility of consumption, the International Congress of Hygiene, 460; the use of tobacco, 501; the use of tobacco by children, 502; another unpalatable suit, 503; the contagiousness of cholera, the education of hospital trustees to the medical staff, 453; Boston water and the water commission again, 476; Dr. J. J. Mason's microscopic researches on the central nervous system of reptiles and batrachians, 519; tenth annual meeting of the New York State Medical Association, 524; the marine laboratory for boys, 523; the Warren Tremont prize, 520; another diploma suit, 516; Dr. Oliver Wendell Holmes's farewell lecture at the Harvard Medical School, 545; the new pharmacopoeia and the strength of its opinion proper, 547; the prohibition of public funerals after death from a contagious disease, 548; H. H. Bailey, 548; the Marine Hospital, 548; the Board of Health, Lunacy, and Charity, 548; the Warren Tremont prize, 548; new antipyretics, 569; John Hopkins University, seventh annual report, 591; changes in the Massachusetts Board of Health, Lunacy, and Charity, 592; the Massachusetts Board of Health, Lunacy, and Charity, small-pox and fever hospitals in London, 591; free trade in diplomas, 595; annual report of the supervising Surgeon-general of the Marine Hospital Service, 625; anus medicus, 636; new diplomas? 619.
- Edwards, W. A.** Spindle-celled sarcoma of the small intestine, 498.
- Egyptian Expedition.** 207.
- Elastic bandage** in the cure of cerebral aneurism, 18.
- Edwards, T. H.** Tethous labor due to rigidity of the os uteri, 326.
- Elephant.** The birth of an elephant, Sussler, G. E., 70.
- Elephantiasis arabica**, Hofferer, A. C., 154.
- Elliot, J. W.** Fibro-myoma of uterus, causing most intense dysmenorrhoea, 150; myoma of uterus, 151; carcinoma of uterus, 152.
- Emphysema.** Two cases of emphysema, Marion, H. E., 180, 183.
- Emmett, T. A.** A new method of exploration, with the pathology and treatment of certain lesions of the female urethra, 303.
- Encephalitis.** See Encephalitis.
- Epidemic Medication.** The epidemic method of administering medicines, 214.
- Epilepsy.** The curability of epilepsy, Ferrau, 406.
- Ergot.** The use of ergot in skin diseases, Heitzmann, C., 252; the proper form of ergot in skin diseases, 258.
- Ergotine.** Ergotine in typhoid, 212.
- Erythrolyon Coca.** its physiological effect, and especially its effect on the excretion of the kidney, Mason, A. P., 221.
- Erythema.** The erythema of the face, abscess of the brain, 122, 159; intra-uterine injection of aqua ammoniac ferri in a case of scurvy poisoning, 490; specimens from a man who died with brain, lung, heart, liver, spleen, kidney, and bladder lesions, 497; abscess of the liver following arrested menstruation, disease of cold, pyemic abscesses, 497; an abscess of the liver; perforation of the bowel; severe heart complications; death during the seventh week, 505.
- Esmarch, F.** Concerning the treatment of the wound of President Garfield, 244, 257.
- Ester.** The thoracoplastic operation of Estlander, Fenger, 323.
- Ether.** Death under ether, Fair, L., 118.
- Excision.** An analysis of some cases of excisions, Parks, E. L., 471.
- Expert.** Expert testimony, Rice, J. M., 26; another "expert" witness, 26.
- Extra-Uterine Pregnancy.** Notes of twenty-one cases of extra-uterine pregnancy, Thomas, T. G., 204; the use of electricity in extra-uterine pregnancy, Garrigue, H. J., 394.
- Eyer, Glaucoma.** See Glaucoma.
- Favus.** Favus as a remedy for favus, 453.
- Fenger (Chicago).** The thoracoplastic operation of Estlander, 323.
- Fernet and Martel.** Introduction of ailments and medicines through the nose, 382.
- Ferrau.** The curability of epilepsy, 406.
- Fibroid polyps of the nose.** Seiler, C., 18; fibroid tumor of the uterus, Chadwick, J. R., 183; the relative value of hysterectomy and of the complete removal of the uterine appendages for the cure of uterine fibroids, 183; the relative value of hysterectomy and of the complete removal of the uterine appendages for the cure of uterine fibroids, 183; the relative value of hysterectomy and of the complete removal of the uterine appendages for the cure of uterine fibroids, 183.
- Fibro-myoma of uterus.** Elliot, J. W., 151, 150.
- Fifield, W. C. B.** Slaughtering fibroid, 589; production of the organic climax of sexual feeling apart from any sexual appetite or sexual intercourse, 589.
- Fifield, W. C. B.** Clinical lecture, obstructive jaundice, organic murmurs of the heart, chronic syphilis laryngitis, 121; clinical lecture on Bright's disease, 193; clinical lecture, tuberculous laryngitis; advanced phthisis; ascarides due to cirrhosis of the liver, 217; clinical lecture, Bright's disease, with a description of the hepatic artery, 257; clinical lecture, Bright's disease, with a description of the hepatic artery, 257; clinical lecture, Bright's disease, with a description of the hepatic artery, 257; clinical lecture, Bright's disease, with a description of the hepatic artery, 257.
- Folsom, C. P.** Some obscure mental symptoms of mental disease, 149; the treatment of mental disease, 149.
- Food.** Phosphates in food, food in its relations to the development of tissues, Lawrence, 15; conference of State analysts of food and drugs at Montreal, 234; introduction of siments and medicines through the nose, Fernet and Martel, 382; the digestive power of commercial peas, Dana, C. L., 382.
- Forcep.** The use of the obstetric forceps, McColom, J. H., 207.
- Foreign Bodies swallowed.** Reynolds, J. P., 174.
- Forest, W. E.** The management of labor with reference to the prevention of subsequent uterine disease, 167.
- Forment.** The action of salt on trichine, 378.
- Frederick, J. H.** The management of diabetic coma with Iperina, 333.
- Free Hospital.** For women, 333.
- Fuller, F. B.** A case of traumatic tetanus, 117.
- Funerals.** The prohibition of public funerals after death from a contagious disease, 547.
- Galvano-Cautic Instruments.** Seiler, C., 17.
- Gannett, W. W.** Relation of moulding to disease, 195.
- Garfield.** Concerning the treatment of the wound of President Garfield, 244, 257.
- Garrigue, H. J.** The use of electricity in extra-uterine pregnancy, 394.
- General Diseases.** Leprosy and its relations to syphilis, Filard, H. G., 207; general diseases, 207; the management of labor with reference to the prevention of subsequent uterine disease, 167; the management of labor with reference to the prevention of subsequent uterine disease, 167; the management of labor with reference to the prevention of subsequent uterine disease, 167.
- Gibson (Birmingham).** The cephalic murmur, 405.
- Gibson, A. L.** The management of labor with reference to the prevention of subsequent uterine disease, 167.
- Glaucoma.** Peck, E. S., 8.
- Glycosuria.** DeWolf, O. C., 219, 247.
- Goodwillie.** Necrosis from arsenic, 15.
- Graham, D.** The New City Hospital at Worcester, Mass., 212; Dr. Douglas Graham on medicine, 325.
- Green, J. Orne.** Recent progress in otology, 583.
- Greenough, F. E.** The routine treatment of venereal diseases, 145, 160.
- Guiteau.** The execution of Guiteau and society's profit, 22; the alleged insanity of Guiteau, 46; the Guiteau autopsy, 67; the medical testimony at the Guiteau trial, 67; Guiteau's brain, 271, 300.
- Guthrie, S. S.** Clinical lecture, the abdomen, 121; clinical lecture, the abdomen, 121; clinical lecture, the abdomen, 121; clinical lecture, the abdomen, 121; clinical lecture, the abdomen, 121.
- Gynæcologic Medicine and Surgery.** A brief glance at some of the border lines in the gynæcologic medicine and surgery, Wheeler, W. G., 184.
- Gynæcology.** Recent progress in gynæcology, Baker, W. H., 61; introductory clinical lecture on diseases of women, Thomas, T. G., 421.
- Hæmorrhage into the tonsils.** Miles, F. T., 14; recurrent pharyngeal hæmorrhages, Porter, W., 10.
- Hall, A. L.** The management of labor with reference to the prevention of subsequent uterine disease, 167.
- Hammond, W. W.** The management of labor with reference to the prevention of subsequent uterine disease, 167.

Hardaway, W. A. A pigmented neoplasm of the skin, 250.

Harvard Medical School. Graduates in 1882, 24; the succession to the professorship of surgery in Harvard University, 41; farewell address of Dr. Oliver Wendell Holmes to the medical school of Harvard University, 8, 24; November 18, 1882, 57, 58.

Harveian Oration, delivered at the Royal College of Physicians, June 21, 1882, 13, 24, 25.

Hayou, H. C. A proposed change in the method of examining candidates for the Massachusetts Medical Society, 59.

Heart. Organic murmurs of the heart, Flint, A., 121; percussion of the heart in health and disease, Whitney, J. B., 270.

Hebra, H. A case of phosphorus poisoning which could not be diagnosed either in the living body or from a microscopic autopsy, 357.

Helfinger, A. C. Elefantiasis arabum, 154.

Heitzmann, C. Myxo-angina of the skin; dermatitis papillaris capill., 224; remarks on the use of ergot in skin diseases, 252.

Heredit. In dental development, Barrett, W. C., 15.

Hill, W. B. Recent progress in medical chemistry, 155.

Hoadley, M. Hoadley's resignation from the Massachusetts Board of Health, Lumley, and Charity, 548.

Hodges, R. M. Painless synovial effusions, 534, 543.

Holman, E. B. Stuck in parturition, 424.

Holmes, O. W. Medical highways and byways, 231; Dr. Oliver Wendell Holmes's resignation of the Parkman professorship of anatomy in Harvard University, 426; farewell address of Dr. Oliver Wendell Holmes to the Medical School of Harvard University, Tuesday, November 25, 1882, 224, 548.

Holt, L. E. Malaria in children, 596.

Homans, J. One hundred cases of antiplegic ovariotomy, 413.

Homicide. Report of a case of, Rice, J. D., 439.

Homoeopathy. The relations of the Fellows of the Massachusetts Medical Society to homoeopathy and the homoeopaths, Spencer, J. W., 73; are schools of medical practice to have representatives in the United States Government service? 158; some homoeopathic and isopathic medicines, 549.

Houper, F. H. Papilloma of the vocal cords, 63; removal of nasopharyngeal tumor, 183.

Hughes, W. B. Leptosporitis, its causes, nature, symptoms, and treatment, based upon an analysis of fifteen cases, 81.

Hospitals. The relation of hospitals to medical education and of hospital trustees to the medical staff, 452.

Hospitalism. Storck, H. J., 375.

Hospital for Incurables. Osgood, H., 498.

Hour-Glass Contraction. Case of protracted gestation complicated by deformed pelvis and ante-partum hour-glass constriction of the uterus; delivery by version, Dixon, R. B., 544.

Hughes, W. E. Sarcoma of the prostate gland, 593.

Hunter, W. Medicine one hundred years ago, 94.

Hutchinson, J. Schistos, 118.

Hyde, J. N. Annual address before American Dermatological Association, 224.

Hygiene, Health, and Boards of Health. Some sanitary aspects of Massachusetts, Ames, A., 1; oral hygiene, Keimpton, W. D., 14; the appropriation for the National Board of Health, 63; the annual report of the Board of Health of the State of Rhode Island, 65; a remonstrance against cutting down the appropriation for the National Board of Health, 69; the spread of infection by rats, 91; the National Association for Rural and Sanitary Improvement, 13; the sanitary and health aspects of the City of Boston, 114; the health of the City of Boston, 114; the regulation of sources of water supply in thickly populated districts, 137; the appropriations for the National Board of Health, 138; infection by rats, 142.

Hygiene, Health, and Boards of Health. The sewerage of Brighton, England, 189; the sanitary condition of Nahant, Bowditch, E. W., 191; the smoke test for drains, 208; the effect upon health of prolonged heat and dryness as shown by death rates, 253; a conference of State sanitists of food and drugs at Montreal, 254; ventilation and ventilation of troops, 255, 256; a museum of hygiene at Washington, 256; a national medical and sanitary exhibition, 257; health of boys' boarding-schools, Lincoln, D. F., 260; the liability of corporations for supplying impure water, 284; health of criminal women, Wheeler, E. M., 316; the influence of high heated shoes upon the female form, and upon the relations of the pelvic organs, Bussey, S. C., 324; frozen meats, 329; the work of the Boston Board of Health, Burge, S. H., 345, 352; immigrant inspection service, 355; American Public Health Association, 362; national museum of hygiene, 392; the Newport system of sanitary protection, Storck, H. R., 463; life on wheels, Wilson, T. P., 473; compulsory reports of cases of infectious disease and deaths, Wright, O. W., 424; cremation of household refuse and excreta, Keating, J. M., 425; the curiosties of hygiene, 569; the use of tobacco, 561; the use of tobacco by children, 562; a case of tobacco by boys, 569; the prohibition of public funerals after death from a contagious disease, 567; Mr. Hoadley's resignation from the Massachusetts Board of Health, Lumley, and Charity, 564; a household epidemic from bad drainage, Broughton, H. W., 567; report of the commissioners appointed to inquire respecting small-pox and fever hospitals in London, 564; Massachusetts State Board of Health, 568.

Hyperpyrexia in rheumatism, 211.

Hysterio-epilepsy, 257.

Immigrant inspection service, 355, 359.

Incurables. Hospital for, 498.

Infantile Mortality. Its causes and prevention, Lynde, J. P., 49.

Infection. The spread of infection by rats, 91; infection by rats, 142; a summary report of cases of infectious-disease deaths, Wright, O. W., 424.

Inguits. Five cases of wounds of the palm from blank cartridges received by tetanus and death, 85.

Inoculation. "The inoculative virus," Barker, T. H., 453.

Insanity. Recent progress in the management of insane asylums and care of the insane, Channing, W., 411; medico-legal relations of insanity, Russell, I., 459.

Instruments and Apparatus. Galvano-electric instruments, Scller, J. L., 401; a bandage in the cure of external aneurism, 403; improved traction mortar, de River, T. A., 28; a vaginal douche to mould, 314; laryngeal forceps, de River, T. A., 62; the surgical management of local peritonitis, de River, T. A., 290; modification of Dr. Thomas's curette, Murray, H. O., 229; the use of the obstetric forceps, McCollum, J. H.,

266; a new head perforator, Dixon, R. B., 544; vaginal douche, Baker, W. H., 614.

Intra-Uterine Fibroids. Removal of intra-uterine fibroids, Clark, A. W., 226.

Intussusception. A case of intussusception with recovery, Laugmaid, S. W., 33.

Iodoform. Diptheritic conjunctivitis treated with iodoform, Scott, X. C., 16; iodoform periculis, Cutler, E., 622.

Iron. A study of the action of iron, Williams, F. H., 165.

Jacobi, A. The summer vacation in the public schools, 566.

Jacoway, E. G. Cases bearing on diagnosis and localization of cerebral diseases and their diagnosis, 379.

Japan. Medical education in Japan in 1882, Cutler, J. C., 292.

Jaundice. Obstructive jaundice, Flint, A., 121.

Johnson, A. H. On the habitual use of poisons, 337.

Johnson, G. Abstract of the Harveian Oration delivered at the Royal College of Physicians, June 24, 1882, 25.

Johnson, J. T. The proper use of ergot in obstetrics, 298.

Joints. Recent progress in surgery of joints and of deformities, Bradford, E. H., 347; a painful adhesion of the wrist-joint, Bradford, E. H., 345; the treatment of a case of painful periarthritis of the shoulder, Putnam, J. J., 569, 576, 593; painless synovial effusions, Hodges, R. M., 534, 543.

Jurispredence. Medical expert testimony, Rice, J. M., 26; the medical testimony at the Giltspur trial, 67; an act to prevent the spread of contagious diseases, 14; medico-legal work (suit for malpractice), 153; medical history of a case of abortion, with a synopsis of the criminal trial, Bush, J. P., 266; what constitutes a medico-legal autopsy? Presbury, S. D., 243; another "expert" witness, 282; report of a case of homicide, Tower, C. C., 439; the medico-legal relations of cirrhotic ascites, its pathological aspects, Sabine, G. K., 430; another malpractice suit, 562; another diploma mill, 545; medico-legal relations of insanity, Russell, I., 459; medico-legal notes, 571; partial aphasia by hanging; incised wounds of trachea and oesophagus, Cheever, D. W., 577.

Kane, Penn. Letter from Kane, Pennsylvania, 210.

Keating, J. M. The presence of the micrococci in the blood of malignant disease in treatment, 104; cremation of household refuse and excreta, 425.

Kedzie. Annual address before the American Public Health Association, 492.

Keith, R. Communication on Dr. Keith and Listerism, Osgood, H., 229.

Keimpton, W. D. Oral hygiene, 14; kerose as a remedy for furus, Seymour, W. W., 453.

Kidd, T. The hereditary tendency of Bright's disease, 286.

Kidney. Cases of degeneration of the kidneys, Dunbar, 449.

Kinloch (Charleston, S. C.) A supposed death from chloroform, 166.

Kimmer, R. O. Dr. John Chapman's system of neuro-dynamic medicine, with cases, 128.

Knight, J. I. Report on progress in the treatment of diseases of the throat, 17, 293.

Kupffer, J. Local treatment of diptheria, 239.

Labor. Summary of obstetric cases, Abbott, S. W., 2; recent progress in obstetrics, Richardson, W. L., 32; a case of face presentation in the neutro-posterior position, Bishop, P. E., 45.

Lacerated wounds of both hands and loss of fingers by a circular saw accident, Cheever, D. W., 578.

Leinhardt, S. W. A case of intussusception with recovery, 33; tracheal tumors resulting from tracheotomy, 39.

Laryngitis. Chronic syphilitic laryngitis, Flint, A., 123; tuberculous laryngitis, Flint, A., 217.

Laryngological societies, New York, 392.

Larynx. Laryngeal forceps, deRivers, T. A., 62; tubercle of the larynx, Cohen, J. S., 32.

Lawrence, J. B. Medico-legal science, 16.

Lawrence, J. B. "Phonic Paralysis," with rapid respiration, 57, 58. Lawrence (New York). Food in its relations to the development of tissues, 15.

Lead-Poisoning. Flint, A., 261.

Lepra. A case of, Adams, J. P., 604.

Leprosy and its relations to syphilis, Piffard, H. G., 35; the contagion of leprosy, White, J. C., 251.

Leucorrhoea, its constitutional causes and therapeutics, Barker, F., 391.

Lincoln, D. F. Health of boys' boarding-schools, 260.

Listerism. Communication on Dr. Keith and Listerism, 229.

Litholapaxy. Cassell, E. T., 327.

Liver. The curiosties of the liver, Flint, A., 218; cirrhosis of liver in the stage of enlargement, Brun, E. T., 419; primary carcinoma of pancreas and liver, Brun, E. T., 437.

London. Letter from London; the public meeting of the British Medical Association, 187; letter from London, 524; report of the commissioners appointed to inquire respecting small-pox and fever hospitals in London, 594; letter from London; London Medical School for Women, 597.

Longstrech, M. Autopsy in a case of meningitis with diseased heart; bilateral extravasation of blood on the brain from meningeal haemorrhage without paralysis; sciatic rheumatism, 601.

Lunatic Asylums. Non-restraint in lunatic asylums, Channing, W., 282; recent progress in the management of lunatic asylums and care of the insane, Channing, W., 411.

Lyman, G. H. Pelvic effusions and the importance of their early recognition, with reference to treatment, with a report of eleven cases, 372; pelvic effusion, abscess, chronic serous, 379.

Lyman, T. The alleged insanity of Guntan, 46.

Lynde, J. P. Infantile mortality, its causes and prevention, 49; criticism of Dr. J. P. Lynde's paper on infantile mortality, Buckingham, E. M., 211.

McCullum, J. H. The use of the obstetric forceps, 266; the small-pox epidemic in Boston, 544.

McCullum, W. G. Myxomatous tumor of the posterior cervical re-

- Madigan** (Brooklyn). Large dose of chloral hydrate, 22.
- Malaria**. Spread of malarial diseases in Connecticut, 48, 163; malaria and the courts in Berkshire County, 375; typhoid fever and malaria, 478; malaria in children, Holt, L. B., 666; the New Leaox malaria case, Adams, J. F., 694.
- Male Fern**, a death from, 478.
- Mamma**. Case of carcinoma mammae, Witzman, C., 322; recurring carcinoma of mamma and axillary glands, Nureddin, E. W., 323.
- Manton**, W. P. Obstetrical polkline, Leipzig; a case of varicose tumor of the vulva, 584.
- Marcy, H. O.** Modification of Dr. Thomas's curette, 229.
- Marine Hospital Service**. Annual Report of the Supervising Surgeon-general of the Marine Hospital Service, 550.
- Marion, H. E.** Two cases of empyema, 180, 183.
- Marshall, J. S.** The need of dental and oral surgeons in the army and navy, 15.
- Mason, A. P.** Erythroxylon coca; its physiological effect and especially its effect on the excretion of urea by the kidney, 224.
- Mason, J. J.** Microscopical Researches on the Central Nervous System of Reptiles and Batrachians, 519; letter on Dr. J. J. Mason on the Central Nervous System of Reptiles and Batrachians, Bald, S. F., 538.
- Massachusetts**, sanitary problems of, Ames, A. J., 1; State Board of Health, 608.
- Massage**. Dr. Douglas Graham on massage, 525; massage as practiced by barbarians, 526.
- Materia Medica and Therapeutics**. Injurious effects of mercury as used in dentistry, Talbot, E. S., 16; diphtheritic coagulation-tissue treated with iodoforn, Scott, X. C., 16; elastic bandage in the cure of external aneurism, B.S. large dose of chloral hydrate, Madigan, 22; permanency of the rest treatment, Page, F. W., 77; a study of the case of Dr. Williams, F. H., 105; Dr. John Chapman's system of neuro-dynamic medicine, with cases, Kinneir, B. O., 128; the routine treatment of venereal diseases, Greenwood, F. B., 145, 190; letter from Knue, Penn., 210; ergotism in typhoid, 212; letter from W. W., 77; study of the case of Dr. Williams, F. H., 105; erythroxylon coca; its physiological effect, and especially its effect on the excretion of urea by the kidney, Mason, A. P., 221; the use of ergot in skin diseases, Heitzmann, C., 252; introduction of salivary and medicines through the nose, Perce, 526; the proper use of ergot in obstetrics, Johnson, J. T., 295; the use of electricity in extra-uterine pregnancy, Garrigues, H. J., 394; on the habitual use of poisons, Johnson, A. H., 337; susceptibility to alcohol as modified by infection, Moliere, 358; alcoholic stimulants in the forming stages of diphtheria, Putnam, S., 397; iodoforn pencils, Cutler, E., 372; the digestive power of commercial pepsin, Dana, C. L., 382; a case of Bright's disease treated by pilocarpine, Webber, S. G., 330, 335; report on progress in therapeutics, Williams, F. H., 105, 147; stimulating symptoms from eight grains of potassium iodide, West, J. K., 405; intravenous injections of aqua ammoniac prior to a case of severe poisoning, Eskridge, J. T., 431; kerosene as a remedy for furus, Seymour, W. W., 433; the new pharmacopoeia and the strength of its opium preparations, 447; some homeopathic and homopathic medicines, 549; report upon new pharmacological preparations and the inspection of food and drugs, 569; new antipyretics, 569.
- Mears, J. E.** A résumé of twenty-five cases of abdominal section, 600.
- Measles**. The presence of micrococci in malignant measles, its importance in treatment, Keating, J. M., 190.
- Mediastinum**. Lymphomatous tumor of the mediastinum, Smith, G. C., 449.
- Medicine**. Medicine one hundred years ago, Hunter, W., 94; the address in medicine before the British Medical Association, Wade, 190; relation of mould fungi to disease, Gannett, W. W., 195.
- Melgus, A. V.** Clinical observations on albuminuria based upon a study of sixty-two cases seen in private practice, 404.
- Meningitis**. Case of meningitis with diseased heart, Longstreth, M., 601.
- Menstruation**, protracted, Wells, F., 1, 33, 111; ovulation and menstruation, Parsons, A. W., 214.
- Mental Symptoms**. Some obscure mental symptoms of disease, Fulton, C. E., 129.
- Mercury**. Injurious effects of mercury as used in dentistry, Talbot, E. S., 16.
- Meredith, W. A.** Communication on Dr. Keith and Listerism, 239.
- Meschede**. Observations on an epidemic of relapsing fever, 161.
- Michigan State Board of Health**. A remonstrance against cutting down the appropriation for the National Board of Health, 63.
- Micrococci**. The presence of micrococci in malignant measles, Keating, J. M., 190.
- Middlesex East District Medical Society**. Summary of obstetrical cases, Abbott, S. W., 2.
- Miles, F. T.** Haemorrhage into the brain, 14.
- Millet, O. S.** Traumatic tetanus, 190.
- Mills, C. K.** Notes on twelve cases of spinal tumor, chiefly with reference to diagnosis, 10.
- Mind**. The execution of Gutten and society's profit, 22; the alleged insanity of Gutten, Lyman, G., 46; some obscure mental symptoms of disease, Fulton, C. E., 129; Gutten's brain, 237; non-restraint in lunatic asylums, Channing, W., 282; a visit to Ghel, 284; Gutten's brain, 380; recent progress in the management of lunatic asylums and care of the insane, Channing, W., 441; medico-legal relations of insanity, Russell, J., 557.
- Mumps**. Letter from Witzman, C., 322.
- Minot, F.** Puerperal septicemia, 491; ventilation in the lying-in room, 494.
- Mirrored Writing**, 622.
- Miscellaneous**. Explained, G., 325.
- Moliere (Lyons)**. Susceptibility to alcohol as modified by infection, 358.
- Monks, G. H.** Letter from Dresden, 43.
- Morbus Feminarum**, the disease of the Scythians, and analogous conditions, Hammond, W. A., 14.
- Mortality**. Infantile mortality; its causes and prevention, Lynde, J. P., 49; death under ether, Tait, L., 118; a supposed death from chloroform, Kinloch, 168; criticism of Dr. J. P. Lynde's paper on infantile mortality, Buckingham, E. W., 211; the decrease in deaths from childbirth, 253; another death from chloroform, 283.
- Mosher, E. W.** Health of criminal women, 316.
- Mould Fungi**. Relation of mould fungi to disease, Gannett, W. W., 195.
- Musser, J. H.** Letter from Witzman, C., 322.
- Myxoma**. Myxomatous tumor of the posterior cervical region, MacConnell, W. G., 496.
- Nahant**. The sanitary condition of Nahant, Bowditch, E. W., 190; the sanitary aspect of Nahant, Bowditch, E. W., 97, 351.
- Nureddin, C. B.** Recurring carcinoma of mamma and axillary glands, 323.
- Naso-pharyngeal Tumor**. Removal of naso-pharyngeal tumor, Hooper, 184.
- National Board of Health**, appropriation for the, 42, 134; a remonstrance against cutting down the appropriation for the National Board of Health, 63; the National Board of Health, 183; O'Neil, J. L., 424; position of the National Board of Health, 447; National Board of Health and the American Public Health Association, 497; the National Board of Health, Goodrich, H. L., 225.
- National Museum of Hygiene**, 492.
- Necrosis from arsenic**, Goodrich, 15.
- Nerve Stretching**. A case of atetosis, relieved by nerve-stretching, Hooper, 184, 185; the effect of nerve-stretching upon the spinal cord, Dana, C. L., 11.
- Nervous System**. Notes on twelve cases of brain tumor, chiefly with reference to diagnosis, Mills, C. K., 10; a case of post-parietal chlorea, with remarks on the treatment of chlorea symptoms in general, Rockwell, A. D., 12; a case of atetosis, relieved by nerve-stretching, Hammond, G. M., 13; the disease of the Scythians, morbus feminarum, and analogous conditions, Hammond, W. A., 14; haemorrhage into the pons, Miles, F. T., 14; the effect of nerve-stretching upon the spinal cord, Dana, C. L., 11; "phonic paralysis," with rapid respiration, Lawrence, R. M., 57, 58; five cases of wounds of the pons from blunt cartridges, followed by tetanus and death, Ungluis, W., 55; traumatic tetanus, Millet, G. S., 190; post-tetanic tetanus, 191; a case of traumatic tetanus, Fuller, F. B., 117; septicæmia, Hutchinson, J., 118; report of three cases of abscess of the brain, Eskridge, J. T., 125, 156; Dr. John Chapman's system of neuro-dynamic medicine, with cases, Kinneir, B. O., 128; report on permanency of the rest treatment, Page, F. W., 77; a study of the case of Dr. Williams, F. H., 105; nerves of the skin, Robinson, A. R., 251; the somewhat frequent occurrence of degeneration of the postero-lateral columns of the spinal cord in so-called spinal sclerosis, Edes, R. T., 255; Gutten's brain, 277; hysterical epilepsy, 287; intracranial abscess, 302; system of rest, 302; a diagnosis and an ozonization of cerebral diseases and their difficulties, Janeway, E. G., 293; Gutten's brain, 380; the treatment of caries in the cervical vertebrae, Roberts, 331; thrombosis of the posterior cerebral sinus, Kitch, P. M., 355; cephalic hæmorrhage, 362; system of rest, 362; hæmorrhage and exanthema, Webber, S. G., 415, 421; the relation between poliomyelitis and disseminated neuritis, Putnam, S., 435; myxomatous tumor of the posterior cervical region, MacConnell, W. G., 496; Dr. J. J. Mason's microscopical researches on the central nervous system of reptiles and batrachians, 519; autopsy in a case of meningitis with diseased heart; bilateral extravasation of blood on the brain from meningeal hemorrhage without paralysis, Longstreth, M., 601; a case of general paralysis, Tuttle, G. P., 612, 614; acute ascending paralysis, 621; mirrored writing, 622.
- Neuralgia**. Intercostal neuralgia, Flint, A., 394.
- Neuritis, iritis, and conjunctivitis**, Agnew, C. R., 17.
- Neuro-Dynamic Medicine**. Dr. John Chapman's system of neuro-dynamic medicine, with cases, Kinneir, B. O., 128.
- Newport**. Item of sanitary progress of Newport, H. R., 403.
- Nichols, J. H.** Puerperal septicæmia and localized peritonitis, 386, 398.
- Non-restraint in lunatic asylums**, Channing, W., 282.
- Northoff, C.** Massage as practiced by barbarians, 526.
- Norris, A. L.** The placenta, its development and its diseases, 373.
- O'Hara, M.** Great hypertrophy of the heart due to severe valvular lesions, 541.
- O'Neil, J. L.** The skin, White, J. C., 484, 489.
- Opium in China**: how many smokers does the drug supply? 186.
- Oral Hygiene**, Keimpton, W. D., 14.
- Orthopaxy**. Torticolis, Bradford, E. H., 87; the surgical mechanics of school-post extension, Bradford, E. H., 200; recent progress in surgery of joints and of deformities, Bradford, E. H., 347; a case of double osteotomy and osteoclasis, Bradford, E. H., 611.
- Osgood, H.** Communications on Dr. Keith and Listerism, 239; hospital lectures, 506.
- Otis, E. O.** Typhoid fever and sewer gas, 539.
- Osteotomy**. A case of double osteotomy and osteoclasis, Bradford, E. H., 611.
- Otology**. Recent progress in otology, Green, J. O., 583.
- Ovarian Corpuscle**, its origin and characteristics, Drysdale, T. M., 325.
- Ovariectomy**. Ovariectomy at the Samaritan Free Hospital, 70; treatment of the pellicle in ovariectomy, Sutton, 299; vaginal ovariectomy, Baker, W. H., 297; one hundred cases of antiseptic ovariectomy, Romans, J., 418.
- Ovulation and menstruation**, Parsons, A. W., 214.
- Page, F. W.** Permanency of the rest treatment, 77, 470.
- Pancreas**. Pancreatic apoplexy, with a report of two cases, Prince, M., 28, 55, 65; primary carcinoma of pancreas and liver, Bruen, E. T., 497.
- Capitulum of the vocal cords**, Hooper, F. H., 29.
- Paralysis**. "Phonic paralysis," with rapid respiration, Lawrence, R. M., 57, 58; a case of general paralysis, Tuttle, G. P., 612, 614; acute ascending paralysis, 621.
- Parks, E. L.** An analysis of some cases of excision, 471.
- Parsons, A. W.** Ovulation and menstruation, 214.
- Peritonitis**. The digestive power of commercial pepsin, Dana, C. L., 382.
- Pathological Anatomies**. A patent medicine paradise, 454.
- Pathological Anatomy**. Necrosis from arsenic, Goodrich, 15.
- Pathologist**. Is the pathologist worthy of any hire? 21.
- Pathology**. Digestive facts explained by modern pathology, Engel, H., 243; on the collection of data at autopsies, Bowditch, E. W., 365; recent progress in pathology and pathological anatomy, Whitney, W. F., 464, 513.
- Peck, E. S.** Glaucoma, 8.
- Pellagra**. A case of pellagra, Sherwood, S., 252.
- Pelvic Effusions** and the importance of their early recognition, with reference to treatment, with a report of eleven cases, Lyman, G. H., 372.
- Petionites**. Value of petionites and pancreatic extracts, Dana, C. L., 242.
- Pertin**. The digestive power of commercial pepsin, Dana, C. L., 382.
- Percussion of the heart in health and disease**, Whitney, W. F., B., 270.
- Perforator**. A new head perforator, Dixon, R. B., 544.
- Pieriarthritis**. The treatment of a form of palatal pieriarthritis of the throat, Tuttle, G. P., 600, 516, 559.
- Perineum**. The care of the perineum in the second stage of labor, Parvin, T., 300.
- Perinephritic Abscess**, Cabot, A. T., 321.
- Peritonitis**. Puerperal septicæmia and localized peritonitis, Nichols, J. H., 386.

**Pharmacology.** The new pharmacology and the strength of its opium preparations, 437.

**Physiological** recurrent haemorrhages, Foster, W., 16.

**Pharynx.** Adenoma of the pharynx, Leeworth, E. H., 234; errors of diagnosis in retropharyngeal abscess, McCoy, A. W., 574.

**Pharyngitis.** Letter from Philadelphia, 548.

**Phlegmasia.** Four cases of "phlegmasia alba dolens," Williams, H., 351, 356.

**Phrenic Paralysis.** With rapid respiration, Lawrence, R. M., 57, 58.

**Phthisis.** Hates, 15, 16.

**Phthisis.** A case of phthisis-clearing which could not be diagnosed either in the living body or from the macroscopic autopsy, Hübner, H., 357.

**Phthisis.** Advanced phthisis with well-marked physical signs, Flint, A., 217; phthisis, Flint, A., 243, 256.

**Physiology.** Phosphates in food, 15; food in its relations to development of tissues, Lawrence, 15; forced feeding and overfeeding, 350.

**Pituita Sania.** Letter from Philadelphia, 548.

**Pituita.** H. G. Leprosy and its relations to syphilis, 65; calx sulphurata, 230.

**Placenta.** Its development and its diseases, Norris, A. L., 573.

**Plastic Experiments** in the abdominal cavity of domestic animals, Billings, S., 24.

**Plumbing.** Siphonage and ventilation of traps, 256, 257.

**Pneumonia.** On the treatment of pneumonia, Dupuis-Beaumetz, 457, 451, 455.

**Poisons.** Necrosis from arsenic, Goodwill, H.; injurious effects of mercury as used in dentistry, Tallot, E. S., 16; unity of poisons in scarlet, typhoid, purpural, and other infectious fevers, 243; carbolic acid poisoning, Calot, A. T., 221; on the treatment of poisonings, Calot, A. T., 223.

**Preparation of pharynx** for dissection which could not be diagnosed either in the living body or from the macroscopic autopsy, Hübner, H., 357; lead-poisoning, Flint, A., 241; alarming symptoms from eight grains of potassium iodide, Weist, J. J., 455; intra-venous injections of aqueous ammonium, a case of severe poisoning, 220; death from male fern, 378.

**Polyps** of nose, fibroid, Selzer, C., 18.

**Porro's Operation.** 285.

**Porter, W.** Recurrent pharyngeal haemorrhages, 16.

**Post.** Letter from Philadelphia, 548.

**Post, A.** Water supply of Boston, 564.

**Practice of Medicine.** Are schools of medical practice to have representatives in the United States government? 358.

**Pregnancy.** Accidents connected with. Summary of obstetric cases, Abbott, S. W., 2; recent progress in chimeries, Richardson, W. L., 22; a case of late presentation in the ante-posterior position, Bishop, G. E., 45; the use of the electric forceps, McCormick, J. H., 246; the death in deaths from child labour, 252; a successful case of transverse, Walter, W., 255; subinvolution of the uterus, 285; the proper use of ergot in chimeries, Johnson, J. T., 258; the care of the primipara in the second stage of labor, Parvin, T., 260; notes of twenty-one cases of extra-uterine pregnancy, Thomas, T. H., 24; the use of electricity in extra-uterine pregnancy, Garrigue, H. J., 244; a case of triplets, 255; one of difficult labor, Calot, A. T., 221; tedious labor due to rigidity of the os uteri, Edredge, T. H., 255; miscarriages, Caplan, G., 226; induction of premature labor, manual delivery, to both child and mother, 257.

**Preterm.** J. L., 255, 257; a case of protracted gestation, complicated by delivered fetus and ante-partum haemorrhage constriction of the uterus; delivery by version, Dismar, R. E., 348; the placenta, its development and its diseases, Norris, A. L., 573; the placenta and localized peritonitis, Nichols, J. H., 259, 256; the management of labor with reference to the prevention of local uterine disease, Forest, W. E., 467; protecting primipara of the secret in version; embryotomy, Steadman, C. E., 458; total umbilical in multipara, complicated with lithiasis, 470; scarlet fever after confinement, Ayer, J. E., 391; purpural septicaemia, Minot, F., 491; system; observations on cases of cases, Reynolds, J. F., 516; purpural subinvolution, Brown, F. E., 559; a case of varicose tumor of vulva, Minot, W. E., 584; certain accidents or abnormal conditions; results of labor, Beaman, W. E., 239; a case of superinvolution, Sinclair, A. D., 589.

**Primature Labor.** Induction of premature labor; manual delivery; fatal result to both child and mother, Reynolds, J. F., 513, 517.

**Proctitis.** S. D. What constitutes a proctitis? 433.

**Prince, M.** Latent ante-apoplexy, with a report of two cases, 28, 25, 25; the lactation of "old swags," 546.

**Prizes.** The French Academy of Medicine's award of a prize to Dr. J. J. Hughes, 169; the Watson Medal and prize, 520.

**Prostate Gland.** Hypertrophy of the prostate gland, accompanied by prostatic and total haemorrhages, Adler, J. M., and Hunt, W., 446; carcinoma of the prostate gland, Hughes, W. E., 575.

**Protracted menstruation.** 459.

**Psoriasis.** Taylor, R. W., 230; two cases of acute general psoriasis following vaccination, Rich, 220.

**Public Health Association.** An act to prevent the spread of contagious diseases, 242, 243.

**Puerperal Adynamia.** Brown, F. E., 559.

**Puerperal Septicaemia and localized Peritonitis.** Nichols, J. H., 256, 256; puerperal septicaemia, Minot, F., 491.

**Pulmonary.** The relation between tubercle cells and disseminated tuberculosis, 255; the treatment of a form of pseudo-phthisis; the shoulder, 459, 456, 456.

**Purpura.** S. Alcoholic stimulants in the forming stages of diphtheria, 297.

**Quack's diagnosis.** 150.

illness of the vocal cords, Hecker, F. H., 291; tracheal tumor resulting from tracheotomy, Langford, S. W., 249; treatment of irregular heart in pulmonary consumption, Weddell, F., 142; two cases of emphysema, Marlin, H. E., 180, 183; removal of naso-pharyngeal tumor, Hecker, 188; infectious pharyngitis; advanced phthisis; phthisis; marked physical signs, Flint, A., 217; synarthral signs of basile cavity, Bruce, J. M., 522; the thoracic plastic operation of Estlander, Furger, 223; phthisis, Flint, A., 217; chronic haemorrhages of the pulmonary artery tubes, Buckler, T. H., 446; severe disease of the heart, with pulmonary embolism, Howland, 443; carcinoma of the trachea, in the trachea, Dupuis-Beaumetz, 457, 458, 145; embolism of the lungs, enormous cavity, hypertrophy of the right ventricle, Statuek, F. C., 499; chronic parenchymatous nephritis complicating phthisis pulmonalis, Tyson, J., 458; the coagulable phthisis, Flint, A., 217; synarthral signs of basile cavity, Bruce, J. M., 522; the thoracic plastic operation of Estlander, Furger, 223; phthisis, Flint, A., 217; partial asphyxia by hanging; incised wounds of trachea and oesophagus; structure of larynx; secondary tracheotomy; structure of the trachea, Cheever, D. W., 577; a case of bronchocele, Bechois, T. A., 284; (terge and larynx, from a case of elephantiasis Giaeorum, Beecher, A. C. W., 250).

**Rest Treatment.** Permanency of the, Page, F. W., 77, 470.

**Rhinitis.** Rhinitis, rhinitis, and conjunctivitis, Ayer, J. E., 39, 17.

**Retro-pharyngeal Abscess.** Errors of diagnosis in retro-pharyngeal abscess, McCoy, A. W., 574.

**Reynolds, J. F.** Induction of premature labor; manual dilatation; fatal result to both child and mother, 257.

**Rheumatism.** Hyperplexia in rheumatism, 214; rheumatic leucocytosis of the pulmonary artery tubes, Buckler, T. H., 446; rheumatic rheumatism, Richardson, W. L., 22.

**Rhode Island.** 65. Annual Report of the Board of Health of the State of Rhode Island, 65.

**Rice, J. M.** Medical expert testimony, abstract of an address before the Medical Society, 24.

**Richardson, W. L.** Traumatic aneurism, 516; tracheotomy, with a report of three cases, 513, 561; sub-carotid dislocation of the humerus, 564.

**Richardson, W. L.** Recent progress in chimeries, 22.

**Robbins, J. D.** American dyspepsia, 132.

**Roberts, W.** A new test for albumen, 574.

**Roberts.** The treatment of caries in the cervical vertebrae, 381.

**Robinson, A. R.** Nerves of the face, 257.

**Roberts, A. D.** A case of post-paralytic chorea, with remarks on the treatment of choreic symptoms in general, 12.

**Roche, G. H.** Two cases of acute general psoriasis following vaccination, 220.

**Roche, H. T. M.** Recent progress in diseases of children, 22, 168; thrombosis of the posterior cerebral sinus, 285.

**Russell, J. K.** Medical legal relations of insanity, 557.

**Sabine, G. J.** The medical-legal relations of chronic alcoholism; its pathological results, 410.

**Samaritan Free Hospital.** Ovariotomy, 70.

**Sanger, E. P.** Letter from Furger, 223.

**Sarcoma.** Secondary sarcomas of Massachusetts, 24.

**Sarcoma.** Spindle-cell sarcoma of the thigh, Simes, J. H. C., 324; sarcoma of the prostate gland, Hughes, W. E., 575; melanotic sarcoma of orbit with metastases to liver, etc., Shakespeare, 285.

**Schaffert, T. E.** The origin and natural history of tuberculosis, 286.

**Savage.** Porro's operation, 285.

**Scarlet Fever** after confinement, Ayer, J. E., 391.

**Schmitt, F.** Hutchinson, J., 118.

**Scott, X. C.** Diphtheritic conjunctivitis treated with iodoform, 16.

**Scythians.** the disease of the, the uric acid, and anal glands conditions, Bernard, W. A., 14.

**Seaton, P.** Mediators in the calibre of vessels in the stumps of amputated limbs, 451.

**Selzer, C.** Galvano-caustic instrument, 17; fibroid polypus of the nose, 18.

**Septicemia.** Thoroughly septicaemia and localized peritonitis, Nichols, J. H., 256, 256; puerperal septicaemia, Minot, F., 491.

**Sewerage.** The sewerage of Brighton, England, 189.

**Sewers.** Combined sewers, 100.

**Sexual Feeling.** Production of the orgasmic climax of sexual feeling from any manual opposite the sexual intercourse, Field, W. C. B., 289.

**Seymour, W. W.** Kerone as a remedy for fever, 473.

**Shakespeare.** Melanotic sarcoma of orbit, with metastases to liver, etc., 285.

**Shattuck, F. C.** Cirrhosis of the lungs; enormous cavity; hypertrophy of the right ventricle, 489.

**Sherrwood, S.** A case of polygamy, 252.

**Sherrwood, S.** The influence of high-altitude French sheep upon the female fawn, and upon the relations of the pelvic organs, Bussey, S. C., 224.

**Simes, J. H. C.** Spindle-cell sarcoma of thigh, 324.

**Simclair, A. D.** Bony trouble in a multipara complicated with blind-vent, 450; case of erysipelas, 24.

**Small-Pox.** The small-pox epidemic in Boston, McCormick, J. H., 246, 253.

**Small-pox Hospitals.** Report of the commissioners appointed to inspect the small-pox and fever hospitals in London, 243.

**Smith, G. C.** Lymphatic system of the diaphragm, 449.

**Snake Test.** The snake test for drams, 208.

**Societies.** American Academy of Medicine, 457; American Association for the Advancement of Science, 457; American Anatomical Association, 220, 270; American Gynecological Society, 257, 354; American Laryngological Association; American Medical Association, 14, 72; American Public Health Association, 47, 492, 423, 450; American Social Science Association, 446; British Medical Association, 39, 197, 199; Boston Society for Medical Improvement, 34, 409, 433; Boston Society for Medical Observation, 28, 193, 229, 234, 420, 440, 456, 476, 501; Gynecological Society of Boston, 184, 197, 227, 252; Laryngological Society, New York, 292; Medical Society, New York, 292; Massachusetts Medical Society, 78, 102, 139, 153; Medical Travelers Society, Massachusetts, 256, 428, 450, 623; National Association in Rural and Sanitary Improvement, 43; Neurological Association, American, 10; New York Academy of Medicine, 319, 596, 601; New York Medical Society of the County of, 25, 267; New York State (Sanitary) Association, 719; Obstetrical Society of Boston, 371,

- 468, 494, 569; Pathological Society of Philadelphia, 322, 448, 496, 564, 590; Rhode Island Medical Society, 38, 329; Suffolk District Medical Society, 33, 41, 351, 491, 585, 590; Boston Medical-Psychological Society, 514.
- Spencer, H.** Degenerative tendencies in American life, 477.
- Spinal Cord.** Effect of nerve stretching upon the spinal cord, Dana, C. L., 14; the somewhat frequent occurrence of degeneration of the posterior-lateral columns of the spinal cord in seceded spinal concussion, Edes, R. T., 205.
- Spooner, J. W.** The relations of the Fellows of the Massachusetts Medical Society to homoeopathy and the homoeopaths, 75.
- Stedman, C. E.** Projecting promontory of the sacrum; version; cranio-crania, 488.
- Stellman, C. F.** The surgical mechanics of local joint extension, 290.
- Stokes, W.** Address in surgery before the British Medical Association at Worcester, August 10, 1882, 169.
- Stomach.** Function of the cardiac and pyloric portions of the stomach, Dana, C. L., 14; carcinoma of stomach, Mosser, J. H., 324.
- Storer, H. H.** Hospitalism, 374; the Newport system of sanitary protection, 403.
- Student.** The medical student, 354.
- Superinvolition.** Sinclair, A. D., 589.
- Surgery.** Recent progress in surgery, Beach, H. H. A., 6; elastic bandage in the cure of external aneurism, 18; professorship of surgery in Harvard University, 41; tenosynovitis, Hopkins, W. B., 81; address in surgery before the British Medical Association, Stokes, W., 169; concerning the treatment of the wound of President Garfield, Kneaser, F., 234.
- Surgical section of the Suffolk District Medical Society,** 41.
- Sussdorf, G. E.** The birth of an elephant, 70.
- Sutton.** Treatment of the pedicle in ovariotomy, 250.
- Syphilis.** Leprosy and its relations to syphilis, Piffard, H. G., 35.
- Tatt, L.** Death under ether, 118.
- Talbot, E. S.** The injurious effects of mercury, as used in dentistry, 16.
- Taylor, R. W.** Psoriasis, 230.
- Tedious labor** due to rigidity of the os uteri, Eldridge, T. H., 326.
- Teno-synovitis.** Its causes, nature, symptoms, and treatment, Hopkins, W. B., 81.
- Tents** at the Boston City Hospital, 91.
- Texas Cattle.** Ranch, J. H., 425.
- Thomas, T. C.** Medication of Dr. Thomas's curette, Marcy, H. O., 229; notes of twenty-one cases of extra-uterine pregnancy, 304; introductory clinical lecture on diseases of women, 431.
- Thornton, J. K.** The relative value of hysterectomy and of the complete removal of the uterine appendages for the cure of uterine fibroids, 302.
- Throat.** Report on progress in the treatment of diseases of the throat, Knight, F. J., 177, 303.
- Throat Mirror.** Improved, DeBlais, T. A., 35.
- Thrombosis.** Of the femoral or iliac veins, Flint, A., 363; thrombosis of the posterior cerebral sinus, Rotch, T. M., 395.
- Tilden, G. H.** Progress in dermatology, 318.
- Tissues.** Food in its relation to development of tissues, Lawrence, L.
- Tobacco.** The use of tobacco, 501; the use of tobacco by children, 502; the use of tobacco by boys, 520.
- Tonsils.** Excision of the tonsils, Mackenzie, 383.
- Torticollis.** Bradford, E. H., 87.
- Toy Pistols.** Five cases of gunshot wounds of the palm, from blank cartridges, followed by tetanus and death, Ingalls, W., 85; traumatic tetanus, Millet, C. S., 86; toy pistols and tetanus, 90; a case of traumatic tetanus, Fuller, F. B., 117.
- Tower, C.** Report of a case of homicide, 436.
- Trachea.** Tumors resulting from tracheotomy, Langmaid, S. W., 30; tracheotomy, with a report of three cases, Richardson, M. H., 553, 561.
- Transfusion.** A successful case of transfusion, 285.
- Transposition of the viscera.** 403; transposition of the viscera, Wilson, H. A., 485.
- Traumatic Aneurism.** Richardson, M. H., 576.
- Trichinæ.** The action of salt on trichinæ, Fournment, 358.
- Triplets.** Case of triplets, 305.
- Tubercle of the larynx.** Cohen, J. S., 392; the origin and natural history of tubercles, Satterthwaite, T. E., 396; contagiousness of tubercular consumption, Cogshall, 424.
- Tumor.** Notes on twelve cases of brain tumor, chiefly with reference to diagnosis, Mills, C. K., 10; tumor of the base of the skull, Connor, I.; fibroid polyps of the nose, Seiler, C., 18; tracheal tumors resulting from tracheotomy, Langmaid, S. W., 30; fibro-myositis of uterus, Elliot, J. W., 116, 159; fibroid tumor of the uterus, Chadwick, J. R., 183; removal of intra-uterine fibroids, Clark, A. P., 226; lymphomatous tumor of the mediastinum, Smith, G. C., 449; myxomatous tumor of the posterior cervical region, MacConnell, W. G., 496; spindle-celled sarcoma of the small intestine, Edwards, W. A., 498; a case of varicose tumor of vulva, Mauton, W. P., 584.
- Tuttle, G. T.** A case of general paralysis, 612, 614.
- Typhoid Fever.** Ergotine in typhoid, 212; "threatened with typhoid," 279, 302; "threatened typhoid," Bieh, P. E., 360; "breaking up typhoid fever," Whitney, J. O., 408; typhoid fever and malaria, 478; typhoid fever and sewer gas, Otis, E. O., 589.
- Tyson, J.** Chronic parenchymatous nephritis complicating phthisis pulmonalis, 493.
- Urethra.** A new method of exploration, with the pathology and treatment of certain lesions of the female urethra, Emmet, T. A., 303.
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- Uterus.** Fibrous tumors of uterus, Elliot, J. W., 113; punctured wound of the pregnant uterus, Baer, B. F., 241; inversion of the uterus of eight years' duration, Cyrus, W. H., 263; subinvolution of the uterus, 286; two successful cases of removal of uterus and appendages, Gerould, J. K., 302; the relative value of hysterectomy and of the complete removal of the uterine appendages for the cure of uterine fibroids, Thornton, J. K., 302; the mechanical therapeutics of versions and flexions of the uterus, Van de Warker, E., 325.
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- Vaccination.** Accidental vaccination of the eye, Calloun, 17; two cases of acute general periorbitis following vaccination, Kobe, G. H., 230; vaccination after variola; effects of vaccination and revaccination, Wells, F., 394; new and old cases of vaccination, Abbott, S. W., 423.
- Vaginal Douche.** Gerould, J. K., 301; Baker, W. H., 614.
- Vaginal Ovariotomy.** Baker, W. H., 395; vaginal douche, Gerould, J. K., 301.
- Van de Warker, E.** The mechanical therapeutics of versions and flexions of the uterus, 325.
- Veneral Diseases.** The routine treatment of venereal disease, Greenough, F. H., 146, 160, 175; the prevention of syphilis, 161; venereal diseases, 425.
- Ventilation** in the living-in room, Minor, F., 494.
- Vertebrae.** The treatment of caries in the cervical vertebra, Roberts, 381.
- Veterinary Medicine.** The new school of veterinary medicine, 306.
- Vocal Cords.** Papillom of the larynx, Hooper, F. H., 29.
- Vomiting.** Treatment of vomiting by abstinence from food and medicine, Webber, S. G., 180.
- Wade (Birmingham).** The address in medicine before the British Medical Association, 160.
- Walter, W.** A successful case of transfusion, 285.
- Warren, J. Collins.** Excision of the wrist-joint, 388.
- Wardworth, O. E.** Optico-ciliary ectomy, fifteen cases, 254; recent progress in ophthalmology, 540.
- Warren, J. W.** Notes on progress in physiological chemistry, 294.
- Warren (friendal prize),** 620.
- Washington.** Letter from Washington, 139.
- Water.** Bad drinking water and politics, 116; the regulation of sources of water supply in thickly populated districts, 157; the liability of corporations for supplying impure water, 290; physicians interested in the Boston Water Commission, 452; Boston water and the Water Commission again, 475; water supply of Boston, Post, A., 564; the water supply of Boston, Barnes, H. J., 585; the city water, Bowditch, H. L., 621.
- Webber, S. G.** Treatment of vomiting by abstinence from food and medicine, 180; report on progress in the pathology of diseases of the nervous system, 484; a case of Bright's disease treated by pilocarpine, 390, 395; cerebral anæmia and exhaustion, 415, 421; abnormal distribution of arteries at base of brain, 543.
- Weist, J. E.** Alarming symptoms from eight grains of potassium iodide, 405.
- Wells, F.** Protracted menstruation, 39; correction, 116; vaccination after variola; effects of vaccination and revaccination, 394.
- Wheeler, W. G.** A brief glance at some of the border lines in the hygienic medicine and surgery of to-day, 184.
- White, J. C.** The contagion of leprosy, 251; report of committee on statistics of cases of skin disease, 252; an experience in skin disease, 252; old age of the skin, 484, 489.
- Whitney, H. E.** Percussion of the heart in health and disease, 270.
- Whitney, J. O.** "Breaking up typhoid fever," 408.
- Whitney, W. F.** Recent progress in pathology and pathological anatomy, 464, 505.
- Wright, O. W.** Compulsory reports of cases of infectious diseases and deaths, 425.
- Williams, E. T.** "Threatened with typhoid," 392; a proposed change in the method of examining candidates for the Massachusetts Medical Society, 512; the center question of the Massachusetts Medical Society, 573.
- Williams, F. H.** A study of the action of iron, 105; report on progress in therapeutics, 300, 417.
- Williams, H.** Four cases of "phlegmasia alba dolens," 581, 568.
- Wilson, H. A.** Five on wheels, 423.
- Wilson, H. A.** Autopsy of a case of transposition of the viscera, 435.
- Wirmgan, C.** Case of carcinoma mammae, 322.
- Woodbury, F.** Treatment of irregular heart in pulmonary consumption, 192.
- Women.** London Medical School for Women, 597.
- Worcester.** The new city hospital at Worcester, Mass., 212.
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- Stokes, W.** Address in surgery before the British Medical Association at Worcester, August 10, 1882, 169.
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- Storer, H. H.** Hospitalism, 374; the Newport system of sanitary protection, 408.
- Student.** The medical student, 354.
- Superinvolution.** Schuchler, A. B., 589.
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- Surgical section of the Suffolk District Medical Society, 41.**
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- Suiton.** Treatment of the pellicle in ovariotomy, 229.
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- Tedious labor** due to rigidity of the os uteri, Eldredge, T. H., 326.
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- Tents** at the Boston City Hospital, 91.
- Texas Cattle.** Rauch, J. H., 423.
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- Tower, C. C.** Report of a case of homicide, 436.
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- Transfusion.** A successful case of transfusion, 286.
- Transposition** of the viscera, 406; transposition of the viscera, Wilson, H. A., 455.
- Traumatic Aneurism.** Richardson, M. H., 576.
- Trichine.** The action of salt on trichine, Fournier, 358.
- Triplets.** Case of triplets, 305.
- Tubercle** of the larynx, Cohen, J. S., 292; the origin and natural history of tuberculosis, Satterthwaite, T. E., 396; contagiousness of tubercular consumption, Cogshall, 424.
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- Webster, S. G.** Treatment of vomiting by abstinence from food and medicine, 180; report on progress in the pathology of diseases of the nervous system, 248; a case of Bright's disease treated by picroperine, 390, 265; cerebral anamia and exhaustion, 416, 421; abnormal distribution of arteries at base of brain, 543.
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SOME SANITARY PROBLEMS OF MASSACHUSETTS.<sup>1</sup>

BY AZEL AMES JR., M. D., WAKEFIELD.

GEORGE ELIOT, in her novel of *Middlemarch*, has represented her young philosopher-physician, Dr. Lydgate, as "a man who believed that masses are influenced and moved only as individuals are affected and convinced." Probably no man more fully appreciates and subscribes to this truth than the intelligent physician in every community. With him the every-day observation bears witness to the effect the individual has had in the moulding of family and neighborhood, in casting the lines of society and the body politic. To him more than to most it is given not only to observe, but to himself mould the moulder, to give stimulus and direction to much of the vital thought and movement of men and communities.

The day has happily dawned when the physician has come to be thought of as somewhat more than the vender of pills and powders, more than the alleviator of pain.

In the language of Goethe, "he has stamped his value on himself, the price he has *challenged* for himself has been given him," and both the citizen and the State have come to think of him as holding the keys of a wider knowledge than that of physic, and now call him in counsel upon the problems that lie at the foundations of human happiness, and of the prosperity of the Commonwealth.

The physician's unselfish, ardent promotion of sanitary knowledge, notwithstanding its sure effect upon the practice from which comes his livelihood, furnishes a rare spectacle in this self-seeking world, and establishes alike his claim to philanthropy, and to the right to advise upon measures for the public good.

It is because I am myself sure of this unselfish philanthropy, and of the physician's influence upon the individual and so upon society; because I realize his opportunity of dropping "here a little and there a good deal" of the seed of truth into the ears of the masses, and because his voice is now heard, as never before, in the halls of legislation, and in the council chamber, that I venture to-night to ask attention to a few of the sanitary problems of Massachusetts as they present themselves to my mind, although in crude form, and to bespeak for them earnest consideration, and such action as their importance invites.

Just as a man's life is the measure and test of his belief, so the health of a State becomes sooner or later the measure and test of its prosperity. For in the physical power of its inhabitants to labor and earn lies all its power of accumulation, and from these spring its facilities for mental and moral growth and enjoyment.

The considerable increase of numbers means always war upon those pristine conditions of purity which exist in the elements before man's interference upsets the regulating and well-balanced alchemy of nature.

A State that, in an area like that of Massachusetts, has gathered a population of more than a million and a half, who daily contribute to its atmosphere, land, and waters, the great pollutions of their economies and

of the manufactures by which they live, must inevitably contemplate the certain and steady advance of diseases, that, whatever the media of their propagation may be, surely attend the cumulative pollutions of air, water, and soil.

Cities and towns of constantly increasing population and manufactures have occupied the valleys of our streams, and skirt the borders of large lakes and ponds. The waters of river and lake, once pure, and even now the sources of domestic supply, are being rapidly contaminated, and in not a few instances the same stream is both the source of water supply and the receptacle of sewage.

Nor is this all. By the rule of "first come first served," which has become the law of the State, the great sources of water supply have been given to the first applicant, often a city or town of small present or prospective needs, while the larger contiguous city, whose rights in the water supply granted were as inalienable as its needs were greater, has found itself, when its necessities called, left out in the cold. The prime sources of water supply held under eminent domain by the State have nearly all been granted; but a few—and these the lesser—remain to be ceded. Their assignment has been made almost wholly on the basis of the contiguity of the city or town applying therefor, as was natural, and without other regard to the fitness of things. Small places now control great and invaluable sources, of capacity far beyond their remotest possible needs, while great and growing cities and towns have been narrowed to the assignment of small, ill-situated supplies, and are exhausting every device for more, while the superabundance of their neighbors sparkles in their view as tantalizingly as to the eyes of the Ancient Mariner, there was,—

"Water, water everywhere, and not a drop to drink."

Soil pollution will always exist to greater or less extent, and will, of course, be cumulative as numbers and trades multiply. Even when sewers exist to convey away the worst and greatest contaminations, the soil in the neighborhood of man's abodes can never be pure. A pure water supply cannot come from an impure soil, and an impure water supply contains the maximum of baleful power. If the source of the domestic water supply be pure a considerable pollution of soil and air is tolerated, and though not with impunity, at least with less danger.

It is evident that the first general sanitary need of a community is an abundant supply of pure water.

I have stated that in Massachusetts two facts unfriendly to the universal possession of this pure and abundant supply exist.

First. The rapid and increasing pollution of the great sources of supply, and second, the unequal assignment by the legislature of these sources.

That the necessity of remedy is all important is only too apparent.

Does the power of remedy exist? To a great degree I believe it does.

What, and where is it?

While I believe there is a tendency with us to too much dependence upon government, in some things it becomes necessary to invoke the far-reaching and powerful arm of law, and in no other way can the willful or negligent pollutions of water courses be reached.

I say willful and negligent, as opposed to natural and inalienable rights of drainage which must be met

<sup>1</sup> Read before the Middlesex East District Medical Society, May 3, 1882.

not by mandate alone, but by other adequate provisions, and it is both a fact and an argument that the great contaminations of lake and stream come to-day from the natural drainage of areas settled by communities long before the adjacent waters were thought of for the domestic needs of the remote cities now using them.

It may as well be said here as later, that just as we have come to recognize that heating and ventilation cannot be considered apart, so neither can water supply and drainage, at least so far as the Commonwealth is concerned.

The eastern part of Massachusetts is to-day very generally underlaid by the reticulated systems of water-pipes of closely adjacent towns and cities. A comparatively small expense would connect these several pipe systems or join certain of them in groups so that the supply of each might be common to all. Thus the utter inadequacy of supply of some could be reinforced at pleasure from the superabundance of others, and the serious disabilities now so often imposed on city or town by the necessity of repairs or cleansing, low water, breakage of reservoirs, mains, or machinery, special accidents or pollutions, would no longer occur.

To stop the willful or negligent pollution of sources of water supply stringent legislation is necessary. To divert the natural and prescriptive drainage of areas from their original flow into streams and lakes now used as sources of water supply, comprehensive legal authority must exist. To control, connect, and group the water supplies and pipe systems of numerous towns and cities, new and great powers must be vested; new organizations constituted, — and the legislature alone can do this.

It is evident, therefore, that it is to the same power that we must look for remedy that has, in part at least, built up the errors we seek to remove.

So much as affecting the question of water supply.

Water, once put to the uses of man, and hence more or less impure, must find removal more or less direct to its great *omnium gatheringum* — the sea.

In short, when water has become sewage its disposal is only second in importance to its original acquirement.

The sewerage of Massachusetts as it exists to-day is hardly worthy of the name. Grown like the communities which have built it, little by little, incongruously, upon no perfected plan, it barely serves to temporarily pass from sight, and the immediate neighborhood of men's abodes, the foul flow it contains. It is only within the last few years that, in a few of the large cities, definite and comprehensive plans have been considered and in part constructed.

Wholly inadequate to the population and the volume to be provided for, the inevitable results have been and are, first, that the soil is being steadily saturated with pollution, doing a sure and certain work in the generation of disease, and second, that streams needed at their best as water supplies are forced to do duty, like the Charles, the Sudbury, and the Mystic, both as water sources and sewers. Both the great water dependencies of the city of Boston, — likely to double its population in the next two decades, — are to-day so endangered by this double service of their flow that an efficient and speedy remedy is demanded.

The water courses to the sea, even in a fairly watered country, are not numerous, and, as has been said, their

prime value is as purveyors of *pure* and not as *carriers* only of *impure* water. Few of them are conditioned, located, or meet the ocean favorably, for the latter service alone. Nothing, however, seems more probable than that some of the streams of Eastern Massachusetts — like the lower Sudbury — must be set apart as sewage carriers only. The sea-coast is yearly assuming new value as it is occupied for summer resorts, at large expense, as at Nantasket and Point of Pines, while every harbor is now guarded with a most watchful and jealous eye by the Harbor Commission. The stream condemned as a water carrier will have to run the gauntlet of acrimonious criticism from its point of beginning as a conduit to its commingling with the deep tidal waters off the coast.

Each city and town has built its meagre sewerage according to its own topography, circumstances, and misconceptions — largely upon the latter. The sewage of each must go *somewhere*. If to the neighboring stream, it may be only to be set back by the next tide, to close proximity to the inlet pipe of the water works of its neighboring town; if into the lake, upon the sloping borders of which the town was years since built, then the reservoir of the great city that owns it must be poisoned; if into the sea at the nearest point, then summer resort, Harbor Commissioner, and Board of Health complain. Like the "ugly duck," it is wanted nowhere.

Reluctantly, but pretty definitely, sanitarians have come to believe that any attempt, in the light of present knowledge, to secure profit from the utilization of sewage is hopeless, except in rare instances, and on a small scale. Of the methods available for its utilization, its return to the land by intermittent downward filtration or irrigation alone promises satisfactory results, and this for the sewage of small or inland towns, will, undoubtedly, in the future, be more and more employed. But to remove the willful pollutions that in the consideration of water supply we found contaminating our present sources; to take out of our rivers and lakes the natural drainage contaminations; to keep from the soil about us, or the streams that are water sources, the sewage of our thickly settled towns and cities; to relieve our harbors and our beaches, new, ample, and far-reaching channels must be had, providing in place of the water-courses now contaminated special conduits for their harmless flow to proper outfalls in the deep tidal waters. Just as has been indicated, the apparent necessity of purifying and connecting or grouping the water supplies of the State in commonality, so, but even more clearly, is indicated the need of purifying the soil and gathering together in new channels the sewage of the net-work of cities and towns of Eastern Massachusetts, and its removal in commonality beyond power for harm.

That I have roughly sketched — as a boy might draw a picture on a slate — the outline of a gigantic undertaking, I am well aware. That I have contemplated no less than the comprehensive water supply and drainage of the most densely populated part of the most densely populated State of the Union, I also know, but great as the undertaking and expense must be, radical, almost, as the movements must be that it contemplates, I still ask any of you, looking the facts as we all know them full in the face, must not *some* remedy be found for these fast-growing and incalculable evils? And is there any other road out of them? This much any intelligent man may ask. Master

minds must recast the outline and fill in detail. Whether the cordon of rivers and lakes that encircle the municipalities of Eastern Massachusetts, if purified and connected, so that the resources of each group may be available to all its members, would then furnish adequate supply for the coming years of portentous growth is a further question. Whether it may not be that, leaving to manufacturers and to lesser domestic demands the present supplies, the chain of cities and large towns stretching northward from Boston, in two States, may not find it necessary to join the metropolis in bringing the great lake of New Hampshire to our doors, remains as a further problem. Water in abundance, *pure* water must be had. It is *life*, and all that a man hath will he give for his life.

What streams shall be freed from the befores of man and of manufactures, and what relegated to Stygian blackness in their service as sewers, men qualified to determine and clothed with power to decree must say. What valleys shall be drained, what routes the great sewer conduits shall follow, what irrigation fields be established, what outfalls reached, and a thousand questions of hardly less import must be settled.

More than all, municipalities to whom rights have been given must be divested of those rights and dispossessed of their property, must be compelled to relinquish for the common good that which they have enjoyed for their own, and be made to bear a part in burdens that benefit others beside themselves. It goes without saying that for such mighty enterprises and such grand schemes there must exist great powers, and that they must be vested in a central and competent authority.

Sooner or later, perhaps by a devious road, and as the ultimate joining of several previous commissions and their labors, I believe we shall have a conservancy board of water supply and drainage for the Commonwealth. That it will be the legitimate and worthy successor of the several water and drainage commissions that may precede it is most probable, but that it must come I entertain no doubt. It took a hundred years of the sanitary woes of London after attention was turned to them, to produce the Metropolitan Board of Works and the Thames embankment. It may take fifty in our advanced state of knowledge to secure our own conservancy board, and the legal foundation for it to stand upon, but sooner or later I believe it will come, because *it must*.

Already a long stride has been taken in the creation of the Metropolitan Drainage Commission of last year, charged with the draughting of a plan for the drainage of the Charles and Mystic River Valleys and the immediate vicinage of Boston. Among the apparent facts developed by its inquiry were, not only the entire feasibility of the drainage of the area named, but that it could be accomplished in such manner as to very generally take on without special pumping the existing systems of most of the cities and towns of the area; that the great water basins of Boston would be almost wholly freed from contamination; that the flow of Pegan Brook, so long a source of annoyance to Boston, could be provided for; that the needs of the outlying city of Lynn could be included; that towns lying off the shed of the valleys named could be included at small expense; that irrigation plans would meet the needs of certain small towns; that the total expense when divided upon the property of the municipalities benefited would not be burdensome; that a

direct tax would remove all difficulties of apportionment; and that the rivers of the district would, with a single exception, be made wholly available for water supply while the vested rights of sewerage therein would be provided for.

That a commission, given but six months time in which to work and an appropriation of but three thousand dollars, albeit aided by previous inquiries, should have been able to reach conclusions covering so much and so important ground is the most hopeful augury for the work of a future commission with ampler time, means, and scope.

The extensive litigations attending the construction of the water basins of the Sudbury, the discharge of Pegan Brook, the pollution of the Mystic and the Blackstone, and the water supply of Wakefield, with others, are additional arguments for speedy and comprehensive reference of these matters to central and competent authority, able to administer in the interests of all.

I commend to that careful consideration, which the members of this Society are wont to give matters of such importance, these allied matters of general water supply and drainage, so nearly affecting every one of us.

#### A SUMMARY OF OBSTETRIC CASES.

REPORTED BY MEMBERS OF THE MIDDLESEX EAST DISTRICT MEDICAL SOCIETY, AND COMPILED BY DR. SAMUEL W. ARBOTT.

DURING the thirty years or more of its existence as an organization the Middlesex East District Medical Society has striven to cultivate and encourage among its members habits of systematic observation, for the purpose of individual and mutual improvement, and also for the general advancement of medical science.

Individual observation forms the basis of a large portion of all statistics in medical science, and it is a part of the duty of every medical man who draws something from the general fund of medical knowledge to contribute his share in return. In view of this fact committees on Therapeutics, Systematic Observation, and Obstetrics have been appointed who have collected the experience of this Society in these departments, so far as possible, from the voluntary contributions of members, and rendered occasional reports, many of which have been published in past years.

The work of collecting the Records of Obstetric Experience was begun as early as January, 1855, and intrusted to the secretary of the Society, Dr. William Ingalls, who faithfully performed his duty of compilation from that time till 1861. These reports were published in the Boston Medical and Surgical Journal in 1857, 1858, *et seq.*, and comprise a summary of 2256 cases.

The sudden outburst of the rebellion called away the secretary, Dr. Ingalls, and other active members of the Society to service in which obstetric reports were out of the question. Hence their discontinuance for a season. In 1875 these reports were renewed, and have been continued to the present time.

About twenty-five physicians have contributed to the earlier and the later series of reports. The number of reporters has not been more than thirteen in any one year, and an average of ten annual reports has been received.

The blanks used in the later series contained the following items:—

(1.) Nativity of mother. (2.) Nativity of father. (3.) Age of mother. (4.) Previous births. (5.) Miscarriages. (6.) Date and hour when born. (7.) Waters broke. (8.) Duration of pain. (9.) Presentation. (10.) Sex. (11.) Instrumental labor. (12.) Anæsthetics. (13.) Nursed or artificially fed. (14.) Alive at end of year so far as known. (15.) Weight of child.

It is regretted that all items of information in the following summary are not uniformly complete.

Perfect accuracy can hardly be attainable in a report made up of the experience of several individuals, each of whom has his own standard in matters of observation.

Different physicians attach a variable degree of importance to the different items of a report. For example, it is the habit of some to weigh every child personally at its birth. Others never do it except when requested by the parents.

The total number of labors reported in the later period, from 1875 to 1881 inclusive, is 2666, making, with those formerly reported, a total of 4922 cases, the statistics of which have been collected by this Society. The total number of children born, and included in the later series, was 2709. Included in this number were 39 cases of twins and two of triplets. Percentage of plural births 1.53 per cent., or one in 65. Percentage of twin births 1.46 per cent., or one in 68. Percentage of triplet births one thirteenth of one per cent., or one in 1333.

The last figures must be regarded as purely accidental, and would not be likely to rule in a series of 50,000 or 100,000 cases, the normal percentage of triplets being very much smaller.

#### SEX OF CHILDREN.

There were 1379 males, 51.3 per cent.; 1306 females, 48.7 per cent.; 24 not recorded.

The population from whom these statistics are derived is such as may usually be found in thriving New England towns, country villages, and small farming districts.

The nationality of parents is as follows:—

|                                       | Fathers. | Mothers. |
|---------------------------------------|----------|----------|
| Of United States origin.....          | 1526     | 1561     |
| Of Ireland.....                       | 785      | 778      |
| Of British Provinces.....             | 178      | 177      |
| Of England.....                       | 59       | 49       |
| Of Scotland.....                      | 23       | 23       |
| Of Germany.....                       | 16       | 14       |
| Of France.....                        | 18       | 15       |
| Of French Canadian.....               | 12       | 13       |
| Of Sweden.....                        | 13       | 16       |
| Of Negro.....                         | 9        | 8        |
| Of Portugal.....                      | 2        | —        |
| Of Spain.....                         | 1        | 1        |
| Of Wales.....                         | 1        | 1        |
| Of Denmark.....                       | 3        | 1        |
| Of Holland.....                       | 2        | —        |
| Of Madeira.....                       | 1        | —        |
| Of Mongolian.....                     | 1        | —        |
| Of Turkey.....                        | —        | 3        |
| Of Calcutta.....                      | 1        | —        |
| Nativity unknown or not recorded..... | 14       | 5        |

#### NUMERICAL STATEMENT OF BIRTHS.

|                                   |     |
|-----------------------------------|-----|
| Of primiparæ there were.....      | 771 |
| Of second births there were.....  | 535 |
| Of third births there were.....   | 408 |
| Of fourth births there were.....  | 316 |
| Of fifth births there were.....   | 214 |
| Of sixth births there were.....   | 130 |
| Of seventh births there were..... | 106 |
| Of eighth births there were.....  | 63  |

|                                      |    |
|--------------------------------------|----|
| Of ninth births there were.....      | 38 |
| Of tenth births there were.....      | 23 |
| Of eleventh births there were.....   | 8  |
| Of twelfth births there were.....    | 11 |
| Of thirteenth births there were..... | 1  |
| Of fourteenth births there were..... | 2  |
| Of fifteenth births there were.....  | 1  |
| Not stated.....                      | 42 |

#### HOURS OF BIRTH.

There were born between midnight and six o'clock A. M. 716 = 28.8 per cent.; six A. M. and noon 632 = 25.4 per cent.; noon and six P. M. 548 = 22.1 per cent.; six P. M. and midnight 587 = 23.6 per cent.; unrecorded 226.

#### TIME OF THE YEAR.

January, 232; February, 194; March, 224; April 202; May, 217; June, 206; July, 241; August, 277; September, 219; October, 226; November, 219; December, 227; not recorded 25.

#### INTERVAL BETWEEN RUPTURE OF MEMBRANES AND BIRTH.

There were 2241 cases recorded; average time two hours and forty-seven minutes. From this estimate were excluded all cases of abnormally long interval (two days or more), 39 in number. Longest interval fifteen days. About 150 were coincident with birth.

#### DURATION OF PAINS.

Observations were made in 2498 cases. Average duration nine hours fifty-nine and one half minutes. Longest seven days. Unrecorded 168. A portion were recorded by nationality. There were 685 observations of United States mothers, average ten hours eighteen minutes; 337 of Irish mothers, average ten hours thirty-one minutes; 81 of British Provinces, average nine hours twenty minutes.

#### PRESENTATIONS.

There were 2613 observations made. Of these 2512 were cephalic, or 96½ per cent.; 2462 were vertex, or 94½ per cent.; 33 were face to pubes; five were face; seven forehead; one was anterior fontanelle; one was vertex to pubes. Podalic presentations 80, or three per cent. Of these 67 were breech and 13 footling. There were also eight of the arm, four of the shoulder, two of the elbow, three transverse, and eight of the funis. Of the latter at least three are included among other presentations. Unrecorded 96.

#### ANÆSTHETICS.

Observations made as follows: Anæsthetics given in 325 cases, or 12 per cent. In 323 ether was used and in two chloroform; chloral was used in a few cases only. Amount of ether given varied from one half an ounce to three pounds.

#### INSTRUMENTAL CASES.

The forceps were used in 173 cases or 6.5 per cent. Version was used in 39 cases. The fillet was used in 2 cases. The vectis was used once. Embryulcia was performed once, and the battery was used in one case of inertia of the uterus.

#### LACTATION.

Number of observations, 1231. Of this number 1076 were nursed, and 155 were artificially fed. Of the former 29 died before the close of the year, or 2.7 per cent.; of the latter 24 died, or 15.5 per cent.



## WEIGHT.

Observations were made in 224 cases of naked infants. Average weight of all, 3788 grammes. Average weight of males, 3900 grammes; average weight of females, 3657 grammes.

All observations of this item should be taken from the naked child immediately after its birth, the weighing being done by the attendant. Reliance should not be placed on the statements of parents, which are usually over-estimated.

## LENGTH.

There were 31 observations made, with an average of 49.3 centimetres. Seventeen males averaged 49.81 centimetres; fourteen females averaged 48.66 centimetres.

## MORTALITY OF INFANTS.

From all causes existing at or before birth, or before the close of the year in which each child was born, there were in all 273 deaths, or 10 per cent., from the following causes:—

Still birth, 35. Premature birth, 60. Difficult labor, 34. Cyanosis, 3. Anencephala, 7. Anencephala with spina bifida, 1. Spina bifida, 3. Cholera infantum, 14. Debility and puerperal convulsions, 3 each. Imperforate rectum, contracted or deformed pelvis (mother), premature separation of placenta, placenta prævia, erysipelas, and overlying, 2 each. Intussusception, descent of funis, dyspnoea, fibro-cystic tumor of uterus, icterus, and umbilical hernia, cephalæmatoma, knot in funis, syphilitic degeneration of placenta, membranous croup, phthisis pulmonalis, malnutrition, and difficult dentition, 1 each. Causes not stated (mostly still-born), 74.

## MORTALITY OF MOTHERS.

There were 19 deaths from causes immediate and remote, or 7 of 1 per cent. From embolism, 3. Puerperal peritonitis, 4. Puerperal septicæmia, 2. Phthisis 2. Puerperal convulsions, post-partum hæmorrhage, chronic puerperal septicæmia, uræmia, renal disease, erysipelas, rheumatic endocarditis and puerperal anæmia, 1 each.

## DEFORMITIES OF EMBRYO.

Imperforate rectum, 2. Anencephala, 7. Hydrocephalus, 2. Spina bifida, 4. Umbilical hernia, 1. Nevus (requiring operation), 3. Cephalæmatoma, 4. Extra digits, 2. Shortening of tibia and fibula, 1. Short funis, 2, one eight inches, one nine and one half inches.

## MATERNAL INCIDENTS AND ACCIDENTS.

Lacerated perineum, 69 (of which 5 were thought to be sphincter ani; 33 are recorded as having been stitched). Retained or adherent placenta, 14. Phlegmasia dolens, 8. Post-partum hæmorrhage, 21. Puerperal convulsions, 14. Mammary abscess, 13. Placenta prævia centralis, 2. Placenta prævia partial, 5 (one of the latter was in a case of twins, both of which were born alive). Vesico-vaginal fistula, 2. Ante-partum hæmorrhage, 3. Hour-glass contraction, 2. Impacted rectum, 1. Extensive condylomata (requiring removal), 1. Puerperal mania, 1. Metritis, 2. Rupture of cervix uteri (?), 1. Hemiplegia (with recovery), 1. Labor induced at eighth month for contracted pelvis, and version performed, 1. Labor induced at sixth month for incessant vomiting, 1. Labor induced at sixth month for epileptic convulsions, 1. Puerperal fever (or septicæmia), 4. Intra-uterine

tumors complicating pregnancy, 3. Albuminuria without convulsions, 1. Malarial fever (post-partum), 1.

## REMARKS ON SPECIAL CASES.

CASE I. The mother, a healthy woman, during the eighth month of pregnancy, fell down a long flight of stairs, with a child two years old in her arms, the mother fracturing her scapula, but went to the full time, neither the born nor the unborn child suffering any harm.

CASE II. "At seven months this patient had diminished vision for two or three weeks, dimness gradually increasing. She could not see for a few days to cut up children's food. Threatened labor; severe headache at same time, lasting two days. At five p. m., November 28, 1879, she had, while alone with her children, pain, hæmorrhage, and some sort of spasmodic attack, no clear account of which could be obtained. If it was a convulsion it was light. No convulsion after I saw her. Found her at 6.30 p. m. nearly pulseless, sighing, delirious, blanched, with appearance of alarming hæmorrhage. Pupils dilated and blind; blindness continued all night; pupils dilated several days. Consciousness returned during the night. Ruptured the membranes. Drew the urine, which was scanty and albuminous.

"Cord pulseless. Following the babe, and preceding the placenta, was a black clot weighing, I should think, two pounds, shaped as if moulded between fetus and uterine walls. No hæmorrhage after the birth of the child or placenta.

"Albumen in small amounts was found for a week or two. Vision slowly improved. Two months after she could read coarse print with difficulty. Is still pale, anæmic, feeble."

CASE III. "The mother had five labors, and placenta was adherent in four."

CASE IV. "Labor, as marked by a gush of water and dilatation of os, began four hours before she felt a pain, and a single pain brought the child and placenta through the vulva still-born. The child's legs extended and ankylosed at the knees. The third still-born child she has borne in succession."

CASE V. "Difficult labor from disproportion of soft parts to head of child. At two p. m. applied forceps with ether, head being then above the brim. In two hours had only succeeded in getting head as far as perineum. At six p. m. child was delivered, and placenta immediately after. Perineum ulcerated to sphincter ani; two sutures; no union. Much vaginitis and tympanitis followed, with high fever, but no peritonitis. On fifth day after tympanitis and vaginitis had nearly subsided, erysipelas of face set in, proving fatal on eighth day. The child gasped but once."

CASE VI. "Right hand and shoulder presentations; membranes ruptured; patient placed in knee elbow position; hand and shoulder returned and head brought into position and labor terminated normally; child alive."

CASE VII. "Patient Irish; aged thirty-six; third labor; has always had severe labors terminated by forceps; has one living child. Taken in labor September 11th. Her attendant found a face presentation, which afterward, as labor progressed, presented a soft tumor on the top of the child's head, which was not very large and having the feeling common to anencephalous embryos.

"Labor progressed; child was alive; tried forceps; they would not hold; sent for consultation, knowing the

child was a monstrosity. A fillet was secured around its neck, and traction made for an hour without avail, the shoulders being of monstrous size. The head was then amputated to make more room, and one enormous leg brought down. There was not room to bring down both at once, and this leg was severed from the trunk by means of scissors and scalpel. The other leg was then brought down and child delivered, weighing fourteen pounds. The child was not as long as the average, but very stout and broad.

"Mother made a good recovery, and was delivered a year afterward of a very large child.

"Her successive children weighed, naked, twelve, thirteen, fourteen, and thirteen pounds."

CASE VIII. "Patient a French Canadian, aged thirty. Vagina crossed by cicatricial tissue. No os uteri to be found by prolonged search. Finally, the pains being strong for hours, I tore an opening through the thinnest part, through which could be felt the head.

"Dilated the opening with fingers, and delivered with forceps. Cord prolapsed and child dead.

"In her two previous labors I went through the same process. The second resulted in a living child, the first a dead one.

"Condition of vagina was produced by delayed labor in first confinement under an ignorant midwife. After three days' labor I was sent for, and delivered a dead child with forceps.

"Retention of menstrual blood has once occurred; relieved by puncturing where the os uteri was supposed to be."

CASE IX. Another reporter gives the following statement:—

"The year 1880 was a singularly unfortunate one in my obstetric practice, which is not an unusually large one for a country practitioner. In the course of six weeks in May and June, I met with the following cases: One case of puerperal convulsions, attended with albuminuria, and followed by a prolonged attack of phlegmasia dolens in one leg.

"One case of puerperal septicæmia, fatal in twelve days after delivery.

"One case of puerperal peritonitis, fatal in seventeen days after delivery.

"One case of placenta prævia (central) followed by puerperal peritonitis, and death in five days after delivery.

"Two cases of mammary abscess, one very severe, with prolonged anæmia, ten or twelve openings, and profuse suppuration.

"Two mild cases of puerperal fever, not fatal.

"After a season of two months' refusal of all obstetric practice and rustication, occurred the following:—

"One case of phlegmasia dolens, severe in both legs.

"Two cases of severe lacerated peritonæum, occurring within one week, both clear through the sphincter; one of them extending a long distance up the recto-vaginal septum.

"Fortunately both these cases recovered by union by first intention, after immediate stitching with silver wire."

This reporter is convinced that the best and surest course for an obstetrician in case of a run of puerperal septicæmia, or kindred diseases, is a complete seclusion and refusal of all obstetric practice for a definite period, at least one month.

## RECENT PROGRESS IN SURGERY.

BY H. H. A. BEACH, M. D.

### Sponge Grafting.<sup>1</sup>

Dr. HAMILTON's interesting paper upon this subject was quoted from in the last surgical report; since then, Mr. Rhodes, of the Huddersfield Infirmary, has submitted a patient to the process with success.

The ulceration was situated on the face of a boy and measured four inches in length, two in its greatest breadth, and was one third of an inch deep. A slice of sponge was prepared according to Dr. Hamilton's direction and applied to the surface. On the eighteenth day after the application of the sponge, it had disappeared with the exception of some very small particles; in its place a mass of healthy-looking granulations could be seen projecting above the level of the skin. Four days later the patient was discharged, the wound having nearly cicatrized.

### LARYNGOTOMY.<sup>2</sup>

In a recent discussion Despres, in opposition to the view that laryngotomy is an easy operation and without danger compared with tracheotomy, reported two cases where death seemed to be connected with the operation. Verneil defended the operation, and claimed that tracheotomy was a very dangerous procedure in the adult.

Farabeuf maintained that the death in Gosselin's operation (one of the two cases reported by Despres) was due to the malignant disease for which the operation was performed.

### ANTISEPTIC LIGATURES.<sup>3</sup>

Six large arteries, including the brachial, subclavian, common carotid (the two latter simultaneously), the external iliac, and the femoral (twice).

The cases were reported by Dr. Hector C. Cameron before the Clinical Society of London. The antiseptic method was employed in each case, and complete occlusion of the vessel was obtained without any constitutional or local disturbance, without any rise of temperature (excepting one case of diffuse aneurism), and without the formation of a single drop of pus.

A portion of the ligatures were prepared by the new and some by the old method of Professor Lister.

In commenting upon this instructive series of cases, Professor Lister said that "Dr. Cameron's experience coincided with his own in so far as it showed that the old-fashioned catgut answered quite well when well prepared and used strictly antiseptically. Except near any large branch, long duration of the catgut is probably needless."

### EXTIRPATION OF THE KIDNEY.<sup>4</sup>

"It has been the custom to make the incision at the linea alba in cases where there is evidence of dislocation of the kidney, or where there is a renal tumor of considerable size, reserving the lumbar operation for cases in which the kidney is about normal in size and situation."

In discussing the merits of the two incisions, Braun

<sup>1</sup> Edinburgh Medical Journal, May, 1882.

<sup>2</sup> Proc. Soc. de Chirurgie. Gazette Hebdom. de Méd. et de Chir. May, 1882.

<sup>3</sup> Lancet, May 6, 1882.

<sup>4</sup> Deutsche Med. Woch., 1881, Nos. 31, 32, 33; London Medical Record, March, 1882.

finds upon examination of sixty-three nephrectomies, that the lumbar incision was employed in thirty-five cases with only eleven deaths, while incision through the linea alba was followed by death in eighteen cases out of twenty-eight.

The comparative advantages of the two operations are thus dwelt upon by Mr. J. Knowsley Thornton in a clinical lecture upon nephrotomy and nephrectomy, suggested by two cases lying in his wards at the Samaritan Free Hospital.<sup>1</sup>

"Lumbar section is much in favor with some surgeons, and as it is the most suitable operation for the class of cases first named in my list of pathological conditions (calculus in the kidney or ureter) we will take it first.

"I have performed this operation three times, and all the patients have recovered. The first was a case of tubercular suppuration, and the patient derived immense relief from the operation; but a permanent fistula remained, and the other kidney becoming also affected, she eventually died of suppression of urine.

"The second was a case of one of the rarer forms of cystic disease in connection with the kidney; the cyst was opened and drained antiseptically, and the patient is now in good health. The third is the case of the young woman upon whom I afterwards performed nephrectomy, and who has just gone home quite well. . . .

"I wish then to direct your attention to the facts that the kidney is readily reached in this situation, but that there is small hæmorrhage which may be of moment in a very weak patient; and that the space for examination of the kidney is not very large. The organ is reached at the farthest point from the vessels, and it is impossible to thoroughly explore the whole course of the ureter.

"The question in my case was: Is the suppuration due to calculus or tubercle? The answer was not given by the exploration I was able to make through the loin incision; there might have been a stone in the ureter beyond my reach. There were no tubercular growths as in my first case. Had I made my exploration through the abdomen I should have been able, before cutting into the kidney, to satisfy myself whether the obstruction was in the ureter, and in this particular case should have recognized the enormously and irregularly enlarged and hardened ureter as an indication of tubercle, and should have at once proceeded to remove the kidney; as it was, I could not feel certain as to the cause of the suppuration, and determined to try the effect of free antiseptic drainage. The result was a partial improvement followed by relapse, and a month later I had to perform nephrectomy complicated by the presence of a putrid sinus in the loin. . . .

"In my second case it would have been absolutely impossible to complete the operation through the lumbar incision. . . .

"The only cases in the future in which I would use the lumbar incision are those in which there is little or no enlargement of the kidney, and strong evidence of stone. In short, I would restrict its use to the operation of nephro-lithotomy. The experiences of Bech, Butlin, Morris, Haward, and others abundantly prove that there is a great future for this operation, and that when the kidney substance which is cut through in reaching the stone is fairly healthy, there is nothing to fear from the immediate hæmorrhage, and but small risk of permanent urinary fistula. The

abdominal methods would be quite unsuitable for this procedure, but experience alone can decide which method will be best when there is strong evidence of calculous pyelitis." . . .

Finally, "I should be disposed, in any case in which I had commenced by the lumbar incision, and then found it necessary to complete the nephrectomy, to do so by Langenbuch's incision, utilizing a portion of the already made lumbar incision for drainage, and closing the remainder. I would in all other cases, such as neoplasm of kidney, hydronephrosis, pyonephrosis, and floating kidney, operate by abdominal section, making the incision along the outer border of the rectus abdominis instead of in the median line."

#### RUPTURE OF THE URETHRA.<sup>2</sup>

Mr. Joseph Bell, of the Royal Infirmary, classifies the different varieties of this lesion as follows:—

First. Rupture behind a stricture of old standing, with a bladder contracted as to its lumen, and hypertrophied as to its muscular coat, acting with force on a urethra dilated behind a nearly impermeable stricture, and probably with coats thinned, sodden, possibly even ulcerated, from contact with putrid alkaline urine.

These cases, being ruptured in the act of attempted micturition, are at once followed by urinary extravasation; destruction to the cellular tissue from the irritating nature of the urine are apt to be followed by rapid gangrene of scrotum and penis, extremely severe constitutional symptoms, and death unless speedily treated by free incisions.

Second. Rupture may occur in a perfectly healthy individual from an injury to the perineum (a direct blow) unattended by fracture of pelvis or any other complication. Such accidents are heralded by hæmorrhage from the urethra, which is actually cut through. . . . Extravasation of urine and blood may occur, which free central incisions will relieve. The case will generally recover with a urethra permanently damaged, and certain to be affected by a most severe and intractable form of stricture of the membranous portion, which, though limited in its length, is very tight, and sure to recur again and again. Of these I have nothing new to say, but only to state that experience has taught me to avoid cutting and splitting, or any other fresh traumatism, and to trust implicitly to patient, gradual, and constant dilatation.

Third. This one is that so well known in mining or quarry districts, in which a fall of stone or coal on the pelvis, or a heavy wagon going over the patient, has resulted in one or other of the following conditions, which I have frequently seen and dissected: either (a) a multiple fracture of the pelvis, generally of the rami of pubis and ischium; or (b) a fracture of pubis with partial separation of sacro-iliac synchondrosis; or (c) one or more fractures in vicinity of hip-joint, with separation of pubic symphysis. All varieties are very apt to be followed by a rupture of urethra in some place, as in No. 2, but having the far graver complication, that is, that it is caused by and in immediate relation to a fracture of pelvis and a consequent laceration of pelvic fascia.

In the last group of cases incisions will relieve tension, and let the blood and urine drain out, but it will be within the experience of every surgeon here that such cases with all your care prove very serious, and too often die.

<sup>1</sup> London Medical Times and Gazette, May, 1882.

<sup>2</sup> Edinburgh Medical Journal, December, 1881.

Mr. Bell advises the following treatment in such cases: "Never to allow a single drop of water to pass the sphincter vesicæ into the injured urethra for at least ten days." "If this can be managed then there is no fear of putrescence of the blood clot around the fractured pelvis; it remains a simple fracture, the lacerated urethra is given physiological rest, no incision need be made into its wall, and hence less risk of subsequent stricture will ensue."

Do not attempt to pass the catheter, but tap the bladder above the pubes by the fine needle of the aspirator, and repeat the operation every eight or twelve hours, according to circumstances, for at least ten days. If this is not practicable tap the bladder by the rectum, and retain a Coeh's canula, "anything better than to let any urine into and out of the injured urethra."

#### AMPUTATION AT THE HIP-JOINT.<sup>1</sup>

Dr. R. Macdaren has performed three operations within a short time, in two of which he employed the Davy's lever to compress the common iliac artery through the rectum. In both instances it was easily introduced and applied, and "answered admirably" in controlling the bleeding. The operations were performed for disease, and the method employed was that advocated by Mr. Farneaux Jordan reversed. "First a circular incision was made at the upper third of the thigh, the tissues being divided down to the bone by two circular sweeps of the knife. Another incision was then made from this along the femur up to a little above the great trochanter, the tissues were separated from the femur, and the disarticulation effected. Recovery took place in two of the cases."

## Hospital Practice and Clinical Memoranda.

### GLAUCOMA.

ITS DIAGNOSIS WITHOUT THE OPHTHALMOSCOPE;  
THE MECHANICAL THEORY OF ITS ETIOLOGY;  
WITH A FEW CLINICAL CASES.

BY EDWARD S. PIERCE, A. M., M. D.,

Visiting Surgeon to the Ophthalmic Division of Charity Hospital, New York.

CASE I. A lady in Northern Vermont, sixty-three years of age, consulted me July 4, 1878, on account of deficient vision. Examination of each eye gave the following results:—

Right eye: vitreous a little cloudy; fundus easily detailed by the ophthalmoscope; retinal vessels small; lamina cribrosa cupped, grayish, and apparent, indicating a thinned sclera at this point; hyperopia  $+\frac{1}{2}$ , with which number of a spherical lens patient read at fifteen feet type suited to the normal eye at twenty feet ( $V=\frac{1}{2}\frac{1}{2}$ ).

Diagnosis: Incipient glaucomatous atrophy.

Left eye: media hazy; disc cannot be seen in detail; eye hard and in first degree of tension ( $T_1$ ); pericorneal zone injected; cornea anæsthetic, and feebly responsive to the touch of a piece of paper; pupil larger than the right, and less readily responsive to light. Vision so reduced in this eye that fingers are accurately counted at six inches (normal eye counts fingers at two hundred feet; vision in this eye is then  $\frac{1}{6}$ ).

Diagnosis: Subacute, supervening upon chronic, glaucoma. Iridectomy was advised for the left eye and refused.

A solution of eserine, four grains to the ounce, was instilled into each eye from two to four times a day for several months. In February, 1879, eight months later, her physician, Dr. Butler, wrote that in the left eye the bulbar and supereiliary pain and pericorneal vascularization had increased; pupil was larger and more hazy; the eyeball hard and prominent. February 15th. I went to her home, and found the representations not only correct, but intensified since the date of the letter. The left eye had a central staphyloma of the cornea, at whose greatest prominence was a perforating ulcer. Lens cataractous, as often occurs in acute, following chronic, glaucoma. Blindness total. Tension of highest grade ( $T_3$ ): bulbar pain, especially in upper ciliary region, severe. Patient had had almost sleepless nights lately. Patient submitted to our decision as to enucleation, and with the assistance of Drs. Butler and Ferris was put under ether, and the left eye removed. At this time vision of the right eye had diminished from  $\frac{1}{2}$  to  $\frac{1}{3}$ , the former representing the fraction of vision eight months before. Here an insidious, painless process of chronic glaucoma was going on. In November, 1879, or nine months later, I learned that vision was still further diminished; iridectomy should have been made upon this eye without longer delay. At present date, Dr. Butler writes that the patient can count fingers only at fourteen feet ( $V=\frac{1}{4}\frac{1}{2}$ ) and that eserine was used but a few days.

Remarks.—How much value eserine was in each of these eyes it is difficult to estimate. I am inclined to think that for the right eye, or the one in chronic glaucoma, the process was stayed in some measure for the time, though we are at the disadvantage of not knowing how fast vision in the left eye had decreased before it was found to be almost gone, namely,  $\frac{1}{2}$ ; and so cannot compare the two eyes of the same person; for the left eye it is quite apparent that eserine did not prevent an acute attack following a long invasion of chronic glaucoma.

CASE II. A young gentleman from Boston, thirty-six years of age, consulted me in New York in May, 1878, for obscure vision. He used his eyes largely in colors, and had noticed a failure in distinct vision for four to five years. He had never had photopsies, such as are made by floating bodies in the vitreous; nor chromopsies (iridescences), as jaundiced patients sometimes have. His detection of colors was accurate, the amblyopia not involving color-blindness.

Results of examination were as follows: Right eye, finger counting at thirteen feet,  $V=\frac{1}{3}\frac{1}{2}$ ; eye hard  $=T_1$ ; with the left eye, patient read with difficulty at eighteen feet type suited to the normal eye at seventy feet,  $V=\frac{1}{5}$ ; slight increase of tension of the globe  $=T$ . No hyperopia was found, and with neither eye was there improvement with any glass. With the ophthalmoscope there was seen a deep excavation of the optic nerve, a wide mounting of the vessels over the brim of the cup towards the nasal side chiefly, and large retinal veins, especially marked in the right, or less useful, eye.

Diagnosis: Chronic glaucoma, of hereditary origin, for which a four-grain solution of eserine was ordered. In the same month of May I had made an iridectomy on both eyes of this gentleman's mother, the glaucoma having existed several years. One operation doubled

<sup>1</sup> Edinburgh Medical Journal, December, 1881.

the quantitative vision (which still remains), while the other eye was less fortunate. A second examination of the son's eyes was made in December of the same year with the following result: Right eye counted fingers at sixteen feet; tension reduced to T; left eye reads type at eighteen feet suited to the normal eye at twenty-five feet;  $V=\frac{1}{2}$ . In other words, vision in the right was slightly improved, while that in the left eye was almost trebled.

Examinations in January and March of the next year, the latter at twilight of a dark morning, gave the same fractions of vision: it is to be noted, that the patient abandoned the instillation for nearly three weeks, having broken the bottle, and lost the prescription. Patient was not again seen until July 19, 1880, when he consulted me in Burlington, Vermont. Vision of the right eye was finger-counting at twelve feet;  $=\frac{1}{20}$ ; of the left eye  $\frac{1}{2}$ . Eserine had been used irregularly, and at long intervals. It will be observed that this patient, during an inspection covering two years and two months, had lost  $\frac{1}{20}$  per cent. of vision in the right eye; while that of the left had doubled; namely, May 28, 1878,  $V=\frac{1}{20}$ ; July 19, 1880,  $V=\frac{1}{2}$ . This is of exceeding interest in view of the fact that sight in the left eye began to fail four years before his first visit, from  $\frac{1}{2}$  or  $\frac{1}{2}$  to  $\frac{1}{20}$ , a loss of twenty-five per cent. Observations with eserine in chronic glaucoma are rare, and all well-authenticated cases are entitled to thoughtful consideration. Clinical experience is not sufficient to lead to the belief that eserine will supplant iridectomy in chronic glaucoma. This operation was proposed upon the right eye at the last date, but patient has declined it.

CASE III. Notes condensed from the hospital protocol. An Irishman, of fifty-five years, was admitted to the Ophthalmic Division of Charity Hospital, February 13, 1880, with an acute attack of glaucoma in the left eye, due to exposure. Previous history was that of a hard drinker, with repeated delirium tremens. Early in 1878 the left eye became inflamed, while he was on a spree; though he is positive it never received a blow or injury. He first presented himself at the eye service of the Northwestern Dispensary in August, 1879, with a severe catarrhal conjunctivitis; a dislocation of the lens downwards behind the iris, lens in the condition of hard, mature cataract; iris tremulous in every part of its equator; tension of globe normal; vision equal to finger-counting at one foot. There was no story of bulbar pain. Patient states that he had had gonorrhoea several times, but never a sore, and gave no history of syphilis. After a partially successful treatment of the conjunctivitis patient left the service, and returned early in February, 1880, with the following group of alarming symptoms: Left eye intensely bloodshot and very hard ( $T_2$ ); cataractous lens inflamed, and lying in anterior chamber; bulbar pain severe; blindness total; cornea wholly devoid of sensation, and pupil in complete dilatation; bowels constipated, and appetite gone. Patient had been on a continuous debauch for two weeks.

Diagnosis: Glaucoma acutum; right eye normal. Removal of the globe was indicated and advised, on account of the length of time this acute condition had existed (presumably two weeks), its association with a luxated cataract, and the previous intemperate history of the patient. The consultant advised removal of the lens alone as a means of lessening tension and pain, which was done February

14th, without iridectomy, under narcosis. During extraction, the lens recoiled into its previous position of luxation behind and below the iris, and was removed with a Critchett spoon without the loss of vitreous. Tension was released, and everything went on well until the third day after the operation, when the patient became delirious, and tore the bandage from his eyes. During his violence, a severe intra-ocular hemorrhage occurred, accompanied by the protrusion of a mass through the corneal flap. This was cut off, and on examination in the fresh state was found to consist of the granular elements, rods, and cones of the retina, and blood. The violence of the patient increased, so that it became necessary to resort to a canisole. He was carefully watched on account of an attempt to jump out of the window; and refused all food. On the fifth day, after a good night's sleep, he woke up in his right mind. In a few days the eye, in a condition of collapse, and from which a thin, abundant, dark fluid was oozing, was removed, the patient being again put under ether. Patient recovered without any untoward symptoms, and was discharged at his own request in due time.

The suggestions to be made on this very severe case are obvious. First, the acute (fulminating?) attack of glaucoma, precipitated by a prolonged debauch, and favored by a fat, dislocated cataract, might have been treated with some, probably a large, success, if extraction of the lens and instillations of eserine could have been practiced immediately upon its occurrence. When the patient was seen after two weeks of such debauch, with total blindness and almost stony hardness, it was hardly a question as to removal of the globe, though extraction of the lens was practiced first, upon competent consultation, as a less severe procedure.

CASE IV. A lady, seventy years of age, whom I saw in Northern Vermont, in the summer of 1880. The right eye had been totally blind for four years from chronic glaucoma. In addition there were a hard cataract and a dense leucoma of the cornea, the latter for two years, due to intraocular pressure. The left eye had vision equal to  $\frac{2}{20}$ , with a very narrow central limitation of the field. In neither eye had there been severe pain. Instillations of eserine and tonics were ordered, as the patient was in a feeble condition. It was proposed to make an iridectomy on the left eye in the fall, but the operation was abandoned by dint of the distance of the patient, and severe family sickness. I learned by letter that vision gradually diminished until, in June, 1881, this eye also became totally blind.

CASE V. A woman of fifty-five years of age came to the ophthalmic service of the Northwestern Dispensary early in April of this year, with chronic glaucoma of the right eye, in which she alleged blindness for one month. There was every symptom of the disease except extreme tension and complete dilatation of the pupil, which are concurrent with chronic glaucoma. Patient could not detect the strongest reflex thrown into this eye, and the opinion was expressed that consecutive atrophy of the optic nerve had already set in. She consented to an iridectomy with its meagre hope of improvement. Operation was made April 25th, at Charity Hospital, with a large coloboma, and the bandage removed on the 28th, with the slightest trace of conjunctival irritation. Vision has so far improved that projection of light is perfect in every direction except to the nasal side, and fingers are counted at the distance of one foot.

The left eye had, at first, vision,  $\frac{2}{20}$ ; its ophthalmoscopic appearances were those of a recent glaucomatous cupping of the optic nerve; eserine was ordered with improvement of sight, and the patient is now under careful observation. A later examination, with the pupil in marked myosis under eserine (pin-hole pupil), and with a  $+\frac{1}{2}$  lens, gives a vision of  $\frac{2}{20}$ .

The objects of this paper are to emphasize the salient points in the diagnosis of glaucoma without the ophthalmoscope; to introduce a few cases to prove that eserine has not yet supplanted iridectomy in chronic, whatever it may do in acute, glaucoma; and to call attention to the mechanical theory of the aetiology of the disease. One of the earliest symptoms of chronic glaucoma is smoky vision; with progressive decrease of sight the patient detects concentric circles of light on looking at a luminous body; peripheral vision fails, especially on the nasal side of the eye, which is easily detected by having the eye fixed directly forward upon an object at the distance of about two feet, and requesting the patient to note when the fingers can first be seen approaching from different peripheral directions (or the same may be done by tracings with chalk upon a blackboard, blue paper, etc.); the cornea becomes anæsthetic, detected by touching its centre with a wisp of tissue paper; pupil enlarged to different degrees of mydriasis, and sluggish in response to a strong light; pupillary reflex green, simulating a recent, diffuse cataract; usually a small amount of pericorneal injection; always increased tension of the eyeball, determined by palpating with the forefingers each bulb in succession.

Chronic glaucoma is universally regarded as the typical form of the disease, yet those who argue the "inflammatory" theory of glaucoma assert the absence of every inflammatory symptom in this variety. Schmidt, in his exhaustive article on this subject in Graefe and Sæmisch's Encyclopædia, succinctly states that "*simple glaucoma is the type of the whole group of glaucomatous diseases*," while there is not a single factor of inflammation in its course.

It is not essential to this paper to enumerate the ophthalmoscopic appearances of the background of the eye; they are well known to every one familiar with the instrument.

Glaucoma forms about one per cent. of all diseases of the eye. In the acute or subacute forms it does not occur before the fiftieth year of life. [Case II., thirty-six years of age, had chronic glaucoma of hereditary origin.] It stands in co-relation with fatty degenerations and calcareous formations. It occurs principally in hyperopic persons (fifty to seventy-five per cent. of all glaucomatous patients being hyperopic); it may be produced by sudden bursts of passion, and the inhibition of strong emotions, which, in an eye *flat* either by nature or by atheromatous changes in the sclera, prevents the physiological escape of the filtered fluids of the eye at the corneo-iritic angle; it does not produce hyperopia, but, on the contrary, makes an eye more spherical, and its accommodative power is progressively destroyed.

With regard to the "mechanical" theory of glaucoma, Wecker claims to have been one of the first to define it as "*the expression of a disturbance of equilibrium between secretion and excretion with increase in the contents of the eye, and increased tension*." Donders taught that "the excess of tension in glaucoma is the result of hypersecretion." Max Knies, of Zurich,

in a long article, translated by the author of this paper,<sup>1</sup> stated that the pathological factors of glaucoma are to be found in the induration of the structures in the vicinity of the canal of Schlemm at the corneo-iritic angle. Weber, of Darmstadt ["with a head full of bright ideas," as Horner once said of him to me], in a later article, wherein his colleagues in the same line of study are treated with mere mention, regards the aetiology of glaucoma as purely mechanical, and as depending upon obstruction in the channels of filtration of the eye. What Weber calls *filtration* Wecker styles *secretion*. There are two channels of filtration of the eye: (1) the pericorneal region, and (2) the neighborhood of the optic nerve, the larger conduit being in the parts about the cornea. The anatomy of these regions is here referred to for the convenience of those interested.<sup>2</sup> Any obstruction at the iritic angle, formed by the lymph spaces of the cornea and the sclerotic, on the one hand, and the trabecular tissue of the periphery of the iris on the other, checks excretion of the eye by way of Fontana's spaces and Schlemm's canal into the subconjunctival space.

The true genesis of the disease may be sought for among the following conditions: a perforating ulcer of the cornea with incarceration of the iris; serous iritis; a dense pannus; posterior total (annular) synchia; injury to the lens, subluxations, with peripheral swelling up of its fibres, giving rise to irritable glaucoma; dissection of secondary cataract; sarcoma of the choroid, gumma of the iris, foreign body in the ciliary region; *strong solutions of atropine*; in fact, any force tending to press the iris against the iritic angle. The aetiology from this stand-point is purely mechanical, and does not belong to the obscure domain of the neuroses of secretion; hence the treatment must be mechanical, and its chief reliance is upon iridectomy. As is well known, this was Graefe's accidental discovery while attending the clinique of the elder Desmarres. Eserine is believed to be a useful adjunct, while atropine, on the other hand, should be avoided.

## Reports of Societies.

### EIGHTH ANNUAL MEETING OF THE AMERICAN NEUROLOGICAL ASSOCIATION.<sup>3</sup>

HELD AT THE HALL OF THE ACADEMY OF MEDICINE, NEW YORK, JUNE 21, 22, AND 23.

SPECIAL REPORT FOR THE JOURNAL.

SECOND DAY, THURSDAY, JUNE 22.

On this day there was but one session, in the afternoon. Dr. CHARLES K. MILLS, of Philadelphia, read a paper entitled,

NOTES ON TWELVE CASES OF BRAIN TUMOR, CHIEFLY WITH REFERENCE TO DIAGNOSIS.

Some of these cases had been published, but the prominent points in them were repeated in order that in-

<sup>1</sup> Arch. of Ophthalmology and Otology, 1879, vol. vii., pp. 347 et. seq.

<sup>2</sup> Waldeyer's plates in Wecker's Ocular Therapeutics, pages 262 and 263, 1879. Wood & Co., New York.

<sup>3</sup> Schmidt's article on Glaucoma in Graefe and Sæmisch's Encyclopædia, vol. v., chap. I.

Max Knies, on the Nutrition of the Eye, and the Avenues of Exit of the Intraocular Humors, Arch. of Ophthalmology and Otology, loc. cit.

<sup>4</sup> Concluded from page 568.

telligent conclusions might be arrived at from a study of the whole number. The first was a male, thirty-five years of age, who had had syphilis, and in whose case there was the history of a fall in which the head was violently struck. The chief symptoms were headache, vomiting, vertigo, tonic spasms of the muscles of the wrist and fore-arm, and gradually increasing blindness. The electro contractility of the muscles was retained, and there was no true paralysis. Ophthalmoscopic examination showed the existence of choked disk. The head temperature was above the normal. The autopsy revealed the presence of a fibroma in the right frontal lobe. The second case was quite similar in character, there being a history of syphilis, and the patient suffering from headache and vertigo, although there was no vomiting, as in the other. There was also general hyperaesthesia. No ophthalmoscopic examination was made. At the autopsy it was found that there were three gummata in the brain, the chief of these being an inch and a quarter in diameter, adherent to the pia mater, and involving parts of the first and second frontal convolutions. The second gumma was located at the second retro-frontal fissure, and the third at the posterior extremity of the fissure of Sylvius. The third case was syphilitic also. There were vomiting and constant headache, which increased in severity until it became exceedingly intense. There was left hemiplegia, and the hearing and sense of smell were affected. The surface temperature of the head was increased, and this was more marked on the right than on the left side. At the autopsy it was found that there was a gumma situated at the optic chiasm, and the microscope showed that there was descending neuritis of the optic nerve instead of the well-marked choked disk of the first case. The fourth patient was a female of thirty, in whom there was no history of constitutional trouble. She was highly emotional, and the headache, which was continuous, was sometimes agonizing. There was left hemiplegia and some muscular spasm, most marked in the left arm. At the autopsy there was found a carcinoma adherent to the pia mater of the convexity of the left hemisphere at the ascending parietal convolution. In the fifth and sixth cases the lesions (in one instance a gumma and in the other tubercular) were cortical, and in the motor zone. In the latter it was situated on the right hemisphere, and in the interior of the hemisphere there was found a cavity of considerable size. In this case there was increased head temperature and hemi-anesthesia. In the seventh case, which was characterized by attacks of mania at intervals and complete blindness, there was a firm tumor, two and a half inches in diameter, located in an occipital and postero-parietal position on the left side, and adherent to the pia mater and dura mater, which were united. In this case there was choked disk and optic atrophy. In the eighth case, in which the patient was syphilitic, there was considerable stupor of mind, and shortly before death one general convulsion. A gumma was found involving the first and second temporal convolutions, and also pachymeningitis of the opposite hemisphere. The ninth patient was a girl of thirteen, with a tubercular history, and she suffered principally from paroxysmal headache, vertigo, and attacks of reeling and falling. At one time the ophthalmoscopic examination showed choked disk, and later, optic atrophy. After death a tubercular tumor was found occupying two thirds of the right cerebellar hemisphere, and also internal hy-

drocephalus. In the tenth case the patient, who was a female patient, aged twenty-seven, suffered from intense paroxysmal headache and very frequent vomiting. For four weeks before her death she had almost constant vomiting, and Dr. Mills said it was the most persistent case of vomiting that he had ever met with. She also had marked vertigo and partial hemiplegia and hemi-anesthesia. A gumma was found at the autopsy, which involved the right cerebellar hemisphere. In the eleventh patient, who had had syphilis, there was descending optic neuritis. Among the other characteristics of the case were defective memory and persistent epistaxis. A gumma, half an inch in diameter, was found in the body of the pons. The twelfth patient, in addition to headache, of great severity at times, vomiting, and vertigo, suffered from failure of memory, depression of spirits, and epileptiform seizures, and he finally died after a series of convulsions. At the autopsy a gumma, a quarter of an inch in diameter, was found on the anterior surface of the pons. In this case there was descending neuritis.

In reviewing these twelve cases, Dr. Mills remarked that there was headache in all of them. In ten out of the twelve the headache was felt all the time, but with paroxysms of great intensity. In two it was most intense in the part of the head nearest to the seat of the tumor. In four cases percussion of the head was resorted to, and in three of these it elicited intensified pain near the seat of the lesion, which seemed a point of considerable importance. There was vomiting in eight of the twelve cases, and vertigo in ten. In the two cases of cerebellar tumor the vertigo was of a very striking character. The intellectual faculties were affected to some extent in all, but he did not think it was possible to learn much in regard to the special seat of these from a study of tumors of the brain. There was greater or less anaesthesia in seven of the twelve cases. Choked disk was found in five cases, and descending neuritis in three. The temperature of the head was not taken in all of the cases, but in five of them it was found to be higher than normal. The conclusion reached by Dr. Mills from the observations made was, that in tumors of the brain the head temperature is elevated, and the increase of temperature is greatest in the vicinity of the growth present. From a study of these and other cases he believed that the diagnosis of tumor of the brain could be made with greater certainty than that of any other intra-cephalic disease, the diagnosis being based mainly on the peculiar headache, the vomiting, the vertigo, the choked disk or optic neuritis, and the increased head temperature. As to the local diagnosis, when the growth was in certain positions its seat could usually be determined by special manifestations, and when in others the diagnosis could be arrived at by a process of exclusion. Tumors of the middle portion and base of brain could be detected with comparative ease, and when they occupied the motor zone an early and exact diagnosis could be made. There was little difficulty in making out a tumor of the pons if it was of large size, and cerebellar growths could also be detected with considerable certainty. As before intimated, the peculiar vertigo that accompanied cerebellar tumors was a sign of much value. Finally, percuss-ion seemed to be of considerable service in determining the seat of brain tumors.

Dr. PUTNAM believed that there was only one form of choked disk, and thought that he expressed the

opinion of the best ophthalmologists when he said that choked disk was always a sign of neuritis.

DR. ROCKWELL related the case of a lady, twenty-five years of age, who, for ten or twelve years, had had hysterical attacks, and, later, was subject to epileptiform seizures. Her temper was irritable, and she had suffered from the beginning from headache, which finally became excruciating. The persistent headache and the epileptiform attacks seemed to be very significant of tumor of the brain, yet after death nothing of the kind could be found, the only pathological changes present being those indicative of chronic meningitis. It was a well-known fact that brain tumors might exist for a long time without giving rise to any very positive signs of their presence, and hence he thought this case was instructive, as the symptoms apparently indicating such a growth were very striking. There was no possibility of any syphilitic taint in this patient.

DR. SEGUN said that he had been very much instructed by Dr. Mills' paper, and he was glad to find that his cases afforded confirmatory evidence of the correctness of the views now held by the best authorities in regard to localization. He agreed with the writer that headache was ordinarily one of the important symptoms in tumor of the brain; but at the same time, in two cases of well-defined central sarcoma of the brain which had come under his observation, and reports of which he had already published, this sign was lacking. In the first case there was hemi-epilepsy, and afterwards hemiplegia, but absolutely no headache until after the occurrence of an attack of apoplexy, quite late in the course of the disease, and this could not, of course, be attributed to the sarcoma. In the second case there was likewise no headache. Before the symptoms of tumor became very definite it was true that there was some occipital neuralgia, but this disappeared in a few weeks.

In regard to choked disk his experience had been very singular. In only two of all his cases of tumor of the brain had this sign been present. Dr. Seguin then described nine or ten cases which he had met with, and exhibited a series of diagrams representing the seat and character of the lesion in each. He said he did not do this with any idea of depreciating the value of choked disk as one of the signs of brain-tumor; but only for the purpose of pointing out the error of rejecting the diagnosis of such a growth simply because the optic nerves were not choked, a mistake into which he himself had been led on one occasion some time since. As far as he was able to judge, choked disk was more apt to be associated with basal or cerebellar tumors than with those situated in other locations. He would like to inquire of Dr. Mills whether any of his patients exhibited an undue susceptibility to the action of chloral. In several of his own cases the drug produced such an amount of intoxication, and otherwise disagreed so much with the patients, that he was obliged to give it up and resort to the use of morphia instead.

DR. AMBROG gave some details of the history and autopsy of Dr. Seguin's second case of sarcoma of the brain, which had been more particularly under his own care. There were no choked disk and no headache; but there was gradually increasing hemi-paresis, which before death became complete.

DR. MILLS, in concluding the discussion, said that he thought his cases were decisive as to the distinction between choked disk and descending neuritis. His

own view was that it depended on the position and character of the growth present whether we would have choked disk or neuritis descending from the lesion. Practically he believed Dr. Putnam's views the same so far as the results were concerned. In the initial stages there was no inflammatory action. He could not account for the fact that choked disk was so often absent in Dr. Seguin's cases; but it certainly seemed very remarkable to him. In regard to the presence or absence of headache and vomiting, it seemed to him that a generalization would cover the exceptions. In his experience tumors of the brain, in nine cases out of ten, originated in the meninges; the pia mater and dura mater generally being fused together. In some cases, however, the tumor was not connected with the membranes. In these the ordinary symptoms of tumors of the brain might not be met with if they were situated in such a way as not to cause pressure, and if the brain tissue were gradually displaced with the advancing growth of the tumor. Headache he believed to be distinctly a symptom of irritation of the meninges, and its occasional absence might thus be accounted for by the fact that no such irritation was caused by the growth present. With regard to the action of chloral in this class of cases he had no opinion to express, as he had used it to a very small extent. He had generally been accustomed to relieve suffering in his patients with morphia, and he had always found it to act in a very satisfactory manner.

DR. A. D. ROCKWELL, of New York, then read a paper entitled

#### A CASE OF POST-PARALYTIC CHOREA, WITH REMARKS ON THE TREATMENT OF CHOREIC SYMPTOMS IN GENERAL.

The patient was a child eight years of age. A year previous to the time that the case came under his care (in February, 1881,) the boy had an attack of acute articular rheumatism, and this was followed by paralysis of the right leg and arm, and decided chorea symptoms in addition. When he examined his heart he found a functional (systolic) murmur; but this was exceedingly irregular, and often altogether absent. The measures which he adopted for the treatment of the case were three in number, namely: the application of the ether-spray to the spine, the internal administration of fluid extract of cinchona, and the use of central galvanization; and the patient was discharged entirely cured at the end of ten weeks. In regard to the ether-spray, he did not believe its therapeutical value was very great. In the cases in which he had employed it, in connection with other agents, he had not found that recovery was any more rapid than in those cases where the same agents were used without the spray. At the same time, he thought it well to resort to it, as it could easily be applied by the parents of chorea children, and it had, at all events, an excellent moral effect. As to the cinchona, he had a better opinion of its utility, as it had seemed to have an evident beneficial effect in a number of cases in which he had employed it exclusively. In the case in question he had commenced with five drops of the fluid extract three times a day, and had gradually increased the dose up to twenty-five drops. As to the efficacy of electricity in chorea, he could only express the same favorable opinion that he had been led to form a number of years ago. He was aware that this was not acknowledged by a great many in the profession, and



he quoted the views of a number of standard authorities on diseases of the nervous system in opposition to its use; but he believed that the reason why better results had not been obtained with it was either because an incomplete method was employed, or its use was not kept up long enough. In chorea, as in a number of other affections, success with electricity was largely a matter of detail. In employing central galvanization in chorea it was his practice to wet the hair thoroughly, and then covering the head with a sponge cup electrode, make use of a current of great power.

DR. MORTON remarked that in the treatment of chorea various remedies had from time to time come into fashion and been greatly lauded by different authorities. It had come to be pretty well understood, however, that the affection would get well under almost any severe kind of treatment; though it would not, as a rule, get well without treatment. Dr. Rockwell's experience with conium was doubtless the same as it would have been in case he had used any one of several remedies in large enough doses. In chorea it seemed to be necessary to take the disease by storm, as it were, and almost any kind of treatment that made a strong impression upon the system would be efficient. One of the most successful methods was the use of a direct jet of cold water.

DR. EDES thought it was of no use to give conium unless this was done in sufficient doses to produce the physiological effects of the drug. He did not believe this agent compared in value, however, with arsenic, as given in the ordinary routine treatment of chorea.

DR. SEGUIN said he quite agreed with Dr. Edes in regard to the necessity for large doses of conium. It was his common practice to give a teaspoonful of the fluid extract of the drug; and he always employed Squibb's preparation. It was true that it was often advisable to commence with small doses; but he had never seen any effect, even in children, with less than fifteen minims. With respect to the treatment of chorea in general, he confessed that he was enough of an old fogey to be very well satisfied with the results obtained from the use of arsenic.

The president, DR. HAMMOND, stated that he quite agreed with what Dr. Edes and Dr. Seguin had said in regard to the use of conium.

DR. ROCKWELL explained that though he had commenced with five drops of the fluid extract of conium, he had increased the dose to twenty-five drops, which he thought was sufficiently large for a child of that age.

DR. MORTON seemed to think that it was necessary to surprise the system in some way in order to cure chorea; but he thought that such surprises were quite as likely to increase the severity of the symptoms as to remove them.

The last paper of this session was one by DR. GRAEME M. HAMMOND on

#### A CASE OF ATHETOSIS RELIEVED BY NERVE STRETCHING.

Nerve stretching, he said, in introducing the subject, was, as a rule, very unsatisfactory in cases where there was any organic lesion, and athetosis came under this class. Before the present instance the operation had been only once performed in athetosis, and that was by Dr. William J. Morton, in the department for nervous diseases at the Metropolitan Throat Hospital, New York.

Dr. Hammond having distributed a report of this case, reprinted from the *Journal of Nervous and Mental Disease* for January, 1882, remarked that he thought that if less force had been employed the paralysis of the hand would not have resulted. The patient in whom he resorted to nerve-stretching was Ross, his father's original case of athetosis, and he quoted a brief outline of its history from Dr. Hammond's work on Diseases of the Nervous System. Up to the time of the operation, he said, the movements continued uninterruptedly day and night, and thus interfered with sleep and impaired the general health of the patient. He was also subject to epileptiform attacks, six or seven of which occurred during each week. The operation was performed five weeks before, in May, 1882. The median nerve was cut down upon below the elbow, and gentle traction was made upon it both in an upward and downward direction. It was found to be very elastic, but was not stretched more than half an inch. No stretching of the ulnar nerve was undertaken, as he wished to observe first the effect produced by that of the median. As soon as the patient recovered from the anæsthetic he could keep his fingers still, and from that time on had steadily improved. The epilepsy had also greatly improved, as there had been only two attacks since the operation, and they were of a much less severe character than those before it. The result in this case was certainly remarkable, as the researches in all the cases of athetosis yet recorded indicated that the disease was dependent upon degenerative changes in the corpus striatum. Now, then, was the effect of the nerve-stretching to be explained? There were only two ways in which it could act. One was to render the nerve incapable of transmitting the athetosis influence from the brain centre, and the other to make such an impression on the brain centre as to cause it to cease giving rise to such influences. The latter explanation he thought the more probable, since the movements in the leg had also ceased, and since the epileptic attacks had been so greatly modified in addition. The patient was now exhibited, and it was found that he could hold his hand perfectly quiet, although if his attention was not directed to the matter there were occasionally some slight movements in the fingers, which seemed to be due more to the force of habit than anything else. He said that after the operation was the first time for twenty years that he had been able to keep his hand still.

DR. MORTON thought that at the end of a year the man upon whom he had operated would probably have a quieter hand than Dr. Hammond's patient, because he had used greater force in the stretching; and he believed that in proportion as motor power was restored the athetosis would return. This, however, would be an interesting point to observe in the future.

DR. WILLIAM A. HAMMOND also made a few remarks on the case.

In the evening Dr. Hammond invited the Association, with a large number of the medical profession of the city, to one of those delightful entertainments for which his hospitable mansion, on Fifty-Fourth Street, has become so justly famous.

THIRD DAY, FRIDAY, JUNE 23.

On this day there were again two sessions. Dr. Roberts Bartholow, of Philadelphia, was to have read in the afternoon a paper on the Effects of Remedies on the Spinal Cord, but on account of his absence it

was read only by title. The first paper read was by Dr. V. P. GIBNEY, of New York, and was entitled *A Case of Swift and one of Slow Compression of the Upper Cervical Cord from Displaced Odontoid Process, with Specimens*. He was followed by Dr. WILLIAM A. HAMMOND, who read a paper on

THE DISEASE OF THE SCYTHIANS, MORBUS FEMINARUM, AND ANALOGOUS CONDITIONS.

Among the ancient Scythians there were a number of men, as described by Hippocrates, who were afflicted with impotence, and who were accustomed to dress and act precisely like women. The impotence was believed by them to be a direct visitation of the gods, but Hippocrates ascribed it partly to the fact that the Scythians were so constantly on horseback and partly to the fact that they wore breeches. Among the modern descendants of the ancient Scythians in the Caucasus, according to the accounts of various travelers, these creatures were still to be found, and all observers agreed that impotence was very prevalent in these wild tribes. This was no doubt attributable to their almost constant life in the saddle, and to the fact that they were greatly addicted to the practice of masturbation; a habit in which they had great temptation to indulge on account of their being unaccompanied with women on the many long excursions which they were accustomed to make. Dr. Hammond's attention was first directed to this subject thirty years ago, when he was in the United States Army Medical Service in New Mexico, where he found among the Pueblo Indians a special class of individuals who, in connection with certain superstitious rites, had been reduced to a state of impotency, and had acquired many of the characteristics of females, whose dress and habits they assumed. In two of them whom he had the opportunity of examining he found the penis and testes exceedingly small, of the latter there being apparently nothing left but fibrous tissue. Impotence he found was also very prevalent among these Indians, and was to be attributed, he thought, to the same causes as among the tribes of the Caucasus. Those whom he found dressed and acting as women he believed to be subjects of morbid impulse rather than of insane delusions. The paper was discussed by Drs. M. A. Pallen and E. C. Spitzka.

HEMORRHAGE INTO THE PONS.

Dr. F. T. MILES, of Baltimore, next presented a morbid specimen showing hemorrhage into the pons. The case was a remarkable one, he said, as the patient had lived for eleven months after the attack, while usually the hemorrhage in this position was so large that death followed very shortly. At the autopsy there was found to be no disease proper of the brain; the only abnormal conditions present being the hemorrhagic spot in the pons and a certain cloudiness of the meninges, such as was frequently seen in the brains of those who had led intemperate lives. The remarkable feature of the case seemed to be that the abducens had escaped entirely. Paralysis of motion was confined entirely to one branch of the fifth pair, and was accompanied by the early destruction of the eye.

Dr. C. L. DANA, of New York, then read a paper on THE EFFECT OF NERVE-STRETCHING UPON THE SPINAL CORD.

In the outset, he said that the idea that we could move the cord and not the surrounding membranes

was erroneous. From his own experiments, as well as those of other observers, he had arrived at the conclusion that it was possible to stretch the spinal cord from one fifteenth to one twelfth of its length, or, in the human subject, about one inch. He quoted various authorities, and said that Julius Browne, who had made by far the most careful experiments yet recorded, had determined that the cord, when put upon the stretch moved different amounts at different heights. Thus, while it moved one tenth of an inch in the lumbar region it moved only one seventieth in the upper part of the dorsal. Dr. Dana then gave a detailed account of a large number of experiments which he had himself made upon animals and upon the cadaver. Some of the conclusions at which he arrived were the following: Clear evidence of the stretching of the cord by means of the sciatic nerves was confined to instances of the cutting operation. In subcutaneous stretching of the sciatics the evidence that any central effect was produced was extremely slight. In the case of an epileptic whose sciatic nerves were stretched under ether there was constant tinnitus and dizziness for two weeks after the operation. Nerve-stretching, while it might be a powerful means of moving the cord in the cadaver, was probably not so in life. Experiments showed, however, that a force of about one hundred and fifty pounds was sufficient to pull out the sciatic nerves by the roots. Finally, he explained that he had confined himself to a study of the gross effects. The paper was discussed by Drs. MORTON and HAMMOND.

Dr. R. T. EDES, of Boston, read a report of some cases illustrating concussion of the spine, in connection with which he called special attention to the subject of tendon reflex of the upper extremities. Dr. SEGUI presented, for Dr. J. J. Mason, some beautiful photographs of microscopic sections representing portions of the central nervous system of batrachians and reptiles.

At the evening session there was a demonstration of a machine for statical electricity, with new electrodes, by Dr. William J. Morton, and the following papers were read: *A Case of Tumor of the Fourth Ventricle of the Brain*, with Specimen, by Dr. H. D. Schmidt, of New Orleans, and *A Case of Vertebral Cancer and Paraplegia*, by Dr. E. C. Seguin, of New York.

The following officers were elected for the ensuing year: President, Dr. Robert T. Edes, of Boston; Vice-President, Dr. William J. Morton, of New York; Secretary and Treasurer, Dr. E. C. Seguin, of New York; Councilors, Drs. F. T. Miles, of Baltimore, and J. C. Shaw, of Brooklyn.

THE AMERICAN MEDICAL ASSOCIATION.

SECTION ON DENTISTRY.

Chairman, Dr. D. H. Goodwille, of New York. Secretary, Dr. Truman G. Brophy, of Chicago.

FIRST DAY.

Dr. WILLIAM D. KEMPTON, of Cincinnati, presented a paper on

ORAL HYGIENE.

He entered into a careful analysis of the teeth, giving their elements and functions, and the acid theory of decay with the factor that modifies the action of acids, namely, vitality. Then followed an enumeration of the evils resulting from diseased teeth, showing that

the whole system was more or less affected, many cases of headache, earache, affections of the eye and stomach, being traceable to badly decayed teeth.

The doctor closed his paper with directions for preventing decay in teeth, prefacing with the remark that those teeth in which decay had already set in should be either extracted or filled. Physicians should feel it their duty to point out to their patients the results of neglect of the teeth, and no medical school should consider its curriculum complete unless some attention is paid to the teeth.

#### PHOSPHATES IN FOOD.

During the discussion which followed, the subject of phosphates in food was introduced. The enamel of the teeth is composed mainly of phosphate of lime, and Dr. Allport was very earnest when he made the remark that our food should be taken as nearly as possible in the condition in which God prepared it. He referred especially to wheat, asserting that the so-called patent process of making flour removed much of the phosphate in the wheat, the result being that not enough was left to keep the teeth strong and healthy.

DR. LAWRENCE antagonized the stress placed upon this subject, alleging that other elements were as necessary as phosphates.

#### SECOND DAY.

##### HEREDITY IN DENTAL DEVELOPMENT.

DR. W. C. BARRETT, of New York, narrated a case which he illustrated by plaster casts, showing the effect of heredity in dental development.

DR. J. S. MARSHALL, of Syracuse, N. Y., then read a paper on

#### THE NEED OF DENTAL AND ORAL SURGEONS IN THE ARMY AND NAVY.

This subject has often been brought to the attention of the profession, but never formally till August, 1861, at the American Dental Convention in New Haven, where it was referred to a committee of five, who, after consultation with Surgeon-General Hammond, made a report favoring the appointment of dental surgeons in the army and navy. In 1868 Senator Hamlin introduced a bill before Congress providing for the appointment of such surgeons in the army and navy, but it failed to become a law. The second attempt was made during the Forty-second Congress by Representative Townsend, who merely advocated the appointment of such surgeons to the military and naval academies; the only result of this was the appointment of a dental surgeon at the naval academy at Annapolis, with the rank of assistant surgeon. Dr. Marshall then stated the necessity for such appointments.

The soldier is provided for in all cases except where his teeth are concerned. Soldiers on the frontier and sailors on a long cruise have no opportunity of receiving dental services, no matter how much they may need such attention, and the disease must run its course, being turned over to the bungling of the hospital steward or some less competent person. The treatment of fractures or gun-shot injuries of the lower jaw is the same as twenty-five or thirty years ago, being much behind the times. The interdental splint, invented by Dr. J. B. Bean, of Georgia, during the civil war, and improved by Dr. Norman Kingsley, of New York, is a very great improvement in the treatment of these cases, and is indorsed by the best surgeons the world over.

The appointment of dental surgeons in the army and navy is objected to because the amount of oral diseases is too small to require specially educated surgeons to treat them. Dr. Marshall then gave some statistics showing the relative number of men in the army and navy who, in the years 1878 and 1879, were reported as having needed dental services, and the opinions of the surgeons-general of the army and navy, General Hancock, and Admiral Porter, relative to the appointment of such surgeons. To petition Congress for action is useless without the heads of medical departments see the need and make the recommendation. The paper closed with a recommendation that a committee be appointed by this Section to arrange a blank statistical report covering all the dental and oral diseases, and request the surgeons-general of the army and navy to incorporate them in the regular medical and surgical reports.

A discussion followed the paper, which resulted in the offering of a resolution by Dr. Allport that a committee of three be appointed by the Section, who, in connection with Dr. Maynard, of Washington City, and the Surgeons-General of the army and navy, should make what efforts they deemed advisable regarding the appointment of dental and oral surgeons in the army and navy, and report to the Association next year. Drs. Allport, Marshall, and Williams were appointed such committee.

#### FOOD IN ITS RELATION TO THE DEVELOPMENT OF TISSUES.

DR. LAWRENCE, of New York City, presented a resolution calling for the appointment of a committee to consider the subject of food, mastication, insalivation, digestion, and assimilation, in its relation to the development of the different tissues and organs of the body.

#### THIRD DAY.

By action of the Association the name by which the Section is known was changed to the Section of Dental and Oral Surgery, and as such it will hereafter be known.

The president appointed the committee called for in the resolution of Dr. Lawrence, of New York, presented and adopted the day before. The committee are Drs. Lawrence, Talbot, and Kempton.

DR. Goodwillie narrated three cases of

#### NECROSIS FROM ARSENIC,

and illustrated them with wax models.

Case I. showed, by two models, necrosis of lower jaw from each ramus forward. The case, before and after, with a new deposit of bone without any deformity. Photograph of the patient also shown.

Case II. Two models showing a case of poison by arsenic and necrosis of right superior maxillary.

(a.) Showing case one week after removal of necrosed bone, without in the least disturbing the soft tissue, also showing the formation of new bone.

(b.) The new bone complete, and the mouth perfect, and no external deformity.

Case III. Upper maxillary showing abscesses formed at nearly all the teeth, the result of applying arsenic to destroy sensibility of the dentine before filling the teeth.

The above served to show the sad results of the improper use of this powerful agent in devitalizing dental pulps.

DR. EUGENE S. TALBOT, of Chicago, then read a paper on

#### THE INJURIOUS EFFECTS OF MERCURY AS USED IN DENTISTRY.

The subject as treated was specially confined to the use of amalgam fillings in natural teeth. Said the speaker:—

"There can no longer be doubt that amalgam fillings in teeth will sooner or later produce mercurial poisoning. The dire effects of this metal are not always seen immediately after the fillings are inserted, years sometimes elapsing before the injurious effects are felt and noticed."

The history of two well-marked cases was given by Dr. Talbot. The amalgam fillings were removed, and gutta percha temporarily substituted, these in turn being replaced with gold, after which all symptoms of mercurial poisoning disappeared. A detailed account of a series of experiments made by him were then presented, the conclusions and results being as follows:—

First. Mercurial vapor is given off from amalgam fillings at all ages and from all varieties, even from fillings sixteen years old, the vaporization being sufficient in quantity to respond to chemical tests.

Second. Minute doses of mercury, if taken internally three times a day, are capable of producing decided effects.

Third. Mercury when inhaled into the lungs is far more active than when taken into the stomach.

Fourth. If small doses taken into the stomach occasionally are capable of producing marked effects, and the vapor is much more active than the solid preparations of the metal, is it not a necessary consequence that amalgam fillings which are constantly giving off mercurial fumes to be inhaled into lungs, not a few times daily, but always, without cessation, day or night,—is it not a necessary consequence that in many sensitive persons such fillings must produce deleterious effects?

Fifth. When tons of this material are consumed annually, is it not credible that many constitutions are affected?

Sixth. Physicians in treating dyspepsias, anemias, and persons suffering from nervous debility would do well to examine the mouths of patients and know if artificial teeth on red rubber or fillings of natural teeth have in their composition mercury or any of its compounds.

#### EDUCATION OF DENTISTS.

"The subject How Dentists should be Educated was admirably presented by Dr. W. W. ALLPORT, of Chicago, in an article of considerable length. The introduction was a review of dental surgery in the past, it, with all other branches of medicine, having emanated from a common centre, and the possibility was that in the future these diverse systems would more and more tend to consolidation. Then touching upon the very core of his theme, Dr. Allport said:—

"The dental surgeon must be educated both in mechanical dentistry and oral surgery, for no disease can be intelligently treated without a knowledge of the histology, anatomy, and the physiology of the organ or organs diseased, as well as the pathology, prognosis, and rationale of the treatment employed to restore the parts to a healthy condition; and this, whether applied to any single organ or any number of organs of the body, or to the entire system, is medical science. The successful dental surgeon must have a thorough medical education in all its branches, supplemented by special instruction in dental surgery. Over forty years ago Drs. Harris, Hayden, and others sought to establish a department for teaching dental surgery in the medical department of the University of Maryland, but their application was refused. Dr. Harris, however, succeeded in organizing what was known as the Baltimore College of Dental Surgery,

and the graduates of this institution were given the degree of D. D. S.—doctor of dental surgery. In addition to this, several medical colleges have been induced to establish dental schools in connection with their medical departments, but as yet none of these institutions have required a full medical education of their dental graduates.

"All dental surgeons should receive a medical education and become legitimate specialists in its practice, and all medical graduates should be as fully educated in diseases of the teeth and their treatment as they are in other diseases."

A paper on Medico-Dental Science was read by Dr. J. B. LAWRENCE, of New York City. Following are the main points touched upon by the speaker:—

All organized efforts for the dissemination of dental knowledge and the advancement of dental interests have been made since the year 1840. It was estimated then that there were 1200 dentists in the United States; their practice was in a primitive state, and all instruments, appliances, and apparatus were guarded with more or less secrecy, lest one dentist should profit at the expense of the experience of another. Much was done to modify this feeling between 1840 and 1860. Now there are 25,000 persons in the United States engaged in the practice of dentistry. But many of them have but a limited knowledge of the human body because their education is limited. They changed from some other occupation to this suddenly, and settled down to the practice of the profession, because it paid them better than anything else they could do. These are the so-called dentists of the rural districts, and they have a counterpart in a certain class of dentists in the cities who have a few books, a fair supply of instruments, and a big microscope, which is more an expensive toy than an actual aid to them. They undeniably know something of dentistry, but have little or no knowledge of any other organ of the human body. Such men evidently can do but little to benefit a patient aside from the mechanical work demanded in the removal of aching members. The truth is the dentist should have a general knowledge of all branches of materia medica, and special education in anatomy, physiology, and chemistry, as well as in his special field of dental and oral surgery.

With the reading of this paper the Section adjourned *sine die*.

#### SECTION OF OPHTHALMOLOGY, OTOTOLOGY, AND LARYNGOLOGY.

In the absence of the chairman, Dr. B. St. John Roosa, of New York, Dr. Cohen, of Philadelphia, called the meeting to order, and Prof. S. B. Jones, of Chicago, was elected chairman. Dr. Carl Seiler, of Philadelphia, acted as secretary. An interesting paper was read by Dr. W. PORTER, of St. Louis, on

#### RECURRENT PHARYNGEAL HEMORRHAGES.

Discussion followed, and the paper was referred to the Committee on Publication. After some informal discussion Dr. X. C. SCOTT, of Cleveland, O., reported cases of

#### DIPHTHERITIC CONJUNCTIVITIS TREATED WITH IODIFORM.

He had applied the powder to the surface once a day, and the result had been very satisfactory.

In the discussion which followed Dr. JOHNSON, of Peoria, said that he was in the habit of applying the vapor of iodoform dissolved in ether to the affected mucous membrane.

Dr. COHEN said he had used solutions of iodoform in chloroform or ether in the form of a spray, and also dissolved in collodion, as an external application in recent goitre with great benefit.

Dr. CARPENTER, of Pottsville, Pa., said: I have been observing the treatment of exophthalmic goitre by internal administration of iodoform for nine or ten years, and in every case that has come under my notice with highly gratifying results. It has not seemed necessary in this variety of goitre to make an external application of the drug. It has been sufficient to administer a pill containing two or three grains of iodoform, three times a day, until marked relief is obtained. If necessary, the dose may be increased. A good form of the pill is the sugar or gelatine coated, and it may be combined with iron. By this means alone I have cured several cases of exophthalmic goitre, no matter how grave they might be, when uncomplicated by other disease.

Having communicated this treatment to Prof. William Pepper, of the University of Pennsylvania, and to Dr. J. Solis Cohen, of Philadelphia, I am gratified to know that it has in their hands been found successful.

The action of this drug I believe to be sedative and tonic upon the sympathetic nervous system, and to act chiefly in that way in the process of curing exophthalmic goitre.

The constitutional effects of the iodine do not seem to me to be the efficient agent in bringing about the happy result.

Dr. GLASGOW said he had treated cases of old goitre and also of other glandular tumors of the neck by the external application of iodoform, with excellent results.

Dr. THOUXON asked whether the drug acted through the nervous system; if so, the external application must act upon the peripheral nerves.

Dr. COHEN thought it acted as an anæsthetic upon the mucous membrane when locally applied. Internally it acted as Dr. Carpenter had stated; but he would like to ask whether it was safe to administer iodoform internally to a pregnant woman.

Dr. CARPENTER stated that he had given the drug to a pregnant woman with the same results as in other cases.

Dr. SEILER then stated that he, having seen a notice in one of the journals of a method discovered by Professor Rossbach for anæsthetizing the larynx, had tried the ether spray on each side of the neck until a portion of skin the size of a silver dollar had been frozen, and had found that the larynx, which previously had been absolutely intolerant to the introduction of an instrument, had become quite insensible to the presence of the forceps.

Dr. COHEN stated that two of his assistants had tried the experiment, but had failed to obtain satisfactory results.

#### SECOND DAY.

A letter from Dr. B. Joy Jeffries of Boston, was read, in which he asked the coöperation of the Section in bringing about legislation in the matter of color-blindness.

#### GALVANO-CAUSTIC INSTRUMENTS.

The author of the paper on the programme not being present, Dr. CARL SEILER, of Philadelphia, exhibited some galvano-caustic instruments for operations in the larynx, pharynx, and nasal cavities. He said that the insulating material, usually silk, protecting the conducting wires, was very apt to be burned off by the heat developed in the wires. He had substituted vulcanized fibre for the silk, and had found it to answer the purpose admirably. In order to be able to bend the instrument to any desired curve the insulating material was made in sections small enough to allow the wires to be bent in any shape desired.

#### ACCIDENTAL VACCINATION OF THE EYE.

Dr. CALHOUN, of Atlanta, reported a case of Accidental Vaccination of the Eye, occurring in a little boy seven years of age, who, having some virus on his fingers from a pustule on the arm of his little sister, scratched himself on various portions of the body and on the left eye, inoculating himself. The pustule on the eye developed upon the edge of the lower lid, involved the conjunctiva, and ran its regular course, destroying the cornea, either by pressure, or by the ulcerative process induced by the virus. The other eye also became inoculated but did not develop a pustule.

#### TUMOR OF THE BASE OF THE SKULL.

Dr. CONNOR, of Detroit, reported a case of Tumor of the Base of the Skull. The symptoms first noticed by the patient were increasing deafness in the right ear until complete insensibility to sound was reached, then the eye on the same side began to show signs of insensibility to light, also progressive, until sight was entirely lost. There were no other symptoms except a general wasting of the body. After death a large tumor was found occupying the base of the skull, which was firm and hard, with a nodular surface. This tumor by pressure had absorbed the portion of brain matter in immediate contact with it as far up as the optic thalamus, which was destroyed. Dr. Connor believed the tumor to be a chondroma, but had not had an opportunity to make a microscopical examination.

#### NEURITIS, RETINITIS, AND CONJUNCTIVITIS.

Dr. AGNEW, of New York, then made some remarks on Optic Neuritis and Retinitis, giving the histories of a number of cases.

He also called attention to the matter of communicable diseases of the eye in schools, and cited, as an illustration, the case of a school near New York, in which, on account of insufficient washing, accommodation, insufficient food, and poor sanitary regulations, over three hundred children had been attacked by catarrhal conjunctivitis. The eyes of several of the children had been destroyed.

Dr. JOHNSON, of Chicago, then related a case of Paralysis of the Abductor Muscles of the Larynx following Diphtheria, and after the healing of the tracheotomy wound, and said that he had never heard of a similar case.

Dr. YOUNG, of Iowa, then made a motion to make the matter of communicable diseases of the eye the subject for discussion at the next session of the Section.

#### THIRD DAY.

Dr. TURNBULL, of Philadelphia, presented a paper On the Hearing in Children, which was read by title and referred to the Publication Committee.

## FIBROID POLYPUS OF NOSE.

DR. SEILER made a verbal communication relating a case of Large Fibroid Polypus of the Nose in a girl sixteen years of age. The tumor had been partially removed a year previous, but had reappeared. When he saw the case the left nostril was entirely filled with the polypoid mass, and the rhinoscope revealed a large nodulated tumor, appearing to the eye and touch like an enchondroma, in the post nasal cavity. The tumor was removed through the post nasal opening, by the Jarvis' snare, and proved to be a fibroma containing cartilaginous nodules. It had grown from the upper portion of the vomer by a slender pedicle.

## COMMUNICABLE EYE DISEASE.

DR. H. G. YOUNG then opened the discussion on communicable eye disease, calling attention to the difference of opinion held by authors as regards treatment, and to the necessity of proper sanitary measures to prevent the spreading of such diseases in crowded schools and tenement houses. He approved of sulphate of copper when properly and systematically applied.

DR. SMYTH, of Michigan, advocated the hot-water treatment, for an hour, twice a day.

DR. JOHNSON, of Peoria, spoke of the treatment of acute conjunctivitis, recommending the mildest applications, such as boracic acid, six to ten grains to one fluid ounce, to which he is in the habit of adding two drops of tincture of iodine. In his opinion purulent ophthalmias are, as a rule, treated too heroically, and he recommended mild measures in this affection also. Then he uses the solid nitrate of silver.

DR. CONNOR, of Detroit, thought the general public should be better enlightened as to the dangers resulting from neglect of acute eye diseases.

## Recent Literature.

*The Incidental Effects of Drugs.* A Pharmacological and Clinical Hand-Book. By DR. L. LEWIN, Assistant at the Pharmacological Institute at the University of Berlin. Translated by W. T. ALEXANDER, M. D. New York: Wm. Wood & Co. 1882. 239 pages.

The subject is a very practical one, and the work is the best and almost the only one of its kind; it is the result of a collection of many facts on this subject, which are widely scattered through medical literature, and to which the author has added from his own experience. The arrangement of the material is based on a therapeutic classification. The work is an indication of the increasing interest which is being taken in the effects and action of remedies, and will be of service in reminding physicians that some of the drugs given are not of unmixed benefit; moreover, we cannot too carefully watch for any deleterious action which is not the less readily noticed if it is known what symptoms are likely to accompany it.

What is said about some of the drugs in common use is open to criticism, but the author has done well under difficulties.

The reader should bear in mind that the phenomena spoken of are, as a rule, very exceptional, else he may be frightened instead of warned.

The translation has been well made. The print is large and clear, and on good paper.

## Medical and Surgical Journal.

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## THE ELASTIC BANDAGE IN THE CURE OF EXTERNAL ANEURISM.

It is hardly more than a century since ago the old operation of incision or excision of the sac with ligation of the artery at either end—the old operation as it is now called—and amputation were the received procedures for aneurism of the extremities. Hunter substituted the less formidable ligature, the old operation being reserved for peculiar and exceptional cases. Later years exhibit a tendency to still further simplify the treatment by substituting compression in various forms, limiting the ligature somewhat as it limited the old operation of opening the sac; though pressure for the cure of aneurism is probably as old as surgery itself, confined, however, in earliest times to direct pressure upon the tumor itself. The attention of surgeons is specially drawn to the application to aneurism of that form of compression attributed to Esmarch by a pamphlet *On the Rapid Method of Cure of External Aneurism by means of the Elastic Bandage*, by A. Pearce Gould, F. R. C. S., of London, a second and greatly enlarged edition of a paper read by Mr. Gould at the London International Congress. This is but one of the fruits of the last Congress, which was particularly rich in papers worthy of thought and comment. To the discussion of the subject at the Congress we owe this enlargement of the original paper. In its present form it is a plea for the elastic bandage, but a singularly candid one, which asks for it rather fair consideration than blind adoption, and discusses the subject in a manner which brings out its faults and its advantages. Were all subjects presented to the profession in a like spirit we should see fewer fashions in surgery. The paper is based upon a collection of seventy-two cases of external aneurism treated by elastic compression, which comprises all the cases found by the author in our current literature. Of these cases eight only are American, and are confined to New York or its vicinity. It is scarcely credible that so small a number should include all the cases treated by this method in America. The slight attention paid to the matter on this side of the Atlantic would be sufficient excuse, if excuse were needed, for devoting a little space to the discussion of Mr. Gould's pamphlet. Deductions drawn from statistics are of course only relatively accurate. If the statistics are false the deductions necessarily lose their value. The author takes pains to emphasize the fact that a sufficient number of cases may

have remained unreported to change materially his figures could they be ascertained.

In considering any mode of cure of aneurism the distinction between fibrin and blood clot must be kept in view. They differ in composition and appearance not more than in the circumstances under which they are formed. Mr. Gould formulates the distinction thus: "Laminated fibrin is only separated from blood in motion; when once formed it is very stable, not prone to disintegration or to organization. Blood clot is only formed when the blood is at absolute or partial rest, and when formed the clot is unstable, readily being organized, disintegrated, absorbed, or converted into a dry, friable material." The means ordinarily employed in the treatment of aneurism aim chiefly at what might be called the natural method of cure by a gradual deposit of laminated fibrin from a greatly diminished, not a wholly occluded, stream. This takes place in most cases of mechanical and digital compression and ligature. The main artery occluded at one point allows a lessened stream to flow through the collateral branches.

Compare a case treated by elastic compression. The elastic bandage is applied firmly up to the tumor, then intermitted or applied lightly over the aneurism, then applied firmly above it, and, lastly, the elastic tube or tourniquet may be tightly applied, if necessary, to stop all pulsation. After an hour or more this apparatus is removed, and the tumor is found consolidated; a quantity of blood shut up in the aneurismal sac has formed a blood clot; slight compression is maintained for a series of hours to protect the newly formed clot. The absolute stasis of the blood in the aneurism, allowing the blood to consolidate *en masse*, is the distinguishing trait of this method.

The author considers in an interesting manner the question why the blood coagulates in the aneurism, and shows that the clotting probably commences in the interior of the aneurism, where the conditions are materially changed from those of the interior of an ordinary blood-vessel, and proceeds to the blood in the afferent and efferent artery: on the formation and subsequent organization of the clot in the artery depends the cure of the aneurism.

Of the tabulated cases about fifty-three per cent. have been cured. With the undoubted truth that many unsuccessful cases have not been reported, the reasons of failure are to be especially looked to. Want of success may be attributed in all cases, according to Mr. Gould, to failure of one or other of the two essential processes: (1) either the blood does not coagulate, or (2) the coagulum does not organize and permanently occlude the aneurism.

The blood fails to coagulate either because it is not left stagnant at all or not for sufficient time, or because of some peculiarity in its composition or in its relation to the sac; or, having coagulated, it may not organize and permanently occlude the sac, because, improperly protected, it is washed away by the force of the current, or disease of the parts may be too far advanced to allow of such organization. To make another division equally favorable to discussion, the fail-

ure may be due to faulty performance on the part of the operator, or to inherent defects in the patient. The surgeon may fail to occlude the vessels, which would be hardly possible had he ever employed the elastic bandage for other purposes, or he may leave it applied for insufficient time. In one of the cases cited the bandage was applied for one hour without effect, four days later it was retained for two hours and a cure resulted. Many cases show a failure to realize on the part of the surgeon the essential element in this rapid method, applying it fifteen minutes at a time for several successive days. The protection of the clot after removal of the bandage is certainly rational, and its neglect accounts satisfactorily for certain failures to secure a permanent cure in several cases in which pulsation was absent when the compression was first removed.

Of the cases where some defect in the condition of the patient leads to failure there is little occasion to say anything in this place. Certainly it is fair to attribute to constitutional peculiarities a certain proportion of the unsuccessful attempts. Some of the reports show that treatment was given before the application of the bandage to increase the coagulability of the blood.

No surgical procedure is entirely devoid of danger. There are few which are not open to objections, and wherever there is a choice of methods the best is often-times simply that one which possesses the fewest disadvantages. It may be said in general that that procedure is safer which avoids any solution of continuity. Compression in its various forms has at least that advantage over the ligature, and is resorted to in some form in the treatment of external aneurism by most surgeons of wide experience. The dangers of and objections to this procedure enumerated by Mr. Gould are in part common to the use of the elastic bandage for any cause, in part limited to its use in aneurism, and some of them are common to all operations for that disease.

The alleged dangers and drawbacks are as follows:—

- (1.) The increase of the general arterial tension caused by the application of the elastic bandage.
- (2.) The fall of the general arterial tension on removing the bandage, owing to the paralytic dilatation of the vessels of the affected limb.
- (3.) The risk of causing gangrene.
- (4.) The danger of exciting renal disease.
- (5.) The pain it produces.
- (6.) The danger of injury to nerves by the prolonged compression to which they are exposed.
- (7.) The danger of causing rupture of the aneurism.
- (8.) Its frequent failure.

The first alleged danger is an objection to the use of the bandage in general—the blood pressed out of the bandaged limb is added to that in the general circulation, filling its vessels more completely and increasing the pressure on their walls. The weight of the objection is greatly increased in the case of a spontaneous aneurism which is the result of a diseased ar-

tery, a condition which often exists equally in other portions of the arterial system; in such a case to increase the blood pressure is to increase the danger at least of causing other aneurisms or to augment the danger of bursting their walls if they already exist. Mr. Gould, without undervaluing the charge, reminds us that other elements must combine with the increase of blood in the vessels to increase the pressure. Arteries possess a power of contraction and expansion which fit them to deal with altered amounts of blood, and certain sphygmographic tracings of his own indicate that increased tension is by no means an inevitable accompaniment of the use of the rubber bandage.

Certain it is, however, that in the presence of signs of other aneurisms the question of treatment of aneurisms of the extremities is much more serious, and such a possible result of compression should be kept in mind.

There would seem to be room for further study of arterial behavior during elastic compression of a limb, and also for comparison between the effects produced upon blood pressure by elastic compression of a limb and the ligature of its principal artery.

The reddening of the limb, and the abundant bleeding from small vessels, which follows the removal of the elastic bandage, is a matter of every-day observation. The fall of arterial tension and the consequent tendency to syncope, which accompanies this condition, may be occasionally a subject for concern; that it should be greater when the bandage has been applied for the cure of aneurism, than when it is applied for other reasons, is difficult to understand. Possibly the paralyzed condition of the smaller vessels assists in forming the collateral circulation. An essential part of the operation, as has been said and repeated, is the partial compression of the artery for some hours after the removal of the ligature. This would seem to be sufficient to obviate any effect upon the patient resembling that of a sudden hemorrhage.

Of the danger of exciting renal disease we know very little indeed. This objection is a sort of corollary to the first. The charge was made by Mr. Bryant, who adduced three cases in support of his view. In one of them the bandage was applied twice, once thirty minutes, and subsequently eighty minutes, without result; in four days the artery was ligatured, and in a month albuminuria appeared, followed by death sixty-nine days after the operation. If the albuminuria was the result of the bandage it is a danger incurred every time it is applied. It is equally logical to say that the albuminuria was the result of the ligature. In a fatal case from cardiac failure, after a cure of an aneurism by the bandage, renal congestion was found; a combination that needs no unusual and extraordinary explanation, and in the third case albuminuria followed thirty-seven days after the use of the bandage. For the pain we have that direct gift of heaven, ether. The danger of causing injury to the nerves is confined almost wholly to the upper extremity, where aneurisms are comparatively rare.

The charge of causing gangrene is so serious that

it seems worth while to look at it with some care. Mr. Gould has confined his attention exclusively to the individual cases, which were cited at the Congress as showing unfavorably for the treatment by elastic compression. It seems equally good to look at the subject in a little broader light. Gangrene is an accident that happens with every form of treatment, and the proportion of cases in which it occurred in this series is too small to sanction any very serious charge. The very nature of the disease is such that we should expect, *a priori*, that in a certain number of cases there would be a failure to establish collateral circulation sufficient to nourish the limb. In a series of fifty-five cases of popliteal aneurism comprised in Mr. Gould's table treated by the elastic bandage, gangrene of the leg occurred in two cases. In one case (Mr. Bryant's) the bandage failed to secure lasting consolidation, and the ligature was applied before the gangrene appeared. In the second case (Mr. Pemberton's) subsequent examination showed the femoral vein to be obliterated by the growth of the tumor. Such a result occasionally follows the ligature, and often followed the old operation, though in that operation the patency of the artery was destroyed at a lower point, and consequently a larger number of branches remained to establish collateral circulation than in the Hunterian operation. In fact, Mr. Pott used very emphatic language in speaking of the old operation, perhaps somewhat stronger than his contemporaries would have approved. His remarks have been often repeated. They are so appropos that it may be pardonable to quote them again. In his essay on certain diseases of the leg which require amputation, he says:—

"In both these aneurisms,<sup>1</sup> the femoral and the popliteal, it most frequently happens, that the artery is not only dilated and burst, but it is also distempered some way above the dilatation particularly in the popliteal. This may very probably be one reason why the ligature is in general so unsuccessful." (The context shows that he refers to the ligature above and below after opening the sac.) "The want of collateral branches of sufficient size to carry on the circulation is another very powerful impediment. Whether these may be allowed sufficient to frustrate the attempt by the operation, I will not take upon me to say; but certain I am that it does not succeed; I have tried it myself more than once or twice; I have seen it tried by others; but the event has always been fatal; excessive pain, a high degree of symptomatic fever, great tension of the whole limb, rapidly tending to gangrene and ending in mortification, both upwards and downwards, have destroyed all those whom I have seen on whom the operation of tying the artery has been practiced.

"Nor have I ever seen any other operation than that of amputation, which has preserved the life of the patient."

That Mr. Pott's strong language was not entirely uncalled for is well known to every student of surgery.

<sup>1</sup> The Chirurgical Works of Percival Pott, F. R. S., and Surgeon to St. Bartholomew's Hospital. A new edition with additions. In three volumes, London, 1783, vol. iii, p. 377.



gery. In considering the subject we may go a step further back and say that an aneurism tends in itself to produce gangrene in the parts below it. Pott continues in his argument in favor of amputation, "if some relief be not obtained and that speedily from the art of surgery, gangrene and mortification are the inevitable consequences."

In a table of aneurisms of the femoral artery treated by ligature, published by Norris in the *American Journal of the Medical Sciences*, there were fifty deaths in two hundred and four cases, and of these fifty fatal cases twenty-three are stated to have died of gangrene, a much larger proportion, it is to be hoped, than happens in later years.

In a table of cases of various arteries, treated by compression either mechanical or digital, in the *Nouveau Dictionnaire de Médecine et de Chirurgie Pratiques*, are fifty cases of popliteal aneurism. In this series gangrene occurred three times. In one case compression caused solidification, and gangrene, ultimately fatal, followed forty-eight hours later; in two cases, compression failed, the ligature was applied, and fatal gangrene resulted.

These figures are not sufficiently numerous to sanction any very definite conclusion: it would certainly be improper to draw the conclusion that elastic compression is the safer method from so small a number of cases, but they justify the negative inference that no smaller amount of gangrene could have been expected from any other mode of treatment.

In one case of Mr. Gould's series the sac ruptured, and the aneurism became diffuse, and in another the sac increased in size, and all the symptoms became aggravated while undergoing elastic compression. Such cases are rare, by no means unique. In 1858 Malgaigne described similar accidents occurring under treatment by pressure, and instances have been noted since. Space fails to enumerate them. They usually do well with the ligature.

That fifty per cent. of the cases are cured is not a bad showing when we consider that, as a rule, in the failures the success of the subsequent ligature is not endangered. Certainly it cannot be said of elastic compression as Holmes said, and Bryant quotes with approval, "that no case can be cured by the ligature in which mechanical pressure fails, and that it is applicable only in cases in which the more usual forms of practice are inapplicable or have failed."

Consideration has been principally confined to aneurisms of the popliteal; these cases are the most numerous and best fitted for comparison, and the most serious charges against the method of Reid (Staff Surgeon Walter Reid, R. N., first used Es-march's bandage for this purpose) are based on cases that belong in this category. Attention has been paid rather to certain objections to the method than to the claims in its favor.

It is by no means the object of this notice to advocate the blind adoption of this method of treatment—personal experience could alone justify such an advocacy—but rather to draw attention to a method which certainly deserves further study, whatever the

final judgment as to its actual value may be, and especially to show the duty of reporting cases, unsuccessful as well as successful, that such industrious students as Mr. Gould may have the proper materials at their disposal—the negative as well as the positive evidence—for the decision of such questions as are discussed in this interesting little pamphlet.

## IS THE PATHOLOGIST WORTHY OF ANY HIRE?

SOME weeks since the JOURNAL, in commenting editorially upon the work during the winter of the Clinical and Pathological Section of the Suffolk District Medical Society, took the occasion to regret the very modest proportion which the pathological element bore to the whole work evolved by that Society, and to comment on the striking fact that with all the training, both foreign and domestic, upon which the Boston medical world justly piques itself, neither Pathological Society, properly speaking, nor Pathological Transactions, nor genuine zeal and activity in the pursuit of pathological studies find a home here.

The material exists, and the proper training for its utilization and interpretation, as well as a due interest in the subject itself, are by no means wanting; and yet we find the younger men, with time, with inclination, and with training for this department of medical investigation, devoting less and less time to it, and more and more to other things after the first few years of their career.

This cannot be merely because they arrive at a more realizing sense of the analogy between the organs taken from the cadaver and "the fire-works after our fourth of July," but rather, we are forced to believe, because the importance and necessity of keeping their own personal fire-works in an ante-rather than a post-fourth-of-July condition comes more and more home to them.

There are but three appointments in Boston carrying with them at once an opportunity for pathological research and any pecuniary recompense. Some thirty years ago funds were left to Harvard University by the late Dr. Shattuck to found a professorship in morbid anatomy or pathology; the University has given an assistant to the professor occupying this chair, and in addition has provided for a curator of the Warren Anatomical Museum. With these exceptions there are no salaried positions open to pathologists as such, and we are afraid that their aid in confirming or correcting the diagnoses in private practice is too often but poorly remunerated or passed to the credit of their good nature or devotion to abstract science. The pathologist, though dealing with the dead, must himself live and work hard; he may not himself say to his colleagues, "Live and let live," but they should remember that from one point of view this precept is applicable to their relations with him.

We should be happy to receive any suggestions for remedies for the present position of matters pathological. We are inclined to think ourselves that our large hospitals would not be wrong were they to con-

clude that the interests of their patients would be abundantly promoted by making the positions of the pathologists salaried ones.

### THE EXECUTION OF GUTEAU AND SOCIETY'S PROFIT.

WE cannot let the execution of Guiteau, the assassin of President Garfield, pass without reiterating very briefly the opinions which the case called forth from the JOURNAL since it first came into notice a year ago. Before the law had reached its judgment, and now that its judgment has been put in execution, the matter was and is an eminently proper one for our consideration. In the intermediate stage we felt that the question had become a purely legal one.

We feel it our duty to reiterate the opinion expressed by us from the first, that Guiteau was an irresponsible lunatic, and should neither have been tried by an ordinary criminal process nor have been sentenced to death.

The only possible advantage to be derived by society from the trial and execution of this wretch is the deterrent influence it may exercise upon responsible criminals who allow themselves to commit crimes under the impression that a plea of insanity will avert punishment. On the other hand, the real lunatic of the Guiteau type cares nothing, as a rule, for the death penalty, but to him the notoriety this man has enjoyed for a year is very sweet.

Society may benefit by this miserable business should it lead to a revision of our present laws, so that similar cases may be quietly investigated by a lunacy commission, and, if found suitable, quietly relegated to a government criminal lunatic asylum, from which there should be no release save with the sanction of the committing commission.

If Guiteaus are to be deterred from gratifying their impulses it will be by the dread of a regular and secluded life carefully supervised and devoted to daily work, not by a few notorious moments on the scaffold.

### MEDICAL NOTES.

#### NEW YORK.

—Among the appointments that have recently been announced in the corps of instructors in the medical department of the University of the City of New York are the following: William H. Thomson, M. D., professor of diseases of the nervous system (in addition to the professorship of materia medica and therapeutics); Lewis A. Stimson, M. D., professor of surgical pathology (instead of pathological anatomy); Stephen Smith, M. D., professor of clinical surgery (instead of orthopedic surgery); Herman Knapp, M. D., professor of ophthalmology; F. R. S. Drake, M. D., clinical lecturer on practice of medicine; N. M. Stadler, M. D., clinical lecturer on orthopedic surgery; Joseph E. Winters, M. D., clinical lecturer on diseases of children (in addition to being demonstrator of anatomy); William C. Jarvis, M. D., clinical lecturer on laryngology; Lawrence Johnson, M. D., lecturer on medical botany.

—Loo Foo, a Chinaman, died recently at Bellevue Hospital from poisoning by opium, in which he is said to have indulged to excess as a solace for blighted affection; a young Irish woman with whom he had become enamored having persistently refused to become his wife.

—Mr. Ramsay, of the "Old Gentlemen's Non-Sectarian Home and Children's Asylum and Sanitarium," has been discharged without awaiting the action of the grand jury, it having been decided by the judge before whom the preliminary examination of the case came that there was not sufficient evidence to hold him upon. The children who had been inmates of the institution (most of whom, it is said, were found in a very wretched condition) have been removed and placed under the charge of the Society for the Prevention of Cruelty to Children.

—Charles R. Lantry, the father of two children born prior to May 11, 1873, whose names had never been recorded at the Bureau of Vital Statistics, applied in 1881 to have their names registered there; but the application was refused because the Board of Health in 1873 adopted a regulation that no alteration whatever should be made of the records of births, marriages, or deaths which occurred before May 11, 1873. Judge Arnoux, of the Supreme Court, has now given the opinion that under the law of 1880 the board is bound to examine the parties upon application, and unless proof is offered to contradict the facts alleged in the petition and affidavit of the relator, it is bound to grant his petition and make the entries asked for.

—A Norwegian employed as night watchman by a firm of builders at Port Chester, Westchester County, was advised by a friend to try Jamaica rum for the relief of intermittent fever, from which he was a sufferer. Accordingly, the other night, when a chill came upon him, he purchased a quart of rum and drank the whole of it; but in a few hours he died, on account of the enormous dose of the remedy.

—At a recent meeting of the New York Academy of Medicine Dr. A. B. Judson read a paper entitled, *Some Practical Inferences from the Pathology of Hip Diseases*. Alfred Barron Garrod, M. D., F. R. C. P., F. R. S., and J. Crichton Browne, M. D., of London, were elected Corresponding Fellows.

### Miscellany.

#### LARGE DOSE OF CHLORAL HYDRATE.

DR. MADIGAN, of Brooklyn, N. Y., relates, in the *Chicago Medical Review*, a wonderful recovery from an overdose of chloral. Through the influence of friendship, a physician, addicted to liquor and chloral both, obtained a situation as assistant physician in a prominent insane asylum of the East (name not given). During the absence of the other physicians a patient was seized with a violent attack of epileptic mania, when the doctor in question administered from a vial in his possession *one ounce* of chloral hydrate dissolved in water, the patient sinking into a deep slumber within five minutes. The attendant's suspicion being

aroused, medical aid was summoned, who applied the stomach pump, rinsing the stomach out with clear water, and then treated the poisoned man with hypodermic injections of whiskey and strychnine. It was, however, obvious to all present that the greater portion of the narcotic had already been absorbed in the circulation. The highly interesting part of the story is, that after a relatively natural slumber, lasting forty-eight hours, the patient recovered. Other than the pro-

longed slumber, no untoward results occurred, and no extraordinary phenomena presented themselves until the third day, when a vivid scarlatina form of eruption, involving the entire body, made its appearance, which fully desquamated within two days after its appearance. The patient's convulsions were fewer in number after his recovery from this excessive dose, but the buccal mucous membrane was for a long time markedly tender.

## REPORTED MORTALITY FOR THE WEEK ENDING JUNE 24, 1882.

| Cities.                           | Population of 1880. | Reported Deaths in each. | Deaths under Five Years. | Percentage of Deaths from       |                |                     |                       |                |
|-----------------------------------|---------------------|--------------------------|--------------------------|---------------------------------|----------------|---------------------|-----------------------|----------------|
|                                   |                     |                          |                          | The Principal Zymotic Diseases. | Lung Diseases. | Diarrheal Diseases. | Diphtheria and Croup. | Scarlet Fever. |
| New York.....                     | 1,206,590           | 661                      | 310                      | 29.83                           | 11.93          | 8.62                | 6.96                  | 5.89           |
| Philadelphia.....                 | 846,984             | 305                      | 107                      | 15.09                           | 6.23           | —                   | 6.23                  | —              |
| Brooklyn.....                     | 566,689             | 240                      | 109                      | 24.58                           | 9.15           | 5.41                | 2.91                  | 8.32           |
| Chicago.....                      | 503,304             | —                        | —                        | —                               | —              | —                   | —                     | —              |
| Boston.....                       | 362,535             | 156                      | 50                       | 24.36                           | 6.41           | 6.41                | 11.54                 | 6.41           |
| St. Louis.....                    | 350,522             | 199                      | 119                      | 34.64                           | 6.52           | 23.09               | 1.51                  | 1.01           |
| Baltimore.....                    | 332,190             | 186                      | 97                       | 50.62                           | 1.61           | 17.72               | 5.37                  | 2.13           |
| Cincinnati.....                   | 255,708             | 134                      | 72                       | 28.24                           | 4.89           | 4.89                | 1.09                  | 4.34           |
| New Orleans.....                  | 216,140             | —                        | —                        | —                               | —              | —                   | —                     | —              |
| District of Columbia.....         | 177,638             | 91                       | 51                       | 29.55                           | 10.98          | 21.96               | 1.11                  | 1.11           |
| Pittsburgh.....                   | 156,381             | 58                       | 30                       | 27.58                           | 5.17           | 13.69               | 1.72                  | 1.72           |
| Buffalo.....                      | 135,137             | 60                       | 26                       | 23.33                           | 6.66           | —                   | 4.99                  | 1.66           |
| Milwaukee.....                    | 115,578             | 45                       | 34                       | 8.88                            | 17.77          | 2.22                | 2.22                  | —              |
| Providence.....                   | 104,857             | 36                       | 7                        | 16.66                           | 5.55           | 5.55                | —                     | 5.55           |
| New Haven.....                    | 62,882              | 28                       | 8                        | 7.14                            | 3.57           | —                   | 3.57                  | —              |
| Charleston.....                   | 49,999              | 38                       | 16                       | 23.68                           | 2.63           | 5.26                | —                     | 2.63           |
| Nashville.....                    | 43,461              | 21                       | 6                        | 23.80                           | 9.52           | 19.04               | —                     | —              |
| Lowell.....                       | 59,485              | 27                       | 8                        | 14.84                           | 22.22          | 5.70                | —                     | —              |
| Worcester.....                    | 58,295              | 17                       | 5                        | 29.40                           | —              | 11.76               | —                     | —              |
| Cambridge.....                    | 52,740              | 17                       | 3                        | 11.76                           | —              | —                   | —                     | 5.88           |
| Fall River.....                   | 49,006              | 19                       | 6                        | 15.78                           | —              | 5.26                | —                     | —              |
| Lawrence.....                     | 39,178              | 15                       | 6                        | 20.66                           | 13.33          | —                   | 13.33                 | —              |
| Lynn.....                         | 38,284              | 15                       | —                        | 26.66                           | 13.33          | 6.66                | 6.66                  | —              |
| Springfield.....                  | 33,340              | 13                       | 4                        | 15.38                           | —              | 7.69                | —                     | —              |
| Salem.....                        | 27,598              | 14                       | 1                        | —                               | —              | —                   | —                     | —              |
| New Bedford.....                  | 26,875              | 12                       | 2                        | 8.33                            | 8.33           | —                   | —                     | —              |
| Somerville.....                   | 24,985              | 10                       | 4                        | 10.00                           | 10.00          | —                   | —                     | —              |
| Holyoke.....                      | 21,851              | 7                        | 1                        | 14.28                           | —              | —                   | —                     | —              |
| Chelsea.....                      | 21,785              | 5                        | 4                        | —                               | —              | —                   | —                     | —              |
| Taunton.....                      | 21,213              | 5                        | —                        | —                               | —              | —                   | —                     | —              |
| Gloucester.....                   | 19,329              | 8                        | 2                        | —                               | —              | —                   | —                     | —              |
| Haverhill.....                    | 18,475              | 8                        | 1                        | 12.50                           | 12.50          | —                   | 12.50                 | —              |
| Newton.....                       | 16,995              | 4                        | 1                        | 25.00                           | —              | —                   | —                     | —              |
| Brookton.....                     | 13,608              | 9                        | 5                        | 77.77                           | —              | 11.11               | 66.66                 | —              |
| Newburyport.....                  | 13,537              | 3                        | 1                        | —                               | —              | —                   | —                     | —              |
| Fitchburg.....                    | 12,405              | 5                        | 2                        | 20.00                           | —              | —                   | —                     | —              |
| Malden.....                       | 12,017              | 2                        | 0                        | —                               | —              | —                   | —                     | —              |
| Nineteen Massachusetts towns..... | 147,169             | 44                       | 8                        | 20.12                           | —              | 4.54                | 9.08                  | —              |

Deaths reported 2517 (no reports from Chicago and New Orleans); 1106 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and fevers) 649, consumption 353, lung diseases 197, diarrheal diseases 214, diphtheria and croup 125, scarlet fever 81, measles 48, typhoid fever 42, small-pox 42, whooping-cough 36, malarial fevers 21, cerebro-spinal meningitis 19, puerperal fever 11, erysipelas eight, typhus fever two. From measles, New York 17, Brooklyn nine, St. Louis seven, Baltimore and Buffalo four each, Cincinnati two, District of Columbia, Pittsburgh, Milwaukee, Lowell, and Lawrence one each. From small-pox, Cincinnati 29, New York, Philadelphia, and Baltimore four each, Nashville one. From typhoid fever, Philadelphia 20, New York, Boston, and St. Louis four each, Pittsburgh and Lowell two each, Brooklyn, Baltimore, Buffalo, Lawrence, New Bedford, and Quincy one each. From whooping-cough, New York 13, Charleston five, Brooklyn four, St. Louis and Pittsburgh three each, Philadelphia, Boston, Buffalo, Milwaukee, Providence, Springfield, Newton, and Chicago one each. From malarial fevers, Brooklyn six, New York five, St. Louis and District of Columbia three each, Boston,

Buffalo, Charleston, and Northampton one each. From cerebro-spinal meningitis, New York six, Buffalo and Worcester three each, Fall River two, Philadelphia, Boston, Baltimore, New Bedford, and Fitchburg one each. From puerperal fever, Boston, Cincinnati, and Lynn two each, New York, Buffalo, Providence, New Haven, and Holyoke one each. From erysipelas, New York four, Philadelphia, St. Louis, District of Columbia, and Cambridge one each. From typhus fever New York two.

One hundred cases of small-pox were reported in Cincinnati, Baltimore 15, Buffalo nine, Pittsburgh three, Brooklyn and Boston each one; diphtheria 39, scarlet fever 10, typhoid fever three, in Boston; scarlet fever eight, in Milwaukee.

In 40 cities and towns of Massachusetts, with a population of 1,090,705 (population of the State 1,783,086), the total death-rate for the week was 12.17 against 16.65 and 17.84 for the previous two weeks.

For the week ending June 24, in 173 German cities and towns, with an estimated population of 8,311,954, the death-rate was 27.5. Deaths reported 4401; under five 2257; pulmonary consumption 617, acute diseases of the respiratory organs 519, diphtheria and croup 149, scarlet fever 89, whooping-

cough 52, measles and rùthela 51, typhoid fever 43, puerperal fever 26, small-pox (Bouthen three, Essen and Koblenz each two), Ratisbon and Munich each one) nine, typhus fever (Danzig two). The death-rates ranged from 15.1 in Mannheim to 16.3 in Augsburg; Königsberg 31.9; Breslau 34.7; Munich 35.5; Dresden 27.9; Berlin 29.8; Leipzig 21.0; Hamburg 26.1; Cologne 31.2; Frankfurt a. M. 22.3; Metz 31.2.

In the 28 English towns, with an estimated population of 8,459,571, for the week ending June 10th, the death-rate was 19.7. Deaths reported 3204; acute diseases of the respiratory organs (London) 221, whooping-cough 151, measles 148, scarlet fever 61, diarrhoea 70, fever 52, diphtheria 28, small-pox (London 10) 17. The death-rates ranged from 13.5 in Norwich to 28.8 in Manchester; Plymouth 16.1; Bristol 17.9; Lon-

don 18.6; Leeds 18.7; Birkenhead 19.9; Bradford 21.4; Liverpool 19.9; Portsmouth 25.3. In Edinburgh 21.1; Glasgow 24.3; Dublin 25.0.

For the week ending June 3d, in the Swiss towns, population 494,390, there were 41 deaths from consumption, diarrheal diseases 19, acute diseases of the respiratory organs 17, scarlet fever four, diphtheria and croup four, whooping-cough three, typhoid fever three, erysipelas and measles each one. The death-rates were, at Geneva 16.5; Zurich 10.1; Basle 17.9; Berne 25.3.

The meteorological record for the week ending June 24th, in Boston, was as follows, according to observations furnished by Sergt. O. B. Cole, of the U. S. Signal Corps:—

| Date.            | Barom-eter. | Thermom-eter. |       |          | Relative Humidity. |            |            |             | Direction of Wind. |            |            | Velocity of Wind. |            |            | State of Weather. <sup>1</sup> |            |            | Rainfall.   |                       |                   |
|------------------|-------------|---------------|-------|----------|--------------------|------------|------------|-------------|--------------------|------------|------------|-------------------|------------|------------|--------------------------------|------------|------------|-------------|-----------------------|-------------------|
|                  |             | Mean.         | Mean. | Maximum. | Minimum.           | 7.23 A. M. | 3.23 P. M. | 11.23 P. M. | Mean.              | 7.23 A. M. | 3.23 P. M. | 11.23 P. M.       | 7.23 A. M. | 3.23 P. M. | 11.23 P. M.                    | 7.23 A. M. | 3.23 P. M. | 11.23 P. M. | Duration, Hrs. & Min. | Amount in inches. |
| June, 1882.      |             |               |       |          |                    |            |            |             |                    |            |            |                   |            |            |                                |            |            |             |                       |                   |
| Sun., 18         | 29.729      | 60            | 64    | 58       | 96                 | 93         | 96         | 95          | SE                 | NE         | NE         | 1                 | 8          | 1          | G                              | G          | R          | O           | —                     | —                 |
| Mon., 19         | 29.711      | 69            | 87    | 57       | 100                | 51         | 90         | 80          | E                  | S          | S          | 4                 | 22         | 3          | G                              | F          | O          | —           | —                     | —                 |
| Tues., 20        | 29.922      | 64            | 72    | 57       | 67                 | 37         | 67         | 57          | W                  | NW         | Calm       | 20                | 14         | 0          | C                              | C          | C          | C           | —                     | —                 |
| Wed., 21         | 30.048      | 66            | 78    | 54       | 69                 | 30         | 58         | 52          | W                  | W          | W          | 7                 | 14         | 8          | O                              | F          | C          | C           | —                     | —                 |
| Thurs., 22       | 30.105      | 71            | 84    | 57       | 59                 | 25         | 51         | 45          | W                  | NW         | W          | 6                 | 11         | 3          | C                              | C          | C          | C           | —                     | —                 |
| Fri., 23         | 30.058      | 72            | 80    | 59       | 51                 | 53         | 66         | 57          | Calm               | E          | SW         | 0                 | 3          | 10         | H                              | F          | O          | C           | —                     | —                 |
| Sat., 24         | 29.918      | 80            | 94    | 69       | 74                 | 44         | 76         | 65          | SW                 | SW         | SW         | 8                 | 6          | 6          | C                              | F          | F          | F           | —                     | —                 |
| Means, the week. | 29.927      | 69            | 94    | 54       |                    |            |            | 64          |                    |            |            |                   |            |            |                                |            |            |             | 7.45                  | .23               |

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; X., clearing.

#### HARVARD MEDICAL SCHOOL.

The following were the graduates in medicine at the Harvard Commencement June 28th:—

##### FOUR YEARS' COURSE.

Henry Fiske Adams, *cum laude*.  
Hayward Warren Cushing, A. B., *cum laude*.  
Edward Pearson Elliott, A. B., *cum laude*.  
Royal Whitman, *cum laude*.  
Herbert Baker Whitney, A. B., *cum laude*.  
Benjamin Seaver Blanchard.  
Joseph Eddy Clark.  
George Pierce Twitchell.  
Alley Talbot Wakefield, A. B.

##### THREE YEARS' COURSE.

William Henry Aiken, A. B.  
Gardner Weld Allen, A. B.  
William A. Applegate.  
Edgar Chester Atkins.  
Frank Sumner Atwood.  
Fred McCulloch Baird.  
Fred Jason Beckwith, A. B.  
Louis Hoy Bigelow, B. S.  
Henry Winslow Boutwell.  
Cary Carpenter Bradford.  
Charles How Bradley.  
Thomas Joseph Brodovich.  
Stephen Driver Brooks, A. B.  
William Tyler Browne, Ph. B.  
Howard Mendenhall Buck, A. B.  
Allen Burdett.  
Arthur Joseph Burgess.

Charles Henry Burr, S. B.  
Maurice Dwight Clarke, A. B.  
John Abbott Crosby, S. B.  
Charles Frederic Denny.  
Ernest Edgar Doble.  
George Smith Dodge.  
Benedict Donovan.  
Frank Haynes Drew.  
Willard Henry Fales, A. B.  
Robert Harris Faunce.  
Warren Woden Foster.  
Eugene Thomas Galligan.  
Thatcher Goddard.  
Ossian Wilbur Goss.  
Josiah Newhall Hall, S. B.  
Nichaniel Hibbard, A. B.  
William Daniel Holben.  
William Denison Holmes.  
John Homan, A. B.  
Leonard Jarvis, S. B.  
Herbert Stanton Jordan.  
William Beckford Kibbey.  
Samuel Ayer Kimball, A. B.  
Rufus Anderson Kinsman.  
Thomas Joseph Lawler.  
William Harvey Litchfield.  
Frederic Howard Lombard, A. B.  
Warren Plimpton Lombard, A. B.  
Orison Sweet Marden, A. M., LL. B.  
Atterton Perry Mason, A. B.  
Herbert Weston McLaughlin, A. B.  
George Norton Miller, A. B.  
Charles Fisher Mills.  
John Gavin Morris, A. B.  
William Frank Morrison.

Samuel Newell Nelson, A. B.  
Otis Kimball Newell.  
Asa Hadden Nickerson.  
Ephraim Wood Norwood, A. M.  
William David Otterson.  
Charles Edwin Prior, A. B.  
Dana Putnam Richardson.  
Andrew Francis Shea.  
James Rogers Simmons.  
Charles Frederic Sinclair, B. D.  
Howard Hutchins Smith, Ph. B.  
Willard Everett Smith, A. B.

George Augustus Stickney.  
James Francis Sullivan.  
Roscoe Wesley Swan, B. S.  
Henry Lee Sweeney.  
Frederic Weston Taylor, A. B.  
Frederick Tuckerman, B. S.  
Herman Frank Vickery, A. B.  
Frank Edward Weil.  
Charles Galen Weston.  
Roswell Wetherbee.  
George Henry Whitaker Whiteside.  
George Franklin Woodbury.  
Lemuel Fox Woodward, B. S.

The theses of the following candidates were recommended for publication:—

Atherton Perry Mason, A. B., Erythroxylen Coca; its Physiological Effect, and especially its Effect on the Excretion of Urea by the Kidneys. Royal Whitman, Suicide. Herbert Baker Whitney, A. B., on Percussion of the Heart in Health and Disease.

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM JUNE 24, 1882, TO JUNE 30, 1882.

By direction of the Secretary of War the Medical Examining Board, convened in New York City by S. O. No. 223, October 30, 1877, from A. G. O., is dissolved, to take effect June 30, 1882, and the following named officers, now members of the Board, will report by letter to the Surgeon-General: MAJOR JOSEPH B. BROWN, surgeon; MAJOR JOSEPH H. BELL, surgeon; MAJOR CHARLES H. ALDEN, surgeon. S. O. 117, A. G. O., June 26, 1882.

BAXISTER, J. M., first lieutenant and assistant surgeon. When relieved by Assistant Surgeon De Lofre, to proceed to camp of Ninth Cavalry near Cantonment on the Uncompaghe River, Colo., and report to the commanding officer for duty. S. O. 124, Department of the Missouri, C. S.

## Lectures.

### ABSTRACT OF THE HARVEIAN ORATION DELIVERED AT THE ROYAL COLLEGE OF PHYSICIANS, JUNE 24, 1882.

BY GEORGE JOHNSON, M. D., F. R. S.,

*Fellow of the Royal College of Physicians, Professor of Clinical Medicine in King's College, Senior Physician to King's College Hospital.*

DR. JOHNSON began his oration by referring to the systematic attempts which have recently been made in Italy, first, to deprive the illustrious Harvey of the honor which for two centuries and a half has by almost universal consent been conceded to him as the discoverer of the circulation of the blood, and second, to claim for the Italian Cesalpino the credit of having anticipated Harvey. In 1876 a monument in honor of Cesalpino was uncovered in Rome. At the inauguration of that monument, in the presence of a large assembly of Italian notables, orations were delivered by Professors Scalzi and Maggiorani. Both orators referred in terms of praise to a recently published work<sup>1</sup> by Dr. Ceradini, professor of physiology in the University of Genoa. The author of this work professes to give the true history of the discovery of the circulation, and he maintains that Harvey during the four years, from 1598 to 1602, which he spent as a student of medicine at Padua, learnt from the writings of Cesalpino, the chief of which had been published about thirty years before, the doctrine of the circulation, which, in the year 1628, he published as his own. Dr. Ceradini admits that Harvey, having undergone great labor in his endeavor to make the doctrine known, and to overcome the prejudices of those who opposed it, may, to some extent, be pardoned for having at length persuaded himself that Cesalpino's discovery was actually his own, but this, he maintains, affords no excuse for the conduct of Harvey's fellow-countrymen, who still believe, or pretend to believe, him to have been the discoverer of the circulation, perhaps, he sarcastically adds, in order not to deprive themselves of the pretext for an annual festal celebration of his memory!

The orator then proceeded to show how utterly without foundation are these charges of plagiarism against Harvey, who could not have obtained from Cesalpino's writings that which is not to be found therein, namely, a knowledge of the circulation of the blood. It was shown by quotations from Cesalpino's works that in no respect was his knowledge of the circulation in advance of that of his contemporaries and immediate predecessors. Before the publication of Harvey's great discovery it was known that the blood, entering the right side of the heart, passes through the lungs to the left side of the heart, and thence into the aorta and its branches; but the course of the blood after it had been sent into the systemic arteries (that is, the arteries of the body in general as distinguished from those of the lungs) was quite unknown. Cesalpino thought that during the waking state the blood passed from the arteries into the nerves, while during sleep it returned to the heart by the veins.

Dr. Ceradini relies mainly upon three arguments to establish Cesalpino's claim to be the discoverer of the circulation: First. He was the first to use the term "circulation." Second. He described the passage of the blood from the arteries through the capillaries to the

veins. Third. He demonstrated the fact that when a ligature is applied to a vein the vessel swells beyond the ligature. In reply to these statements Dr. Johnson argues: First. That the fact of Cesalpino having applied the term "circulation" only to the passage of the blood through the lungs is so far evidence that he was ignorant of the general or so-called systemic circulation. Second. The Latin word "capillamenta," which Dr. Ceradini translates "capillaries," as if Cesalpino, without a microscope, had discovered the minute net-work of blood-vessels which intervenes between the terminal arteries and veins, — this word is used by Cesalpino to express an imaginary ending of the systemic arteries and veins in nerves. In short, Cesalpino believed, with his admired master Aristotle, that the nerves were nothing more than the capillamentous or hair-like terminations of the aorta, and he was entirely ignorant of the capillary blood-vessels which the Italian Malpighi, with the aid of lenses first saw about the middle of the seventeenth century.

With regard to the effect of ligaturing a vein, Cesalpino saw no more than had been seen for centuries before by those who practiced venesection — namely, that the vessel swells on the distal side of the ligature. This fact, which is so easy of explanation when once it is known that the blood is perpetually passing through the veins towards the heart, received no explanation from Cesalpino, who believed that the blood returned through the veins to the heart only during sleep; but he suggests that when a vein is obstructed at other times "perhaps the blood at the time returns to its source (the heart), test being cut off it should be extinguished."

Several passages from Cesalpino's writings were quoted to show his belief that in certain veins and at certain times the course of the blood is from their trunks to their branches, and that during the waking state there is some reflux of blood from the aorta into the heart, a belief which, the orator remarked, is utterly inconsistent with a knowledge of the circulation as revealed by Harvey.

Great and various as were Cesalpino's acquirements in different departments of natural science, more especially in botany, as regards the physiology of the circulation his knowledge was not in advance of that of his contemporaries.

To turn from Cesalpino's doubtful and contradictory utterances, and his peripatetic fancies with regard to the circulation, to Harvey's clear statements and exact reasoning, is like coming from a dark and stifling cave into fresh air and bright sunshine.

I propose, in conclusion, to give one extract from Harvey's treatise *On the Motion of the Heart and Blood*, which affords a good example of his style, and which is especially interesting from its containing in a few sentences an illustration of the process of observation and reasoning which led up to his great discovery of the systemic circulation: <sup>2</sup> —

"When I surveyed my mass of evidence, whether derived from vivisections and my various reflections on them, or from the ventricles of the heart and the vessels that enter into and issue from them, the symmetry and size of these conduits, — for nature, doing nothing

<sup>1</sup> M. Flourcens, in his *Histoire de la Découverte de la Circulation du Sang*, 1854, page 20, says of Harvey's treatise: "Le livre d'Harvey est un chef-d'œuvre." "Ce petit livre de cent pages est le plus beau livre de physiologie." For his favorable judgment of Harvey, however, the author is severely taken to task by Dr. Ceradini, pages 206, 207.

<sup>2</sup> La Scoperta della Circolazione del Sangue. Milano, 1876.

ing in vain, would never have given them so large a relative size without a purpose,—or from the arrangement and intimate structure of the valves in particular, and of the other parts of the heart in general, with many things besides, I frequently and seriously bethought me, and long resolved in my mind, what might be the quantity of blood which was transmitted, in how short a time its passage might be effected, and the like; and not finding it possible that this could be supplied by the juices of the ingested aliment, without the veins on the one hand becoming drained, and the arteries on the other getting ruptured through excessive charge of blood, unless the blood should somehow find its way from the arteries into the veins and so return to the right side of the heart, I began to think whether there might not be a MOTION AS IT WERE IN A CIRCLE. Now this I afterwards found to be true; and I finally saw that the blood, forced by the action of the left ventricle into the arteries, was distributed to the body at large and its several parts, in the same manner as it is sent through the lungs, impelled by the right ventricle into the pulmonary artery; and that it then passed through the veins and along the vena cava, and so round to the left ventricle in the manner already indicated; which motion we may be allowed to call circular.”<sup>1</sup>

It was the recognition and proof, by numerous observations and experiments, of the incessant propulsion of the blood by the contractions of the left ventricle of the heart through the systemic arteries into the veins, and so back to the right side of the heart, that constituted Harvey's discovery of the greater or systemic circulation.

Harvey, as we have seen, obtained his anatomical knowledge at Padua under the famous Fabricius, of whom he speaks with gratitude and reverence<sup>2</sup> as “the celebrated Hieronymus Fabricius of Acquapendente, a most skillful anatomist and venerable old man.” While, therefore, we cannot concede to Cesalpino the honor of having discovered the circulation of the blood, a distinction which he himself would probably never have thought of claiming, we willingly express our gratitude to Italy for having given our celebrated countryman the anatomical training without which he could not have made his great discovery,—a discovery which, throughout all ages and by all civilized nations, will be looked upon as the foundation of modern physiology, and therefore of scientific medicine.

## Original Articles.

### MEDICAL EXPERT TESTIMONY.

ABSTRACT OF AN ADDRESS BEFORE THE WORCESTER DISTRICT MEDICAL SOCIETY.

BY J. MARCUS RICE, M. D., WORCESTER.

THE address at the annual meeting of the Worcester District Medical Society, held at Worcester, May 10th, of this year, was by Dr. J. Marcus Rice, of that city, and on the subject of Medical Expert Testimony in Courts. The following is an abstract of the paper:—

Dr. Rice said that physicians are frequently called upon to testify in courts in regard to facts which may have come under their professional observation, and that in such cases they occupy the same position as

other witnesses, and are expected to answer the whole truth even although it involves criminal acts, the disclosure of which was necessary to enable the patient to place himself in the best condition for recovery. They are not protected as is the priest in the confessional or the legal counsel of the prisoner. Even the officer who has the prisoner in custody is not allowed to testify to anything which was imparted under the promise of leniency or other substantial benefit. This seems hardly equitable, and is not the practice in some of the other States.

In New York, for instance, the statute reads that “no person duly authorized to practice physic or surgery shall be *allowed* to disclose any information which he has acquired in attending a patient in a professional character, which information was necessary to enable him to prescribe for such patient as a physician, or to do any act for him as a surgeon.”

This exclusion includes all means of knowledge whether of statements by the patient or by symptoms and appearances observed, and in practice it is assumed that when the fact of attendance is shown the disclosures made were for the purpose of enabling the physician to prescribe more effectually. Even the death of the patient does not in some cases cause a lapse of these rights. Should the patient waive his right the physician cannot then refuse to testify unless such answer would criminate himself. In cases of murder and manslaughter this immunity for the patient does not obtain.

After testifying to the facts as indicated we may be asked to give an opinion based upon them or on statement of other witnesses, or we may have a long array of hypothetical questions propounded by learned counsel, who desire such answers as will best suit their own side of the case. In giving an opinion upon facts stated, or an assumed statement, we are placed in a position of grave responsibility, for not unfrequently the property, liberty, or even the life of some person may be jeopardized by the answers given. In the ordinary duties of our profession we are constantly called upon to decide questions involving the health and lives committed to our care, but the solemnity of a court adds dignity to the decision, and we cannot there excuse lack of skill or lapses of memory by attributing untoward results to the disturbing element of disease. The case for the witness at least is made up while testifying, and a mistake once made is not easily rectified. The physician thus called on is made to assume the position of an expert, and placed at the mercy of counsel, who, instead of striving to arrive at the truth, may be much more interested to conceal it, or obscure the opinion given. The case is even worse when those interested on each side secure medical men, by offers of large fees or emoluments, to assume sides in the trial to listen to the testimony of other medical men, not for the purpose of giving effect to the truth, but to pervert their meaning, and impugn their motives.

The antagonism of opinion thus stimulated and developed has become so marked that in nearly all important trials of the last few years involving medical points, the newspapers have been filled with comments and reflections on the inexactness of medical science and chemical knowledge.

The medical fraternity in this region are but slightly open to criticism from this cause, yet it is a disturbing element which should be eliminated from the courts.

The ordinary practice is for the counsel to confer

<sup>1</sup> Coll. Ed., page 43; Dr. Willis's pages 45, 46.

<sup>2</sup> Coll. Ed., page 65; Dr. Willis's Trans., page 62.

with medical experts before the trial. This statement is an *ex parte* one, and is naturally tinged by his views. The expert hearing but one side, and conscious that unless he agrees with that view he will not be employed, almost unconsciously finds himself studying that side only, forming theories to meet these views, and bolstering opinions by all means which his learning, and the intelligence and suggestions of counsel, can afford. Later, and often too late, he finds that the other side has an entirely different set of facts, which, if known to him, would have modified his opinion and controlled his testimony.

Some of the difficulties which beset us are inseparable from our position, for although medicine is a science, its problems cannot be demonstrated with the exactitude of mathematics, and it is subject to correction by the teachings of experience and experiments even in this age of intellectual activity, while its instruments of precision frequently only lead far enough to halt us on the very confines of progress. Failure furnishes no sufficient ground for despondency, and should only stimulate us to renewed exertion and greater zeal, for ours is not of the transcendental school where fancy roams in quest of knowledge, and occupies the place where judgment and observation should stand.

The frequency of the plea of insanity as a bar to responsibility for crime compels the medical expert to give it extended consideration. At the outset it is difficult to define insanity in such manner that the average jurymen can understand it. The prosecuting officers formulate the doctrine that those persons who can distinguish between right and wrong are responsible, that impulse goes for nothing; but this rule would bring under penalty a large portion of the inmates of our insane hospitals and asylums, and all physicians can recall instances which show the absurdity of this rule.

We know that insane impulse may be controlled under favorable conditions, and that the power of the mind will sometimes be effective to restrain from the commission of crime while at others unable to do so.

We see also the insane are restrained from violence by the comparatively mild means used in well-managed hospitals, who are uncontrolled by the severer penalties of laws further removed from their observation.

When the defense of a prisoner is insanity, imbecility, or such other morbid condition as would relieve from responsibility, the burden of proof is upon the defense, and the testimony must be sufficient to overthrow the legal presumption of sanity, and to convince the jury that he was at the time the deed was committed unable to distinguish between right and wrong. The prosecuting officers scout the idea of emotional insanity, insanity of the will, or moral insanity, or insane impulse. In one case the court ruled that no imaginary inspiration could excuse crime where the nature of the act done and its probable consequences to the injured party, and that it was in itself wrong, were known to the actor. To this it may be said that to the person hearing the voice of God commanding him to do some act the inspiration is real.

When an insane person has committed a homicide it becomes a serious question whether he should ever again be set at liberty, for such persons are notoriously dangerous, and society has a right to protect its innocent members even at the expense of an occasional hardship to others.

In the National House of Representatives, January 9, 1882, the following bill, defining the law of insanity in criminal cases, was introduced:—

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* that no person indicted in the District of Columbia, or in any Territory of the United States, or in any court of the United States, shall be acquitted on the ground of insanity, under which designation is to be included idiocy, lunacy, or other unsoundness of mind, except upon proof that at the time of committing the offense charged he was laboring under such a defect of reason as either,—

First, not to know the nature and quality of the act he was doing; or,

Second, not to know that the act was unlawful or wrong.

Section 2. That a morbid propensity to commit prohibited acts existing in the mind of a person who is not shown to have been incapable of knowing the unlawfulness or wrongfulness of such acts shall form no defense to a prosecution therefor.

Section 3. That whenever upon the trial of an indictment in any court of the United States, or in the District of Columbia, or in any of the Territories, the jury shall find the defendant not guilty, they shall, at the request of the prosecuting attorney, state whether they acquit the defendant on the ground of insanity; and if they answer affirmatively, the statement shall be entered in the minutes of the trial, and the court shall thereupon order the defendant to be committed to an asylum or hospital for the insane, to be there kept in close custody until discharged in due course of law.

The ground of this bill was that taken in the trial of Guiteau, the government putting forth its strength to show that he knew the act was contrary to law, and that knowing this, he was responsible. This trial presents some of the most singular incidents of modern times. For instance, a large number of the government witnesses testified that the assassin was feigning insanity at the time of the trial, while the others were of a contrary opinion. This is of immense importance in estimating the value of their opinions as to the condition of the prisoner at the time of the homicide. If they could not with the prisoner before them, with almost every act of his life known to them, and with the opportunity to study his conduct, agree on his then mental condition, what was their judgment worth as to his mental condition at the time of the crime of which they only had hearsay and conflicting evidence?

The bill before Congress intending to define insanity will not receive the approval of those who have studied mental diseases, for it excludes a great number of cases which should be protected. There are cases where the impulse to kill is irresistible, although the actor is fully conscious of the law and the penalty.

In most cases the act follows quickly on the delusion, but in others much time may elapse, and the insane person may make carefully contrived and secret plans with modifications to meet them, and frequently exhibits mechanical skill with powers of combination and concentration, and it is difficult under these conditions to convince the laity that such persons are not responsible for their acts.

In cases of alleged malpractice the physician is sometimes compelled to appear in court in the double rôle of defendant and expert.

Such actions are, however, quite rare in this region; but it is well to understand that any physician may be called on to defend his line of treatment, and that it is dangerous in such cases to depend upon the statements of patients and their friends. To avoid trouble, it is well in all important surgical cases, at least, to have the assistance of another trustworthy medical man, in order that the diagnosis may be susceptible of proof by another than himself, who may also be disinterested.

With these and a full record of the case such troubles

may be met as they arise. The legal rule requires the physician to give to the case such reasonable care and skill as is common to the profession; he does not undertake to perform a cure, nor even to bring the highest attainable knowledge and extraordinary skill, such as can only be obtained by few persons. He undertakes to use that ordinary skill and care for the best interest of the patient; he will be expected to anticipate conditions that may arise, and be ready to meet them in the best manner. In these things he will have to depend upon his own testimony, with the disadvantage, on the witness stand, of being pecuniarily interested, and having his professional reputation at stake. He should treat the case with entire fairness, and show to the court and jury that he has confidence in his course, by giving full and careful answers, without reserve or hesitation, as he will thereby secure the confidence of the jury both in his skill and honesty. The legal rule requires on the part of the patient that he shall obey the directions of his physician, thus placing himself in the best possible condition for recovery.

The medical expert should remember that he is called in the interest of truth and justice and not to secure the success of either side, although his fee is generally under our present system paid by one side only. He should be calm, collected, and impartial, uninfluenced by popular prejudice, and in condition to fully understand the import of the questions and answers given.

Counsel demand a "yes" or "no" answer, but an expert has a right to use such language as will best express his meaning and should insist upon that right. It is better, when the subject admits, to answer "yes" or "no" first, and then add such explanation as he thinks necessary. It is better to avoid the use of technical terms and phrases when possible, to avoid discussion and criticism, and to be intelligible to the average juror. The expert should not volunteer statements or give an opinion on the merits of the case. If he is called as counsel and sits beside the lawyer to suggest questions, and the line of conduct in a case, it would be better for him not to appear upon the witness stand.

Several cases illustrating the positions taken in the paper were reported, and, in conclusion, it was suggested, as a remedy for the evils complained of, that medical experts might be selected by the courts and paid by both parties without regard to the testimony given, or the case might be stated in detail without his knowing which side would be benefited by his answers. Another system might be for a jury of experts to be made up for all important trials to whom should be submitted all the facts in the case for their final decision.

By the latter plan the right of trial by jury would be retained, though much modified, for now it is frequently an object to secure a jury of ignorant or irresponsible men, as these can be more easily influenced by appeals to passion and sympathy. If the courts had the power and duty to call for the aid of medical men who were as independent as the judges, and who should have every facility for the study of the case in hand, a great advance would be made in the right direction, and the chief sources of abuse in the calling of medical experts would thus be destroyed. Hypothetical questions would not then be allowed, but the trial would be based upon the actual facts.

Appropriate tribute was paid by the speaker to the two members of the Society who have deceased during the year, Dr. Edward Wheeler, of Spencer, and Dr. John G. Thomas, of Worcester.

## PANCREATIC APOPLEXY, WITH A REPORT OF TWO CASES.<sup>1</sup>

BY MORTON PRINCE, M. D.

I AM indebted to Dr. John G. Blake, who has kindly allowed me to make use of the notes of the following case, taken from the records of his service at the Boston City Hospital:—

P. B., twenty-two years old, teamster, strong and well built. At the commencement of his illness was a prisoner in Charles Street Jail, where he had been under observation for a number of weeks. During this time he had been perfectly well. About a week before the attack, according to the accounts of the other prisoners, he had complained of a sharp pain in lower part of abdomen immediately after turning a hand-spring. He then remarked that he "guessed he would not do that again." No further complaint was heard from him. During the night of July 7, 1881, he was suddenly taken with severe cramps in his stomach, "doubling him up," vomiting, chills, and sweating. When first seen by the jail attendants in the morning he was in a collapsed condition, and said to be in about the same state as when I first saw him a little before noon, when his condition was as follows: Extremities and surface cold, face pale and covered with a cold sweat. He was anxious and restless, tossing about on the bed, so that only with difficulty could he be kept covered. He complained of severe cramps in the abdomen. Tenderness was not marked, except in the region of the umbilicus, where a circumscribed spot was found, after exploration by the patient. He said that he had vomited a good deal, but that the bowels had not moved since the preceding day. The temperature in the axilla was normal. The pulse at the wrist was rapid, feeble, and could not be counted. No other symptoms. A hot poultice was ordered to the abdomen, heaters to the feet, etc. Brandy and laudanum were to be given in repeated doses till relief obtained.

During the afternoon he continued in about the same condition. He was said to have vomited everything taken. Among the most prominent symptoms were the anxiety and restlessness, which were so marked as to render it impossible to keep him covered with the clothes, and to mask the pain from which he undoubtedly suffered. As proper facilities for treatment were wanting in the jail, steps were taken to transfer him to the City Hospital, where he arrived in the evening and came under the care of Dr. J. G. Blake. The records here show that on entrance he was in about the same condition as described above.

R Morph. sulphatis one eighth of a grain subcutaneously. Two ounces of brandy per rectum were given and repeated, with one ounce of spirits of turpentine at the end of an hour and three quarters. Heaters and turpentine stupes applied. Slept some. Four dark-colored dejections.

The next morning (July 9th) his condition was the same; "nearly pulseless at wrist; extremities cold;

<sup>1</sup> Read before the Section for Clinical Medicine and Pathology of the Suffolk District Medical Society, May 6, 1882.



face and extremities cyanotic;" vomiting continuous as before. Temperature  $100.8^{\circ}$  F. Fourteen dejections during the day. R Enemata of brandy.

P. M. Thirsty; watched to keep in bed; feet and legs warm, hands and arms cold; tongue very dry; very restless. At three P. M., in view of this collapsed condition, Dr. Blake decided to try the intravenous injection of milk, and six ounces were introduced into a vein. During the night enemata of brandy and milk were ordered. As a result of this treatment considerable improvement set in; the symptoms of collapse subsided, the pulse improved, and the patient slept during the latter part of the night.

The next morning (July 10th) the record reads: "Appears much brighter; face not cyanotic; vomited once during the night; two dejections this morning; retains milk and lime water." Temperature  $97.5^{\circ}$  F. Enemata of beef juice, brandy, and ten drops of elixir of opium were ordered every three hours, but not retained during the following night. Evening temperature  $99.2^{\circ}$  F.

July 11th. Condition about the same, but had hicough. Temperature A. M. and P. M.  $98.2^{\circ}$  F. During night vomited a good deal, and did not retain enemata or medicine.

July 12th. Hydrocyanic acid, dilute, was given in three-minim doses every three hours. Temperature A. M.  $98.8^{\circ}$  F.; P. M.  $100^{\circ}$  F. The patient began to improve, and on the 13th the record runs: "No vomiting; better. Omit hydrocyanic acid." At this time there was great improvement in the patient's condition. He appeared bright and comfortable, free from pain, with a good pulse, and it seemed probable that recovery would take place. The temperature, however, ran up in the evening from  $99.5^{\circ}$  F. to  $101.2^{\circ}$  F.

On July 14th there was a temporary return of the hicough and vomiting, and the temperature rose to  $102.2^{\circ}$  F. During the succeeding five days he remained pretty comfortable, though there was some pain and tenderness over the abdomen. The temperature fell to something below normal,  $97.8^{\circ}$ - $98.2^{\circ}$  F. The pulse remained at 95-100, regular, and of good strength; the vomiting and hicough did not return, and the patient took stimulants, and milk and lime water well by the stomach. But the diarrhoea persisted throughout the illness.

July 20th. Seven dejections last night, green and watery; still some pain and tenderness in the region of the navel; appetite fair. Takes chicken broth and milk. Temperature A. M.  $100.8^{\circ}$  F.; P. M.  $99.8^{\circ}$  F. R Copper and opium pill, one after each second dejection, but not often than every four hours.

P. M. Diarrhoea ameliorated. Omit pills. R Quinine, two grains three times a day.

July 21st. The vomiting returned, with severe pain in the epigastrium. Temperature A. M.  $102.2^{\circ}$  F.; P. M.  $99.5^{\circ}$  F.; pulse 105. Four dejections. The vomiting and pain persisted throughout the next day (July 22d), when considerable tympanites appeared. Temperature A. M.  $102.2^{\circ}$  F.; P. M.  $100.8^{\circ}$  F. In the evening of this day the patient failed rapidly, the pain increased in severity, and he died at 11.30 P. M.

Extract from autopsy by Dr. Gannett:—

*Abdomen.* On opening the abdominal cavity it was found that the peritoneal surface of the anterior abdominal wall was adherent to the omentum and to the folds of the intestine. The loops of intestine were distended with gas, were of a bluish-black color, dead

glance, and were matted together, but could be separated by a moderate degree of force. In the peritoneal cavity were one hundred and twenty cubic centimetres of a thin, black fluid. On lifting up the omentum, and then separating the folds of the small intestine, which were adherent to the under surface of the transverse colon, there appeared a ragged, blackish mass, from a small tear through which there poured out a large quantity of a thick chocolate-colored fluid with a slightly reddish tint; also two or three coagula size of an egg, of a soft gelatinous consistence, and of a bluish-black color. All the abdominal organs were then removed *en masse* and examined.

*Pancreas.* The seat of the pancreas was found to be occupied by a black, shreddy, sloughy, soft, gangrenous mass, these characteristics being most marked in the central region of the organ. The head and tail of the pancreas were represented by a central portion of a black, sloughy mass, in which no trace of gland structure was to be made out, and an external portion formed, as it were, a sort of capsule for the central sloughy portion, made up of the proper gland structure of the pancreas, the more central portions of which gradually shaded off into the sloughy, black, inrecognizable central portion. That portion of the pancreas in close proximity to the duodenum showed the most preserved gland substance, and this was from seven to ten millimetres in thickness.

No attempt was made to discover the artery of the pancreas, but the heart was examined with great care for a possible source of emboli, but no trace of such a source discovered.

The mesentery of the upper portion of the jejunum, this being the part adherent to the lower border of the transverse colon, showed a considerable collection of thick greenish-yellow pus between the folds.

Liver, spleen, kidneys, heart, pericardium, pleura, and aorta, showed nothing unusual. The lungs, likewise, were normal with the exception of two nodules, the size of a hen's egg, in upper part of middle lobe, and one similar nodule in the lower lobe of right lung. The lung substance in these nodules was of a blackish color, and very shreddy. [Question whether the nodules were not simply the result of some of the contents of the stomach getting into the bronchi and digesting a portion of the lung substance. The nodules showed no signs of anything of an inflammatory character, or even of the nature of anæmic necrosis.]

Friedreich<sup>1</sup> divides hæmorrhage into the pancreas into two kinds: one in which the hæmorrhage is circumscribed and forms a cyst containing blood; and second, "hæmorrhagic processes" — which must be distinguished from those just described — in which the entire pancreas takes on a hæmorrhagic condition without any interstitial inflammatory changes, or gross alterations being appreciable in the vascular system.<sup>2</sup> Chvostek, in a very complete article<sup>2</sup> on the subject, divides hæmorrhages of the pancreas into seven varieties.

- (1.) As a part of a hæmorrhagic diathesis.
- (2.) From traumatic causes.
- (3.) In rare cases, without apparent cause, larger centres of hæmorrhage occur. In a case reported by Störk, the pancreas was transformed into a sac filled with coagulated blood and weighed thirteen pounds. (Chvostek thinks this may have been an aneurism.)

<sup>1</sup> Ziem. Cyclop. of Med.

<sup>2</sup> Wien. Med. Blätter. 27 Nov. 1879, No. 48, ii, Jahrg.

(4.) Hæmorrhages occur sometimes as a result of venous congestion of the vessels of the portal system, due to disease of these vessels themselves; of the liver, or of the heart or lungs. This form was first described by Klob<sup>1</sup> as an "interstitial hæmorrhage into the pancreas." With it is associated an hyperplasia of the connective tissue.

(5.) A peculiar form first brought prominently into notice by Klebs. This is the second variety of Friedreich, "in which the entire pancreas takes on a hæmorrhagic condition."

(6.) A variety resembling the last, in that there is found an extensive hæmorrhagic infiltration throughout the whole organ, but with the difference, that along with it there exists an extreme fatty degeneration of the substance of the gland, and of the neighboring cellular tissue. Four examples of this kind have been reported, three by Zenker and one by Hooper.

(7.) Hæmorrhage into pre-existing cysts.

To these should be added another (eighth) variety in which there are hæmorrhages scattered throughout the pancreas as a result probably of acute inflammation.

It is with the fifth and sixth forms that we are here directly interested, and which will be here described together, as they cannot clinically be distinguished.

The gland itself may be normal in shape and size (Draper's case<sup>2</sup>), or enlarged to double its normal size from the infiltrated blood (Hilly<sup>3</sup>). If death has occurred within the first few days before secondary changes have taken place, the gland will be found to be of firm consistence, and on section of a dark red color from a general infiltration of blood into the interlobular tissue throughout nearly its whole substance, though the hæmorrhage may be more abundant in one spot. On the other hand, the hæmorrhage, instead of being diffused in this manner, may be localized in several foci or nodules of greater or less size.

One of the most noteworthy and constant appearances is the hæmorrhage which so commonly takes place into the cellular tissue surrounding the gland. This condition was found nine times out of eleven cases in which it could be determined.

Later on, if life be sufficiently prolonged, the gland seems to melt down, possibly as the effect of the pancreatic secretion upon the effused blood, into a semi-solid gangrenous mass, consisting of decomposed blood and gland substance. Peritonitis then results with all its characteristic appearances.

The surrounding cellular tissue may in prolonged cases take on suppurative inflammation, due perhaps to secondary changes in the blood which has been effused into it; the cellular tissue itself breaks down, and, finally, the gland is found lying in a slough cavity containing decomposed blood and pus.

These pathological changes have been thus described by Klebs,<sup>4</sup> to whom we are indebted for bringing the subject into notice: "The whole gland is of a dark red or violet color, the meshes of the interstitial tissue are filled with fresh or altered blood, and the acini are tinged of a dead gray color or with diffused blood pigment. The hæmorrhage may spread around the gland,

more especially into the retro-peritoneal connective tissue. Later on the gland becomes soft; the serous covering of its anterior surface sloughs, and masses of broken down gland substance get into the peritoneal cavity. Death sometimes occurs very suddenly in these cases, so that at times the peritonæum does not present any secondary changes at all."

In another class of cases (fifth category of Choostek, fatty and hæmorrhagic degeneration of Mollere<sup>5</sup>) there is found an extensive fatty degeneration of the substance of the gland, the follicles being replaced by fat. Four such cases have been reported, one by Hooper,<sup>6</sup> and three by Zenker.<sup>7</sup> In one of the latter's cases this condition was so extreme that "not a single gland cell remained." The subjects of Zenker's cases are described as being very fat. In Hooper's case, the subject of which was said to have a "fat, florid complexion," there was an ordinary fatty liver, and a great deal of fat in the omentum and around the kidney. In other cases there is no fatty change in the pancreas, but there is found such a degeneration of the liver and heart.

The microscopic appearances in a case where the hæmorrhage was localized in nodules have thus been described by Dr. W. F. Whitney:<sup>8</sup> The microscopic examination showed the color of the nodules was due to the presence of diffused coloring matter in the tissue, while there were to be seen scattered clumps of amorphous blood-coloring matter in the interlobular spaces, the white discoloration [of the interlobular tissue] being caused by the presence of vast numbers of short, staff, or spindle-shaped crystals in the fat tissue. The outline of the pancreatic cells was lost, and their nuclei were indistinct and failed to take coloring matter, but osmic acid, aside from turning the whole section of a uniform dark brown, failed to reveal the presence of a fatty degeneration.

Clinically those cases where there is fatty degeneration of the pancreas cannot be distinguished from others where no such change is found, and I do not see any sufficient reason for differentiating them as has been done by some writers; consequently they will be considered here together.

The following description of the disease is based upon fourteen cases, which I have been able to collect either from published accounts, or directly from the records furnished me by the physicians themselves in whose practice they occurred. I should say that in no case, save one, have the accounts been taken at second hand, but in every case the original articles have been examined. I must admit that one or two cases included here are open to criticism as true cases of pancreatic hæmorrhage, but, on the other hand, I have admitted no case without careful consideration, nor without other authority than my own for doing so. Thus Loeschner's case was originally reported as one of pancreatitis, but Klebs regards it rather as one of hæmorrhage, and this appears to me to be borne out by the autopsy. Haller and Klob's case, on the other hand, included by Klebs, I have rejected. It must be borne in mind that when these cases were originally reported little was known of the condition under discussion, and the lesions found after death were naturally ascribed to inflammation. The one exception

<sup>1</sup> Oesterreich. Zeitschr. für practische Heilkunde, August 17, 1860, vi. Jahrg. No. 34.

<sup>2</sup> Boston Medical and Surgical Journal, vol. ciii., p. 613.

<sup>3</sup> Schweiz. corr. Bl. viii., 22, 1877; and Schmidt's Jahrb., 179 Bt., s. 241.

<sup>4</sup> Handbuch der Pathologie, Anat., Berlin, 1870, pp. 549, 555; quoted by Friedreich, loc. cit., and Choostek, loc. cit. This translation is taken from Friedreich's article, Amer. ed.

<sup>5</sup> Nouv. Diction. de Med. et de Chir., Prat.

<sup>6</sup> Archiv. de Med., ii., 1861, p. 282.

<sup>7</sup> Tagblatt der 47. Versammlung deutsch. Naturforsch. und Aerzte in Breslau, 1874, p. 211.

<sup>8</sup> Boston Medical and Surgical Journal, December 22, 1881.

noted above as taken at second hand is Portal's case. The original report of this I have been unable to find, though the volume which has been most carefully referred to by several writers has been searched by two other gentlemen beside myself.

I am conscious that this account of the affection is necessarily deficient, and in many respects open to criticism, being based upon a small number of cases. It has been offered on the principle that "half a loaf is better than no bread," and with the hope that it may save others much of the labor imposed upon the writer. It has seemed desirable to the writer to have some systematic, even though faulty, account of this interesting affection, without being obliged to be dependent upon a number of isolated cases scattered through the medical periodicals of all languages.

*Sex.*—Of fourteen cases two were women and twelve men. Of the two women one must be looked upon as a doubtful case. Men accordingly are more liable to the affection than women.

*Age.*—All the cases thus far recorded have been adults, ranging from twenty to sixty-five years of age.

#### SYMPTOMS.

For clinical purposes the cases may be divided into two classes, namely, those which, from the suddenness with which death occurs, may be termed *apoplectic*, and, secondly, those in which life is prolonged from thirty-six hours to twenty days. These latter may be termed relatively *subacute*. For the sake of clearness it will be well to describe each class separately.

I. *The apoplectic form.*—Five cases of this kind are known to have occurred; three are reported by Zenker, and two were met with by Dr. Draper. Unfortunately only two were seen before death occurred. Four were suddenly attacked while in good health. The fifth is supposed to have fallen, when the hemorrhage occurred, into the water where he was found. No record is made of his previous history. The subjects of three cases are described as very fat; three as intemperate, and one as an epileptic; all but one were males.

The most instructive of these cases is the one occurring in the practice of Dr. Bush, and reported by Draper.<sup>1</sup> The symptoms presented by this patient are the same in kind as those observed in the second or subacute form, the only difference being the earlier date at which death occurred. It is sufficiently interesting to justify my quoting it at length:—

"A man, thirty-one years old, a printer, of intemperate habits, was seized suddenly with pain, which he referred to the epigastrium. Up to the time of this attack he had been in good health, except a slight cold from which he had suffered some inconvenience during the previous week, but which had not confined him at home. At noon on the day of his death he ate his usual hearty dinner. The pain of the attack, which began about six p. m., was soon followed by nausea and an ineffectual attempt to vomit; presently collapse supervened; the patient was scarcely able to speak; he fell from his chair to the floor; he was evidently in extreme distress. In this condition Dr. J. F. Bush saw him, and having prescribed a stimulant (brandy) which seemed to produce a momentary reaction and relief, he directed that the man be taken to the hospital. The patient died very quietly in the carriage on his way thither. The whole duration of

the attack was between thirty and forty-five minutes."

In one of Zenker's cases death occurred even more suddenly. "A man, forty-eight years old, who had been previously perfectly well, woke up one morning feeling unwell, and with an inclination to vomit. In a few minutes he fell back dead." Zenker's second case had been seen collecting wood in the forest an hour before he was found dead. This same reporter's third case was found dead in the water. The circumstances were such as to show little doubt of the death being due to the hemorrhage into the pancreas.

In the last three cases there was found "an extensive hemorrhagic infiltration of the whole pancreas and of the neighboring loose cellular tissue. There was also extreme fatty degeneration of the gland cells. In two of them blood had escaped into the duodenum. All three subjects were very fat. In Draper's first case there was the same hemorrhagic condition but no fatty degeneration, and the subject was not fat.

For the fifth case I am also indebted to Dr. Draper, who has kindly furnished me with the following account of it. This is the second case which I have to report:—

"The patient was a woman, sixty-five years old, of very intemperate habits. She earned a scanty living scrubbing the floors of liquor saloons. She lived in squalid misery, occupying an attic room with a woman as degraded as herself. Both women slept in a filthy bed made up on the floor of the room.

"It was stated by the neighbors that on the day before her death the patient, while drunk, had fallen down stairs, but she went out as usual afterwards, and late in the afternoon of the same day (November 17th) came home drunk also as usual. Both women went to bed at their customary hour. Nothing occurred during the night to attract the notice of the patient's bed-fellow, or to awaken her, but at daybreak, when the latter awoke, she found the dead body of her friend, off the mattress, outside the bed-clothing, lying on her right side on the floor.

"When I saw the body, at half past nine a. m. of that day, rigor mortis was well marked, and the exposed parts of the person were cold. The limbs were straight, and there were no indications of struggling. There was considerable lividity of the dependent parts. The body was emaciated.

"An autopsy was made at eleven a. m.

"November 18th. Omitting unessential details, I found the following:—

"Dura mater thick and adherent to calvaria. Moderate excess of serum within meninges. Cerebral convolutions flattened. Brain soft. Moderate injection of vessels over pons varolii. Right middle cerebral artery stiff and atheromatous. Odor of alcohol in brain. Lungs normal. Heart of normal size. Coronary arteries atheromatous. Moderate mitral stenosis. Aortic valves slightly stiffened. Contents of heart presented nothing peculiar. Spleen, kidneys, liver, and stomach healthy. Some injection of vessels of duodenum and upper part of jejunum. Intestines otherwise normal. Nothing wrong about pelvic organs.

"Pancreas. The subperitoneal tissues adjacent to the organ were infiltrated moderately with recently effused blood, giving the parts a reddened appearance. The tissues of the organ itself showed marked hemorrhagic infiltration throughout, but mostly at its head, which was deeply discolored. The splenic artery was eu

<sup>1</sup> Loc. cit.

larged, tortuous, its coats thickened, and its interior rough and granular."

"The duration of life after the hæmorrhage took place and the symptoms can only be inferred. The fact that rigor mortis was well marked as early as half past nine A. M. shows that death must have taken place some hours previously. It may be that the symptoms were not sufficient to awaken her from her drunken sleep, and death was nearly instantaneous."

(To be continued.)

## RECENT PROGRESS IN OBSTETRICS.

W. L. RICHARDSON, M. D.

### SIGNIFICANCE OF ALBUMINURIA.

DR. INGERSLEY contributes a valuable paper<sup>1</sup> in which he attributes the great discrepancy among writers to the fact of the insufficient numbers they have based their conclusions upon. According to his own observations he found albuminuria occurring in 29 out of 600 cases. In only seven of these were casts found in the urine. One of these had been a sufferer for some time from Bright's disease. The proportion of albuminuria was the same in multipara as in primipara. He is unable to offer any reasons for the occurrence of albuminuria during pregnancy.

During parturition the writer has seen albuminuria in 50 cases out of 153. In only 15 of these has albumen been discovered before the beginning of labor. All causes which give rise to a protracted labor favor the occurrence of albuminuria. The albumen disappeared within forty-eight hours in 89.5 per cent. In those cases in which eclampsia occurred there was an unusually large amount of albumen, and casts were found in all such cases. The albuminuria found in cases of eclampsia is always of renal origin, of an acute nephritis.

### APPLICATION OF FORCEPS AT THE SUPERIOR STRAIT.

M. Obisier discusses<sup>2</sup> the application of the forceps at the superior strait, speaking first of the difficulty and danger of its application above this point, while the head is still movable. Realizing this, version is often to be preferred, especially in a retracted uterus. In such cases as eclampsia, hæmorrhage from a dangerous insertion of the placenta, and some other emergencies, he considers the forceps alone equal to the conditions. Hatin's method of application is generally to be preferred, which consists in introducing the left hand in forced supination into the uterus upon its left side, then passing the left blade along it as a director. The hand is then changed to half pronation, being passed behind the head to the right side of the uterus, and the other blade passed similarly to the first. This is more difficult in execution than in description, and as a substitute the author recommends a method which he has himself adopted. The author being in the classical position, the left hand is carried high up, as if the right blade of the forceps were to be supplied. The head is fixed as firmly as possible with the fingers of the introduced hand placed between the head and the uterus. The left blade of the forceps, well oiled, is then passed with the right hand, being gradually worked into position along the left hand as a director,

its convex surface following the palm, and readily adapting itself on the left side of the uterus to the fetal position. The left blade being in position, and held by an assistant, the right one is passed in the same way to its proper position. The chief advantages claimed are that the operation is done with small expenditure of force, the head remains fixed during the entire process, and the operator's arms are not crossed as in Hatin's method.

### HOOR-GLASS CONTRACTION OF THE UTERUS.

Dr. F. Barnes reports<sup>3</sup> a case in which he was called to see a patient who had been delivered by a midwife seven hours previous. The placenta had not come away. A dose of ergot had been given, but with no effect so far as producing any expulsion of the placenta. The external os was dilated as was also the cavity of the cervix. The internal os and the ring of Bandl, just above it, were firmly contracted. It was impossible to introduce the hand within the uterine cavity. Remembering the property possessed by nitrite of amyl of relaxing the tension in blood-vessels, he gave the patient three drops of the amyl on a handkerchief to inhale. During the inhalation the muscular fibres surrounding the internal os gradually relaxed, and he was enabled to pass in his hand and remove the placenta which was universally adherent. No hæmorrhage followed. The case was interesting as showing the danger which is liable to follow the administration of ergot before the expulsion of the placenta; it being impossible to know beforehand whether the placenta is subsequently to be found adherent. Should it be attached, the administration of ergot, if followed by any physiological action, must be to produce the very result most to be dreaded—a firmly contracted uterus enclosing an adherent placenta. It is in such cases that Dr. Barnes believes we shall find nitrite of amyl of great value. It relaxes the irregular contraction of the uterus, and acts as a sedative and anæsthetic without producing unconsciousness.

### USE OF IODOFORM IN OBSTETRIC PRACTICE.

Dr. Rehfeldt reports<sup>4</sup> a case in which a patient was attacked with puerperal endometritis on the fourth day after a normal labor. The uterus was washed out with a two per cent. solution of carbolic acid, and an application made to the interior of the uterus of five grains of iodoform. A marked improvement was at once noticed; the lochia becoming normal, the pulse and temperature falling. The occurrence of several abscesses occasioned by the position of the patient delayed the convalescence, which, however, progressed rapidly as soon as the abscesses were healed.

Dr. J. Mann strongly advises<sup>5</sup> that all wounds along the course of the generative tract should be washed with a carbolic wash and then sprinkled with powdered deodorized iodoform, over which iodoform wadding should be applied. In this way he claims that the absorption of septic material is prevented. Under such applications granulation goes on very rapidly.

### USE OF SALICYLIC ACID IN OBSTETRICS.

Dr. G. Bayer recommends<sup>6</sup> that the vagina be carefully washed out with a weak solution of Condy's

<sup>1</sup> Z. Geburtsh. u. Gynæk., vi. 2.

<sup>2</sup> Bull. Gen. de l'op., January 30, 1882. New York Medical Journal, April, 1882.

<sup>3</sup> British Medical Journal, March 18, 1882.

<sup>4</sup> Berl. klin. Wochens., 1882, 9.

<sup>5</sup> Centralblatt f. Gynæk., 1882, 7.

<sup>6</sup> Centralblatt f. Gynæk., 1882, 10.

fluid, and then that a mixture of salicylic acid and starch (one part to five) be thrown into the vagina. This treatment has been found of great advantage in the Stuttgart Lying-In Hospital.

#### NITROUS OXIDE AS AN ANÆSTHETIC IN OBSTETRIC PRACTICE.

Dr. Klikowitsch reports<sup>1</sup> the result of a series of experiments of nitrous oxide, used with a view of relieving pain during parturition. He considers it absolutely free from danger to both the mother and child. It has no influence in retarding or hastening the progress of the labor. It acts equally well during either stage of labor, so far as relieving pain is concerned. The patient is not rendered unconscious, and hence is able to use the abdominal muscles to assist in the expulsion of the child. It never produces vomiting, but on the other hand checks it, if it is present. It is not followed by nausea or headache. The anæsthesia may be kept up during the whole course of the labor, as a few whiffs before each uterine pain is sufficient to give relief from the suffering. In his experiments Dr. Klikowitsch used a combination of thirty per cent. nitrous oxide with twenty per cent. of oxygen.

### Hospital Practice and Clinical Memoranda.

#### A CASE OF INTUSSUSCEPTION WITH RECOVERY.<sup>2</sup>

BY S. W. LANGMAID, M. D.

At the last meeting but one of the Section a fatal case of intussusception was reported by Dr. Rotch. The next day, March 10th, I was called to a female child of five months who was the subject of the same accident. The infant had always been well, and had not been particularly constipated.

I saw her on Friday. She had been well until Tuesday night, when she was restless, desiring to nurse often, but rejecting the nipple immediately. The next day she vomited, and cried out at intervals as if from severe pain. At noon she began to have bloody discharges. The pain and bloody discharges continued until I saw her on Friday. She appeared stupid. The pulse was 120. The abdomen was not distended or tender to pressure. The finger, inserted its whole length in the rectum, encountered a tumor with a central indentation, reminding one by its shape of the neck of the uterus.

Dr. Sumner saw her with me two hours later.

A cylindrical tumor existed in the region of the descending colon. The invaginated intestine had come down to the anus, and, holding the child in the inverted position, was seen to be of a chocolate color. The duration of the lesion, forty-eight to sixty hours, and the appearance of the bowel, decided us against any mechanical interference. The condition of the child remained the same, except that the discharges of blood became less frequent and smaller until Sunday night, when the patient became brighter, nursed, and retained the food. On Monday there were two natural dejections, the tumor had disappeared, and the child was well.

I suppose the different result of this case from that reported at the last meeting was due to the situation of the lesion.

Dr. Whitney says that in the palliative treatment of intussusception a spontaneous cure is observed in fifty per cent. of the cases. It seems to me that the prognosis must depend very much upon the situation of the intussusception. If it occurs in the small intestines, and especially if the ileo-cæcal valve is invaginated, the chances of spontaneous cure would be less than when the descending colon is the region involved.

### Reports of Societies.

#### SUFFOLK DISTRICT MEDICAL SOCIETY.

##### SECTION FOR CLINICAL MEDICINE AND PATHOLOGY.

ALBERT N. BLODGETT, M. D., SECRETARY.

MAY 6, 1882. Meeting called to order at 8.10, Dr. G. B. SHATTUCK in the chair.

Dr. S. W. LANGMAID presented a paper upon

##### A CASE OF INTUSSUSCEPTION WITH RECOVERY.

Dr. LYMAN asked the location of the tumor, the duration of symptoms, etc., in the case.

Dr. LANGMAID replied that the tumor occupied the position of the descending colon, extending from above the crest of the ilium, and presented at the anus. There was moderate tenesmus. Between two visits the tumor entirely disappeared. Reduction of the invagination was at once succeeded by a desire to nurse. The tumor could be encircled by the finger, and with its central indentation was not unlike the neck of the uterus.

Dr. A. N. BLODGETT asked the character of the fecal discharges which followed the reduction of the intussusception.

Dr. LANGMAID replied that they were perfectly normal, containing no blood or other unusual admixture. The bowels have since been regular.

Dr. F. C. SHATTUCK remarked that in one of the recent English journals a case of invagination is reported which ended fatally in twelve hours. The disease was not suspected during life, but was discovered at the autopsy.

Dr. LYMAN asked if there were any antecedent symptoms in this case.

Dr. LANGMAID replied that there were none. The parents remembered that the child had appeared somewhat strangely, but it was doubtful if any reliable indications were present by which the disease could have been recognized. The child never went more than one day without a dejection. Its food was partially breast milk and partially artificial food.

F. S. BILLINGS, V. S., stated that invagination often occurs in the domestic animals, who thus afford desirable opportunities for studying the pathology and treatment of this affection. In the lower animals the symptoms are generally those of severe and continuous colic. The seat of intussusception in the horse and cow is generally the ileum, and may be relieved by opening that side of the abdomen and reducing the invagination. In dogs this operation is not accompanied by the same degree of danger as in the human subject, but is almost invariably followed by complete recovery. A case recently occurred which

<sup>1</sup> Archiv. für Gynäkol., xviii, 1.

<sup>2</sup> Read at the meeting of the Section for Clinical Medicine and Pathology of the Suffolk District Medical Society, May 6, 1882.

illustrated this fact. A dog had been sick for some days, with symptoms of invagination or impaction. At one point a firm, unyielding tumor was plainly felt through the abdominal parietes. The abdomen was opened, and the intestine at this point was found greatly distended and almost gangrenous in appearance. The bowel was opened by a longitudinal incision, and a large piece of coal was removed from its lumen. The accumulated feces were removed, the parts carefully washed, and the bowel was again united by catgut sutures placed between the muscular layer and the mucous membrane. Perfect and uninterrupted recovery followed, and the dog is still alive.

In another instance a cow was suffering from impaction of the rumen. The abdomen was opened, a large incision made into the distended viscus, and a great portion of its contents removed by means of a large basin. The rumen was closed by sutures, the external wound carefully united and bandaged, and the cow recovered. In dogs injections may sometimes be employed in cases of intussusception or impaction with the effect of relieving all the distressing symptoms. Injection fluid may be passed into the bowel of the dog until it flows from the mouth by vomiting. Cows are also often relieved from gastric or intestinal troubles by vomiting. A horse cannot vomit. In invagination all these animals present essentially the same symptoms as are observed in the human subject.

#### PLASTIC EXPERIMENTS IN THE ABDOMINAL CAVITY OF DOMESTIC ANIMALS.

Dr. BILLINGS described a series of recent plastic experiments in the abdominal cavity of domestic animals, consisting of ovariectomy upon the bitch, and intestinal resection in the dog; as well as some casual observations upon similar operations in some of the other domestic animals. He said that in all operations of this kind made upon animals the first fact which impresses itself upon the operator is that the antiseptic system of surgery, so highly prized in human medicine, seems to be quite unnecessary. The ovaries may be removed from the bitch by abdominal section, or these organs in connection with the uterus; or the spleen; or resection of the intestines may be performed without any particular attention to antiseptics; the animals operated upon may frequently tear the external wounds open, they being all the time kept in not too cleanly kennels, or even in a horse stall, and yet we seldom see any signs of blood-poisoning or general disease. Bitches, from which the ovaries or uterus have been removed, in many cases, lose but one milk, which is to be attributed as much to the influence of chloroform as to the surgical interference. Dr. Billings always uses chloroform, and never yet lost a case from the anæsthetic. He has performed resection of the intestine in several cases, sometimes by simple transverse section of the gut, while at others he has removed several inches. He thinks it a mistake to give a purgative antipathetic to the operation, and prefers a light sloppy diet for a few days, with nothing to eat and little to drink for twenty-four hours antecedent to the operation. The intestine should be carefully washed out for some distance from both cut ends, with a one per cent. solution of carbolic acid. For experiment the ileum is to be preferred to any other part of the intestine, the walls being thicker. He prefers catgut sutures which have been soaked in carbolic oil a long time rather than silk; the sutures should, where possi-

ble, be passed between the muscularis and mucosa, as when they are exposed in the lumen of the gut, they either macerate more quickly or become digested. The edges of the wound should be brought into the closest possible apposition. Dr. Billings has also removed a segment from the walls of the stomach, of elongated oval form, in two instances, one of which entirely recovered; in the other the gastric juices seem to have digested the sutures, the wound opened, and the animal died after having got along well for two days. A simple milk diet should be commenced after twenty-four hours.

Two dogs, which perfectly recovered from resection of the intestine, were subsequently killed, and it was found that a circumscribed peritonitis visceralis had taken place, with thickening of the walls of the intestine for about two inches, the lumen of the gut being diminished to about half its normal size. Another striking fact in connection with operations upon the animal peritonæum is its resistance to such insults; diffuse peritonitis with effusion being almost unknown from any of the above operations. The serous inflammation is generally limited to the parts immediately adjacent to the wound.

Excessive fever has never followed in any of his cases, some two hundred, of ovariectomy in the bitch. The peritonæum of the horse is much less resistant to surgical interference than that of the dog and cow.

Dr. MORTON PRINCE asked the symptoms of colic in the horse.

Dr. BILLINGS replied that the horse stamps continually, lies down, sweats, and presents all the signs of great distress. Colic in the horse may be divided into (a) colic from indigestion, (b) colic from impaction, (c) wind colic. The last is the worst, and is often fatal. It may be relieved by puncture in the right iliac region, where there is generally a marked projection.

Dr. HODGES asked if Dr. Billings had ever seen peritonitis in dogs, to which Dr. BILLINGS replied that he had seen it in one case, that of a female, in which the wound was found to have opened, with the intestine protruding, and there was a discharge of purulent fluid from the peritoneal cavity. In ten cases of the same operation there was only circumscribed peritonitis.

Dr. HODGES remarked that Claude Bernard had called attention to the toleration shown by the dog's peritonæum to surgical insults, during his celebrated labors in connection with the subject of gastric fistula.

Dr. Hodges asked if peritonitis attended rupture of the liver in the horse.

Dr. BILLINGS replied that this accident was extremely rare and difficult of diagnosis. He had seen only one case, which was from a railway collision, and was followed by death in twenty hours.

In referring again to the subject of invagination, Dr. LANGMAD mentioned a report in the *Journal of Medical Sciences*, according to which the bowel was partially resected in three instances in the human subject, twice on account of intestinal gangrene from impacted hernia, while the third was for an injury to the bowel inflicted during the operation.

Dr. MIXTER said that two metres of the intestine have been removed for stricture of the canal, and that cases of this operation in which no adhesions existed uniformly recovered, while all those in which the operation was performed on account of gangrene in hernia were fatal.

Dr. SHATTUCK asked if in the successful cases the cure was permanent.

Dr. MIXER replied that the original malignant disease recurred in each case in a few months.

Dr. BUCKINGHAM asked the amount of contraction of the lumen of the bowel.

Dr. MIXER could not say.

Dr. MORTON PRINCE read a paper on

#### PANCREATIC APOPLEXY,

with a report of two cases. The paper also contained a careful analysis of fourteen reported cases.

Dr. GANNETT mentioned a case seen by himself at autopsy in which nearly the whole of the pancreas had been absorbed.

Dr. BLODGETT noted that the reader had mentioned among the causes of hæmorrhage into the pancreas that of traumatic lesions of this organ, and asked Dr. Prince if cases were known to occur in which violence sufficient to materially affect the pancreas had been suffered without at once destroying the life of the patient.

Dr. PRINCE was unable to answer the question, as he said the disease had never been diagnosed during life.

Dr. GANNETT spoke of a second series of cases by Zenker, not mentioned by the reader, which would considerably enlarge the number of reported cases of this lesion.

Dr. HARLOW asked if the diagnosis of this lesion were not extremely difficult.

Dr. PRINCE answered that it had never yet been made before the autopsy. After seeing one case it would seem that another case of the same kind might be recognized, but it must be very difficult. The most striking symptoms are profound collapse, sweating, pain, but no elevation of the temperature, and sudden and unaccountable death.

Dr. G. B. SHATTUCK asked the effect of the intravenous injection of milk upon the patient mentioned in Dr. Prince's paper.

Dr. PRINCE replied that for a time there was a marked amelioration of all the urgent symptoms, and the patient seemed decidedly better. This improvement was, however, transitory in its duration, and probably did not materially affect the fatal course of the disease.

Dr. GANNETT said that a case is reported in the German journals in which Oppolzer is said to have diagnosed this lesion before death.

Dr. PRINCE replied that possibly Oppolzer had seen two cases, as Dr. Prince saw an account of one case in which this distinguished practitioner made no claim to having properly diagnosed the nature of the disease during life.

Dr. SHATTUCK alluded to the unavoidable absence of Mr. Bowditch, who had prepared an article upon The Sanitary Aspect of Nahant, Mass., and mentioned a visit he had lately made with Dr. Walcott, of the State Board of Health, to this place, together with the results of his examination of the system of drainage recently introduced, and referred to the interesting investigations which preceded and accompanied the present arrangement for the removal of sewage.

The announcement of subjects was also made for the next meeting, which will be the last one of the present season.

Dr. T. A. DeBlois exhibited an

#### IMPROVED THROAT MIRROR,

which he described in the following words:—

"I desire to show to the Section a slight modification which I have made in throat mirrors. It is something which does not alone concern the specialist, for any one using the strong sunlight and a throat mirror can, by depressing the tongue, get a tolerable view of the larynx. This is particularly true in young children, where the high location of the parts makes it easy to get a glance at the instant when they cry or cough. This would often be quite sufficient to discover if the larynx contained membrane or was only reddened.

"A throat mirror would, perhaps, be more frequently employed by the physician were it not for the fact that when in a fixed handle, with the glass almost at a right angle to the stem, it forms an inconvenient object in the pocket. To obviate this I have hinged the mirror at its junction with the stem so that it may be straightened in prolongation of it, and as it has no affixed handle may be easily carried in the vest pocket. When required for use, all that is necessary is to replace the mirror at the usual angle (one hundred and twenty degrees) and push the slide down over the joint, then withdrawing the lead from your pocket pencil you replace it by the stem of the mirror, and thus have a perfectly serviceable instrument which may be carried in the vest pocket."

Adjourned at 9.30 P. M.

#### MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

##### LEPROSY AND ITS RELATIONS TO SYPHILIS.

The last meeting of the Society before the summer vacation was held June 26th, when Dr. H. G. Piffard presented a case of leprosy, and made some remarks upon the relations of this disease to syphilis. In introducing the subject he said that a year ago he had presented another case at the County Medical Society, and, as he had at that time spoken pretty fully of the general features of leprosy and of its treatment, he would not on the present occasion go over the same ground, but would devote himself principally to the consideration of some statements in regard to the disease recently made by Dr. Fitch, of Honolulu, and of some inquiries put by Dr. Emerson, also of the Sandwich Islands, concerning the subject; and would, in conclusion, direct attention to the increasing frequency of leprosy in this country. Dr. Piffard then introduced the patient, who was a native of Japan, about thirty-five years of age, and who had come under his care in the wards of Charity Hospital on the 20th of May, 1882. He spoke no English, German, or French, and the history which had been obtained from him through an interpreter was very imperfect. So far as could be made out, however, there was no family taint, and he denied syphilis, saying that he had not had sexual intercourse for ten years. He pursued the occupation of a farmer in Japan, where he remained until two years ago. It was only six weeks before his admission to the hospital that he fell sick, and spots appeared upon his arms, legs, and trunk. These, he said, came out gradually, which was not the general rule in leprosy. For two weeks he remained in the New York Hospital, where he was treated for lep-

rosy, although he himself thought that he had syphilis. Dr. Piffard saw him (at Clarity Hospital) for the first time on May 21st, and at that date, he said, the diagnosis was by no means certain, as he was unable to determine whether the man was suffering from syphilis or leprosy, or from both together. There might be similar eruptions and the involvement of the inguinal and other glands in the two diseases. In countries where leprosy was frequently met with, such as China and the Sandwich Islands, it was sometimes very difficult to say which disease was present. In the case now exhibited there was still some leprotic infiltration about the neck, but this condition had to a great extent disappeared under the local treatment which had been adopted.

Dr. Piffard went on to say that about six weeks ago he had received a letter from Dr. N. B. Emerson, formerly of New York, but now of the Sandwich Islands, which was accompanied by the report of the Board of Health of those islands, containing a report by Dr. Emerson and an article by Dr. Fitch, of Honolulu, in which the latter endeavored to prove that leprosy was in reality nothing more or less than the fourth stage of syphilis. In his letter Dr. Emerson said that he did not think that all the statements of Dr. Fitch should be received with implicit confidence, as, in the first place, he had no knowledge of the Hawaiian language, and, in the second, he had an incorrect idea of syphilis, making no distinction whatever between hard and soft chancre. Personally he had not been able to study leprosy microscopically and post mortem, as autopsies were not at all favored in the Islands; but he was perfectly familiar with the language of the natives (having been born himself in the Sandwich Islands), and as he had been in charge of a leper colony for some years, he had had abundant opportunity for investigating the disease clinically.

Dr. Emerson then went on to put a number of interrogatories, suggested by the propositions advanced by Dr. Fitch, which were somewhat as follows: (1.) Leprosy is the fourth stage of syphilis; a stage which white men, as a rule, escape by reason of hereditary immunity. The whites, being already syphilized through their ancestry, do not suffer from this fourth stage; but where syphilis attacks a virgin race the disease is exceedingly apt to run on to the fourth stage. During the last forty years there have been less than twenty cases of leprosy among the white population in the Sandwich Islands, although it has been very common among the natives. Syphilis was introduced into the Islands a hundred years ago; but a number of years was required before this fourth stage could become developed. In the second place, Dr. Fitch defied any one to produce a case of leprosy in which syphilis, either hereditary or acquired, was not antecedent. In ninety cases which he saw in the hospital there was only one instance in which there was any doubt whatever in regard to there being a clear syphilitic history. Thirdly, in a large number of cases seen in his dispensary practice it was utterly impossible to say whether the patient were suffering from syphilis or leprosy. In the fourth place, he claimed that the only treatment that did good in syphilis was of service in leprosy, and *vice versa*. Fifth. Both were alike incurable, and both alike amenable to treatment. Sixth. The children of lepers inherited the disease, as was the case in syphilis. Seventh. All were agreed that a person affected with syphilis offered

an excellent field for leprosy. Dr. Piffard then remarked that the late Professor Böck, of Christiania, who was the highest authority on the subject of leprosy, found in his experiments with inoculation that there was nothing in the one disease to prevent a person suffering with it from taking the other.

Returning to Dr. Emerson's letter, he took up the questions of the latter in detail as follows: (1.) "Do you find any cases of leprosy without a leprosy intimacy?" In reply to this Dr. Piffard said that the disease was not contagious by simple contact, but probably by means of the blood or secretions. There was very little doubt that leprosy had been propagated by vaccination, by sexual intercourse, and by heredity. During the past twenty years there had been a good many lepers in New York, and he had yet to find a single case of the disease developed in the city in a native. Indeed, he knew of only two cases of leprosy which remained in New York for any length of time. Both had been born in leprosy countries, the one in Mexico and the other in Japan, and the latter was the one now before the Society. There had been one case in the practice of the late Dr. H. D. Bulkley (pronounced a genuine case of leprosy by Professor Böck when he was in this country), which had apparently originated without leprosy contact; and this was the only case of the kind with which he was acquainted. (2.) "Do you find lepers without a previous history of syphilis?" In answer to this Dr. Piffard said that in the majority of cases which he had seen, the patients being from all parts of the world, there was no clear history of syphilis. In all that could speak English, French, or German there was certainly no such history, as far as could be made out. (3.) "Do you find cases of leprosy occurring in patients previously syphilitic under such circumstances as to lead you to believe that the leprosy comes from the syphilis?" This was answered in the negative. (4.) "Do you find any facts that lead you to suppose that a case of syphilis ever changes into one of leprosy?" Also answered in the negative. (5.) "Does not the pathology (microscopic) of leprosy differ widely from that of syphilis?" After speaking of the pathological characteristics of leprosy as different from those of syphilis, Dr. Piffard said that the distinctive feature of the former was found in connection with the cord and the nerves going to the extremities; there being at first a marked proliferation of connective tissue, and afterwards a shrinkage or sclerosis, which rendered the nerve smaller. In the present instance the ulnar nerve could be distinctly felt in its course along the arm like a thick, hard cord. In syphilis there was very rarely, if ever, any organization of new fibrous tissue. Dr. Fitch was, therefore, unquestionably wrong in his opinions. He had no doubt had a large experience with leprosy, but perhaps not a sufficient experience with syphilis pure and simple.

Another point that we should think of in connection with leprosy, Dr. Piffard continued, was that as our intercourse with foreign nations increased leprosy would in all probability increase in this country. As it was a disease which always spread when it made its appearance, it was very important, he thought, that lepers should be isolated. He had seen as many cases of leprosy in Europeans, he said in conclusion, as in those born in countries where the disease was indigenous.

The subject being open for discussion, Dr. A. JACOBSON asked why we should insist on isolation if we did



not believe the disease was contagious? During the fourteenth and fifteenth centuries all Europe was full not only of lepers but of hospitals for lepers.

Dr. PIFFARD said, in reply, that we did know that where any lepers settled down leprosy spread, just as in syphilis the disease was propagated from one person to another. If syphilitics were isolated we should undoubtedly have less syphilis.

Dr. JACOB then remarked that as a number of emigrants with the disease were known to be in the country, and yet it had not spread, he could not see the necessity of isolating the cases. Dr. Piffard himself had said that he knew of only one person in the United States who had acquired the disease here. All the others came from other countries where leprosy was indigenous.

Dr. RAMSON said that as long ago as 1828 he saw a case of leprosy, and since then he had had an occasional opportunity of observing others, but he had never heard of any one contracting the disease from any of these patients. In most of those which he remembered there was decidedly more of a scaly appearance about the leprosy sores than in the case now presented.

The secretary read for Dr. JAMES H. LOW extracts from a report of a case of lepra which the latter had recently published in the *Southern Medical Record*. The patient was a female, and a native of England, sixty-eight years of age, and had lived in the United States for thirty years. It was, he believed, a case of *lepra migrans*. The scaly appearance of the lesions was a marked feature of the case, and the patient at one time became very despondent, thinking her case incurable. A variety of remedies were employed, including arsenic and iodide of potassium, which seemed to be of some service. As the disease commenced in the lower extremities, the doctor thought it advisable to exclude the air from the limbs, and accordingly applied starch bandages, apparently with marked benefit. In the latter part of the treatment an attack of erysipelas set in, but it fortunately did not last long. Alcohol internally and the application of grease externally seemed to aggravate the disease, which eventually was practically cured.

In answer to an inquiry from one of the members as to whether he had known leprosy to appear before the age of puberty, Dr. PIFFARD stated that the first case that he ever saw, which was in 1864, commenced when the patient was nine or ten years old. In this instance the disease was transmitted by means of vaccine virus taken from a leprosy subject. He would take this opportunity also to explain that there had always been a certain amount of trouble about the nomenclature of leprosy. The Greek writers mentioned two distinct diseases which had often been confounded with each other under the general name of leprosy. The affection which they designated as lepra was undoubtedly the psoriasis of the present day, while that which they called elephantiasis was the modern leprosy. The modern English writers had confused matters very much, however, by calling the latter *lepra vulgaris*. The two diseases were distinctly differentiated by Herodotus and other old writers. In the translation of the Bible the disease called leprosy in the Old Testament was an entirely different one from that so designated in the New. In the Old Testament the symptomatology of the affection, whose name was translated as leprosy, was clearly that of

elephantiasis, while in the New the disease mentioned as leprosy was undoubtedly the lepra of the Greek writers or the modern psoriasis. The case of Dr. Low, just cited, as well as those mentioned by Dr. Ramson, in which the scaly appearance was a marked feature, were in all probability instances of psoriasis, and not of leprosy. There was also a difference in the two diseases as regards their duration, for while the average duration of leprosy was nine or ten years, psoriasis did not appear to shorten life to any appreciable extent.

The president of the Society, Dr. STURGIS, said that he would like to call attention to a few points in the differential diagnosis of leprosy and syphilis. In the first place, however, he would remark that the two diseases had many characteristics in common. Thus, leprosy, like syphilis, attacked all the tissues of the body. In the case of a Norwegian leper, which had been sent from the Sailors' Snug Harbor, on Staten Island, the patient presented tubercular lesions and gummatous iritis, and, with the exception of the initial lesion, there was found to be, in general, a resemblance of the gross appearances in the two diseases. As to the points of difference, for one thing, the macules were dissimilar in the two affections. In leprosy the macules did not appear as single spots, but in broad plaques, and their outbreak was usually preceded by severe febrile symptoms. In one instance Dr. Sturgis had seen the temperature run up to 105° F. The patient was placed upon quinine, and the fever gradually disappeared. When, on the first of June, he had succeeded Dr. Piffard in the service at Charity Hospital, he had found that the patient now before the Society was suffering in the same way, but the febrile symptoms were soon broken up by the use of strychnia. The macules of leprosy also differed from those of syphilis in their location, appearing principally upon the chest, arms, and legs. Dr. Piffard had already alluded to the peculiar affection of the nerves in leprosy, and had pointed out the condition of the ulnar nerve in the present instance. This was a characteristic feature of the disease. In syphilis the tubercular stage made its appearance very late, if, indeed, it ever did so, but this was not the case with leprosy. Thickening of the fibrous cartilage of the nose and other parts was frequently met with in leprosy, but not in syphilis, and among the other distinguishing characteristics of leprosy was anesthesia and swelling of the extremities. Dry necrosis also sometimes occurred in the hands and feet, so that the fingers and toes actually crumbled away and dropped off.

Isolation was desirable in this country, Dr. Sturgis thought, not so much for the purpose of preventing contagion as on account of the leprosy patients themselves. In the Sandwich Islands, however, it was really necessary as a protection to the community.

If scales were present in any supposed case of leprosy he would regard it as very suspicious, as the diagnosis of leprosy would probably be found to be a mistaken one. As to the treatment of leprosy, mercury, iodide of potassium, arsenic, etc., had been faithfully tried, but their results had been entirely negative. Of late years, however, some of the English surgeons in the East had employed chaulmoogra oil externally with considerable success, and he had himself used it with decided benefit. In the first case in which he saw it tried it had undoubtedly prolonged the patient's life. Another remedy that was recommended as a

cure by the English surgeons was hoang-nan, a drug containing an active principle which seemed to be very much of the nature of strychnia. In the case that Dr. Pillard had presented to the Society this evening (which had come under Dr. Sturgis's care on the 1st of June), he had employed strychnia internally and the chaulmoogra oil externally, and there had been a marked improvement in the patient's condition under this treatment. Still he was free to confess that his experience with it had not as yet been as favorable as that reported by some of the English surgeons.

In bringing the discussion to a close, DR. PIFFARD quoted some statements from Dr. Emerson's report to show the danger of propagation in leprosy, and said that the disease was exceedingly apt to appear in groups; to which Dr. JACOB briefly replied that there were plenty of affections, such as influenza, malaria, etc., which occurred in groups (a considerable number of the same family often being attacked at one time), and yet they were not contagious, and no one would think of isolating those suffering from them.

#### RHODE ISLAND MEDICAL SOCIETY.

THE seventy-first annual meeting of the Rhode Island Medical Society was held in Providence on Thursday, June 15th, the president, CHARLES O'LEARY, M. D., in the chair.

Eighty-five Fellows were present. The Society now numbers one hundred and seventy-nine active and seventeen honorary members. Dr. George Capron, of Providence, who joined the Society in 1823, is the Senior Fellow.

The annual report of the treasurer, Dr. C. H. LEONARD, exhibited a balance of \$322.71. The printing fund amounted to \$840.56. It was voted to add to the latter fund two hundred dollars of the surplus in the treasury.

The trustees of the Fiske Fund reported that the deposit subject to their order now amounts to \$1933.13. No prize is awarded this year. The following are the subjects proposed for 1883:—

(1.) Neuralgia. Its cause, pathology, and treatment, with special reference to nerve-stretching and nerve-section as a method of cure.

(2.) Is the general disuse of blood-letting in accordance with sound physiological principles as applied to the treatment of disease?

(3.) Hip-joint disease. Its most successful treatment, as determined by experience.

For the best essay, considered worthy of a prize, on either of the subjects proposed for 1883, the trustees offer a premium of two hundred dollars.

Dr. H. G. Miller, chairman of the publishing committee, reported that the committee have edited Part 5 of vol. ii. of the Transactions of the Society, covering the four meetings held during the year 1881. The report sets forth the pressing need of a larger printing fund as a secure basis for issuing promptly the annual Transactions.

The committee on the library reported through their chairman, Dr. T. Newell, that the library is of increasing value to Fellows of the Society and is in constant use. Five hundred and one titles have been added during the year; the collection now numbering two thousand and ninety-four volumes, exclusive of pamphlets. The committee have accumulated a considerable number of duplicate medical journals, and invite cor-

respondence with other libraries in reference to exchanges. Dr. George D. Hersey, of Providence, is librarian. The report announces an addition of five hundred dollars to the building fund, the generous gift of Mrs. Elizabeth A. Shepard.

The following amendment to the By-Laws was adopted:—

Every candidate for fellowship in the Rhode Island Medical Society shall hereafter be required to pass a strict personal examination before the Board of Censors on those branches of medical science taught in recognized medical colleges, to give satisfactory evidence that he has an adequate knowledge of the Latin language, and has received a good general English education, and that he does not profess or intend to practice any exclusive system of medicine. If such examination be satisfactory to a majority of the censors present, the Board of Censors, in compliance with Section 4, Chapter III. of the By-Laws, shall recommend the candidate for fellowship.

Officers for 1882-3 were elected as follows:—

President, Job Kenyon, M. D.; Vice-Presidents, Drs. O. C. Wiggin, and H. G. Miller; Secretary, George D. Hersey, M. D.; Corresponding Secretary, Edward M. Harris, M. D.; Treasurer, Charles H. Leonard, M. D. Board of Censors, Drs. Benjamin Greene, Ariel Ballou, Otis Bullock, J. H. Eldredge, J. W. C. Ely, G. P. Baker, Lloyd Morton, S. S. Keene. Publishing Committee, Drs. H. G. Miller, G. W. Porter, R. F. Noyes. Committee on the Library, Drs. T. Newell, H. G. Miller, G. D. Hersey, O. C. Wiggin, G. W. Porter.

As recommended by the Board of Censors the following were elected new members: Drs. Henry Kirby Gardiner, Albert Mason Knapp, and George Galen Wheeler, of Providence, and Neal O'Donnell Parks, of Ashton.

The President introduced and welcomed as Delegates Dr. Marcus Ide of the Vermont Medical Society, Dr. Joseph Steadman of the Massachusetts Medical Society, and Dr. William Deming of the Connecticut Medical Society. Each of the visiting gentlemen responded gracefully.

Dr. Horatio R. Storer, of Newport, sent a note regretting his inability to attend.

Dr. A. G. Browning read the report of the delegates to the annual meeting of the Connecticut Medical Society.

Dr. D. H. Batchelder presented to the Society's library several medical books of interesting historical associations. A copy of the third edition of Huxham's Essay on Fevers, London, 1757, contains the autograph of Prof. William Cullen, of Edinburgh; and a copy of White's Lying-in Women, Worcester, 1793, bears the signature of Matthew Thornton, of New Hampshire, one of the signers of the Declaration of Independence.

At one P. M., the annual address was delivered by Charles W. Parsons, M. D., of Providence. The discourse was an elaborate retrospect of the seventy years which have elapsed since the organization of the Society in 1812, and included biographical sketches of several early presidents of the Society.

Dr. Samuel W. Francis, of Newport, was appointed anniversary chairman for the annual meeting in 1883.

Following adjournment, the Society dined at the Café St. George, Dr. J. W. C. Ely acting as toastmaster.

## PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL OBSERVATION.

BY M. H. RICHARDSON, M. D., SECRETARY.

## PAPILLOMA OF THE VOCAL CORDS.

DECEMBER 5, 1881. DR. F. H. HOOPER reported a case of papilloma of the vocal cords, and showed ten excellent drawings made by Dr. Quincy representing the glottis before and after operation. The patient was a man fifty-four years old. His voice began to fail a month previous to his first visit to the hospital. The hoarseness gradually increased, and for a week he had not been able to speak above a whisper. Examination with the laryngoscope showed a warty growth, sessile, occupying the anterior angle of the vocal cords and extending along the superior surface and edge of the right vocal cord, involving about one third of its surface. The patient was first seen November 3d. On November 25th he was operated upon, and at once sitting the growth was almost entirely removed with Mackenzie's forceps. The cord was afterwards cauterized with nitrate of silver in substance. The voice is now quite good, and although not restored as yet to its normal tone, another operation will probably not be necessary. Dr. Hooper also reported a case of chronic follicular tonsillitis in which a papilloma about the size of a bean was attached to the right tonsil. A drawing of the disease and the excised tonsil were shown.

DR. LANGMAID said that he had recently removed from the tonsil a tumor like that shown by Dr. Hooper. It was somewhat larger, with a long pedicle, and was attached at the very upper edge of the tonsil, so that it was difficult to get at its attachment.

DR. KNIGHT said that in regard to the first case reported by Dr. Hooper, that it was the largest tumor of the kind he had ever seen, being more than one half an inch long. The voice, though not entirely corrected after the operation, was wonderfully improved. Considering that the growth was so sessile and so extensive, it was very remarkable that the operation should have been so thoroughly accomplished.

## PROTRACTED MENSTRUATION.

DR. WELLS spoke of a remarkable case in which menstruation was present in a colored woman at the age of eighty. The authenticity of the case seemed good, it being described by a very intelligent daughter. Writers throw discredit on these cases of menstruation occurring in aged persons, yet it does not seem any more remarkable than the occurrence of this function at a very early period in life. Dr. Wells did not believe that an affection of the uterus could account for a regular discharge exactly simulating normal menstruation such as was seen in the woman of eighty.

Six or seven years ago he saw a child of about six years who had a periodic discharge from the vagina which continued two or three years. This was certainly very remarkable. Similar cases have been reported from time to time which have been undisputed. If we accept as true these cases of very early menstruation, its protraction, even to the extreme old age of the case spoken of, ought not to be so very improbable.

## TRACHEAL TUMORS RESULTING FROM TRACHEOTOMY.

DR. LANGMAID read the regular paper on this subject, which was based upon the case of a child of four years who swallowed half a dried chestnut. Severe

paroxysms of cough with almost complete asphyxia followed. Tracheotomy was performed. A slight bronchitis complicated the convalescence, which was otherwise uninterrupted; the voice, however, continued to remain a hoarse whisper, and respiration was impeded on rapid motion.

On examination since the operation with the laryngoscope a grayish-white tumor, in the region of the cricoid, was seen occupying one third of the diameter of the trachea, probably a granulation mass springing from the internal surface of the wound at its superior angle. The symptoms of its presence were dyspnoea, not marked during the day except upon exertion, but more or less constant at night, when the breathing was dreadfully noisy; poor appetite and loss of flesh; occasional cough and hoarse voice.

At the end of four months the tumor had grown much smaller and only a sessile button remained. The dyspnoea was so much relieved that no operative interference was necessary. Was seen three days previous to report, had no longer any trouble unless she takes cold, when at night the breathing was as formerly very noisy.

The history of this case shows that the tumor was the direct result of tracheotomy, and that its partial disappearance was spontaneous. Such tumors are now known to be not infrequent as the result of tracheotomy. They arise as granulations from the wound, more often from its superior angle, and protruding into the trachea impede respiration in proportion to their size. They may be detached and thrown out during attempts to remove the tube, or, if the tube has been removed soon after the tracheotomy, they may manifest their presence by the dyspnoea resulting from stenosis of the trachea, or they may even produce asphyxia and death.

Search for tumors ought to be made by exploration through the tracheotomy wound in all cases in which it is found that the tube cannot be removed, and the growths, if they exist, should be removed by forceps, and an escharotic applied to the base. If the wound has healed, the cause of the suffocative attacks can be ascertained only by the laryngoscope; though if the dyspnoea is almost continuous, is increased by exertion, and is greater at night than during the day, the presumption is in favor of the existence of a tumor. When the wound is cicatrized, one of two courses of treatment must be followed; the reopening of the tracheal wound, or the destruction of the tumors through the mouth. The latter is so difficult that it is not likely to be frequently done.

DR. KNIGHT said that Schiller in his monograph had collected, besides Cox's cases, six from Mouton, and about six others, making thirty or forty in all, of which seven were fatal. He makes no important suggestions with regard to the treatment of these cases except to extend the cut and destroy the growth with the Galvano-cantery.

DR. GAY said that the importance of this subject is well illustrated by a case now at the City Hospital in which tracheotomy was performed by Dr. Ingalls, for croup or diphtheria. It is now five or six months since the operation, but the child wears the tube part or all the time. The wound has been enlarged several times, and efforts have been made to clear out the trachea, but so far with little success. With the exception of this case, the longest time a tube has been left in the trachea has been twenty-seven days, the

shortest five. The custom now is to attempt the removal of the tube at about the fifth day. But in the majority of cases this cannot be done successfully. The last tracheotomy was done about twelve days ago; and yesterday the tube was permanently removed, an unsuccessful attempt having been made a few days before. Dr. Gay thought that the tube should be removed as early as possible.

Dr. PORTER referred to a case which occurred some years ago that might have been explained by the presence of tracheal granulations. Tracheotomy had been done for diphtheria, and attempts had been made to remove the tube many times in vain. The child was finally brought to the hospital, where a permanent removal of the tube was made, after the child had worn it more than a year. The question is whether there might not have been a granulation tumor in this case.

Dr. SABINE said that last spring he saw a child, eighteen months of age, upon whom tracheotomy had been performed two months before. The child had worn the tube three or four weeks when it was removed. A few days after the wound had become healed the child began to have dyspnea, which was evidently laryngeal, although in so young a child he was not able to make an examination by the laryngoscope. He thought at the time that the dyspnea was due to the presence of granulations. In the course of ten days or a fortnight the trouble subsided, and it has never returned.

Dr. LANGMAID said Carrier relates one case in which the tumor was on the œsophageal side of the trachea, opposite the opening made by tracheotomy. It was a round, button-like body, having longitudinal markings. Dr. Langmaid had made measurements of the tracheas of children with regard to the proper size of the tube and its mechanical effect thereupon. He found that by putting in a certain size of tube the posterior extremities of the tracheal rings were brought together on the back side, so that a swelling or tumor was made on the back side of the trachea, corresponding to the attachment of the œsophagus. This tumor was marked by longitudinal folds, caused by the tube being too large for the trachea. The mere presence of a tube high up towards the larynx may cause a disturbance to the laryngeal nerves, by which paralysis may occur. Such a case was in the hospital, and a diagnosis of paralysis of the abductors of the larynx was made. Having eliminated paralysis and spasm of the glottis, there remains nothing to prevent the removal of the tube except granulation tumors.

Dr. KNIGHT remarked that Schiller claims that granulations may start at the point of incision or in other parts of the trachea, especially the seats of diphtheritic ulceration.

In answer to Dr. Hooper, Dr. LANGMAID said that these cases may occur in the adult.

In answer to a question as to favorite form of tube with him, Dr. PORTER replied that he had received a tube from London, composed of two side pieces or flanges of the ordinary shape and size, which can be pressed together, and thus easily be made to slip through the tracheal incision. Into this is introduced a second tube. It was found impossible to use them. He preferred to use the fenestrated tube, so that a cork can be put into the orifice. He has never used the rubber tubes because their calibre is very small in proportion to their size, as compared with the silver ones.

The great danger with the silver tubes with a movable collar is that it may get loose, and the tube drop into the trachea. He had once been obliged to use a gum elastic catheter, no regular tracheotomy tube being small enough.

Dr. McCOLLOM mentioned the case of a boy with paralysis of the posterior crico-arytenoid muscles, who, after wearing a rubber tube for six or eight months, in a fit of coughing separated the tube from the collar. The tube was removed from the trachea with considerable difficulty.

Dr. GAY asked the experience of members in the use of the so-called Arthur Durham tubes. Their peculiarity is that by means of a sliding collar the depth of the tube in the neck can be regulated. Dr. Gay's favorite tube is one with a movable collar. He is careful to see that it is sound and well made. It is easy and comfortable, and accommodates itself to the movements of the larynx and trachea without undue irritation. He does not like to use a tube with an immovable collar, especially in children, for it seemed to him that it must irritate the trachea if fastened firmly enough to stay in place. He had had no experience with rubber tubes.

### Recent Literature.

*Diseases of the Skin.* By LOUIS A. DUHRING, M. D. Third Edition. Philadelphia: J. B. Lippincott & Co. 1882.

Appearing soon after the second edition, which was issued in January, 1881, the third edition does not present any marked differences from its predecessor. The principal change is the rearrangement of the chapter upon the anatomy and physiology of the skin, to which about ten pages have been added. By various small insertions and alterations throughout the book, its size has been increased by about forty pages. One change has been made in classification. *Molluscum sebaceum* is removed from the place among the disorders of secretion, which it occupied in the second edition, and, under the name of *molluscum epitheliale*, is put among the hypertrophies of epithelium; this upon the authority mainly of Virchow and Thini. An odd omission in the second as well as in the third editions is that of erysipelas, the existence of which is entirely ignored, save where once or twice it is mentioned in connection with differential diagnosis. No notice is taken of the discovery of a bacillus in connection with the pathogenesis of leprosy. The book is easily first among American and English works on dermatology.

—The history of medical advertisements is yet to be written. We have recently been shown an important contribution to such a history in the shape of a self-laudatory proclamation of an individual who describes himself as "recently from his medical establishment in Boston," in which this "justly renowned physician and surgeon" enumerates various diseases in which he has met with "astonishing success," and proceeds, "Uterine diseases, both in the male and female, cured by a prompt and safe course involving no unnecessary delay, and but slight expense."

**Medical and Surgical Journal**

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**THE SUCCESSION TO THE PROFESSORSHIP OF SURGERY IN HARVARD UNIVERSITY.**

THE President and Fellows of Harvard University have nominated David W. Cheever, M. D., to the Professorship of Surgery in the Harvard Medical School, rendered vacant by the resignation of Dr. Henry J. Bigelow, which was lately noticed in these columns.

Such a nomination becomes an appointment only after being favorably acted on by the Board of Overseers. Not wishing to forestall the action of the Overseers, in regard to which, however, there can hardly be any reasonable doubt, we have hitherto abstained from calling attention to Dr. Cheever's nomination. Some of our contemporaries, however, having seen fit to notice it, and the next meeting of the Overseers being somewhat distant, the JOURNAL can scarcely do less than say a few words to its readers in regard to so important an appointment.

Since the foundation of the Harvard Medical School the Chair of Surgery has had comparatively few occupants. The first was Dr. John Warren, who was succeeded by his son, Dr. John C. Warren, these gentlemen holding at the same time the professorship of anatomy. Dr. George Hayward was the next professor, and he was followed by Dr. Bigelow, who has just closed his service of thirty-three years. The average length of service of each of the four professors of surgery would therefore be about twenty-five years. We wish the fifth professor at least an equally long and prosperous tenure of the Chair of Surgery as his predecessors.

Dr. Cheever graduated at Harvard College in 1852, and at the Harvard Medical School in 1858. After a course of study abroad he settled in Boston, and soon became connected with the Medical School as a teacher. He was for some years demonstrator of anatomy, and subsequently assistant professor in that department. Many of his former pupils will remember with pleasure his instruction in that branch of medical study, and especially in regional anatomy. His last position was professor of clinical surgery, having previously, we believe, held the title of assistant professor of surgery. Dr. Cheever's lectures on clinical surgery, delivered originally at the Boston City Hospital, were very popular. With this Hospital he has been connected as a surgeon since its inception, eighteen years ago.

Surgical teaching would not be likely to lose its interest in his hands, and we allow ourselves to hope

that the first application of ether in serious operations and the development of litholapaxy, to say nothing of many other carefully progressive steps, will prove a suitable source of emulation to whoever may hold this professorship. The surgical world at large knows Dr. Cheever best, at present, by his monograph on Oesophagotomy, and by his contributions to the Boston City Hospital Reports, the last volume of which was published some weeks since.

As a former editor of this JOURNAL we shall extend to Dr. Cheever, at the proper time, our hearty congratulations. It is always with a feeling of peculiar sympathy and satisfaction that the JOURNAL sees its former editors called to occupy positions of honor and responsibility.

**THE SURGICAL SECTION OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.**

BOSTON, with its well equipped hospitals and their able corps of surgeons, is well abreast of the advancing tidal wave of modern surgery, and is entitled to rank as one of the surgical centres of this country. This position has been gained by the ability, industry, and achievements of men whose names are already part of surgical history, and whose teachings are accepted in every land.

There is much more, however, that can yet be done, and in which every surgeon should bear his part. The amount of material furnished by our hospitals is small as compared with that of many cities, but is large enough to afford opportunity for safe generalization from careful observations, and is much larger than has yet been thoroughly utilized for either public or private benefit. It is in this respect that we hope for advance.

Good work has been done of late by the City Hospital staff, as seen in the published records, but there should be some means of collating and recording the joint experience and observation of every one engaged in surgical practice.

This, it seems to us, could be best done through a surgical society, provided that sufficient interest was felt to call forth carefully prepared papers, and to evoke free discussion and criticism. The collation of careful observation and accurate statistics on any given subject might be well done by such a society, and its preserved and published records might become a valuable contribution to surgical literature. The value of this method of combined observation has not as yet begun to be appreciated, and we believe it destined to reveal to us many now unthought of truths. It is work to which enthusiasm must be brought, combined with a willingness to do patient and apparently unproductive drudgery for the sake of the final result.

Such a society may the Surgical Section of the Suffolk District Medical Society become, if our surgeons will continue to manifest the interest already shown the past winter. This section, although in existence for many years, never met until the past winter, when meetings have been held every six weeks, with a gradually increasing interest and attendance. A marked point has been the freedom of discussion.

Papers have been presented by Drs. Bigelow, Bradford, Cabot, Cheever, Dwight, Elliot, Gay, Greenough, Homans, Lyman, Richardson, Thorndike, Warren. Much of the success of the Sections, which now seems assured, is due to the energy and ability of its chairman and secretary, whom we hope may long continue to occupy the position they so ably fill.

This is a society which interferes with no other existing one, and merits the hearty coöperation of all our surgeons, which we earnestly hope it may receive, and with which it may do work which will reflect credit on the profession.

#### SURGEON-GENERAL CRANE.

SURGEON-GENERAL BARNES, in accordance with the provisions of the bill making obligatory the retirement of army officers reaching the age of sixty-four, has retired from the duties of the office so long familiar to him.

The President has nominated to fill the vacancy thus created Col. Charles H. Crane, Assistant Surgeon-General since 1863. Dr. Crane is fifty-seven years of age, was born in Rhode Island, is a graduate of the Harvard Medical School of the year 1847. His appointment as Assistant Surgeon dates from February, 1848. He was first sent to Mexico, and was thence transferred to Florida, where he saw service in the Seminole war. At the outbreak of the Rebellion he was on duty in New York. In 1861 he became Medical Director of the Department of the South, and was continued in that duty until the fall of 1863, when he was placed on duty in the Surgeon-General's office at Washington. At the close of the war he was given the position of Assistant Surgeon-General, which he held until the time of his promotion.

According to one of our daily contemporaries "he is entirely familiar with the duties of his new office, for which he is peculiarly fitted by temperament as well as training. His written orders have always been considered as models of clearness and precision; and his appointment in all respects is in accordance with the best principles both of civil service and military practice."

During the late war he was brought into close connection with many Massachusetts surgeons who will see his promotion with pleasure, both on account of his high professional character and his fitness for the office. We believe his appointment will be pleasing to those medical gentlemen who must serve under him, no matter what their previous wishes may have been in regard to the office.

#### THE APPROPRIATION FOR THE NATIONAL BOARD OF HEALTH.

THE annual appropriation for the National Board of Health was cut down in the Senate to such a small sum that, if passed by the House of Representatives assent to it, the present activity of the Board will be seriously interfered with, and several of its undertakings abandoned.

The Board will find it necessary first of all to stop the publication of its weekly bulletin, and with this the prosecution of its investigations into the causes of prevalence and means of prevention of such diseases as yellow fever, malaria, and small-pox. The different numbers of the *Bulletin* are of very unequal value, but some of them have contained good material, and have no doubt been of considerable service in throwing light on sanitary problems. The report on the results of an examination of several sewerage works in Europe, the report on the inspection of various vaccine farms in different States, the study of malaria, are instances of work, past and present, by the Board in connection with the *Bulletin*, which already, or soon, will represent more than a fair return for money expended.

With the small appropriation proposed all attempts at quarantine work by the Board must be abandoned. It is well known that yellow fever is again rife in the Havana, in Vera Cruz, and other ports, and but a few days ago several cases arrived in a vessel here in Boston.

We are well aware that in certain quarters it is thought desirable that all quarantine matters should be left strictly in the hands of local officers. It is also true that an appropriation is not easily obtained unless a certain return may be anticipated in the form of political backing. This is a disadvantage which the National Board of Health labors under which is not shared by many less worthy objects, as the River and Harbor Bill attests.

Unless during the panic of an epidemic the average voter sees wealth more easily in a good job than in a high standard of health.

#### MEDICAL NOTES.

— The necrology of both Harvard and Yale this year is of interest as showing the tendency to longevity among educated men, according to an exchange. Of the seventy-eight dead in the Yale list for the year, thirty-one were seventy years or over, the average being over seventy-eight. Of the seventy-one dead in the Harvard list, twenty-nine were over seventy, the average being over seventy-seven years. In each list the extreme age reached was ninety-six years.

#### NEW YORK.

— The first excursion of the season of the Floating Hospital of St. John's Guild for the benefit of sick children took place on the 6th of July, the trip being down the bay to the sea-side nursery of the Guild at Cedar Grove, about half a mile below New Dorp, Staten Island. These excursions will be continued every Tuesday, Thursday, and Saturday during the summer, and on the alternate days of the week mothers can secure the admission of their sick children to the nursery by making application to the examining physician of the Guild, Dr. David Phillips, at the office of the society. Last year 35,000 excursion tickets were given out, and the average number of mothers and children on each trip was from 900 to

1000. Since 1875, when the scheme originated, 252 excursions have been given, and 197,120 poor women and children taken upon them. On these excursions milk and other appropriate food are served out to the children at ten A. M. and three P. M., and at noon their mothers are given a substantial meal. The managers of the Guild are desirous of completing the nursery on Staten I-land, by the addition of a wing that is still wanting, as soon as the five thousand dollars necessary for the purpose can be raised by subscription or otherwise. This will afford space for eighty additional beds.

— At the last session of the Board of Estimate and Apportionment a resolution was adopted authorizing the appropriation of \$15,000 to the Board of Health for the payment of physicians, inspectors, and nurses, the purchase of drugs, and other expenses connected with the work of caring for sick children during the summer, and of preventing the spread of contagious and infectious diseases. At the same meeting \$27,427.98 of the excise moneys was appropriated to various charitable institutions in the city.

— At the annual meeting of the New York State Teachers' Association, which was held at Yonkers during the past week, the first subject brought up for discussion was Near-Sightedness in Schools. The report of a special committee appointed to consider it at the last session was read by Mr. C. J. Buell, of Bronxville, who mentioned in the course of it that last year thirty thousand persons of all grades of education were examined for myopia; and that it was found that young children who had never been at school, and persons who had never read or studied to any extent, were nearly exempt from it, while the percentage of the near-sighted increased from the time of commencement of school-life until among college graduates the largest number were found. Dr. E. G. Loring, Jr., of New York, said that bad ventilation was a very prominent factor in the production of the affection. Eight per cent. of the boys between seven and eight years old who were examined were found to be near-sighted, but only three per cent. of the girls of the same age.

— The death-rate of the city of Yonkers, which has always been found to be one of the healthiest places in the country, having increased about three per cent. during the past year, an important matter of drainage is now exercising the community. Through the town, which is beautifully situated on the banks of the Hudson, flows the Nipperhorn River, which, during the winter and early spring, is swollen to large proportions, but in the summer becomes almost dry. On its shores are a considerable number of large manufacturing, and it is alleged that refuse matter from these mills, as well as from some private sewers that empty into it, contaminate the stream, and make it dangerous to the public health. Two plans have been proposed to increase the salubrity of the town, one being to construct a sewer in Main Street at a cost of one hundred thousand dollars, and the other to wall in the Nipperhorn River, which would seem to be the proper one to adopt. One objection to the

latter is, however, that the mills derive their water-power from the river, although many of them use steam also. Some time ago the Westchester County grand jury found an indictment against several of the mill owners for "maintaining a nuisance," but the matter never came to a trial. As the question is an important one for the interests of the community, the common council has not taken any decided action, but a short time ago invoked the aid of the local Board of Health. This body, again, appealed to the State Board of Health to send competent delegates to Yonkers, and decide the matter. An answer has just been received, however, to the effect that the local board has full power to act in the premises, and that a special memorial to the governor of the State would be necessary if they still desired the intervention of the State Board.

## Miscellany.

### LETTER FROM DRESDEN.

#### THE LYING-IN HOSPITAL IN DRESDEN.

MR. EDITOR,—Having spent several months in this institution, I send a few notes on the manner in which it is conducted, hoping they may be of interest. The hospital is situated in the corner of an old palace park in a pleasant suburb of Dresden. The building has four stories, the first three for patients. The gynæcological wards are on the ground floor, the lying-in wards, together with rooms for private patients, assistants, internes, and so forth, on the second and third. There are two delivery rooms, each with its corresponding wards for those lying-in women who have already been confined. While one set is in use the other remains empty, and is thoroughly ventilated. The number of confinements of late years has been between eleven and twelve hundred a year. Besides the ordinary operating-room there are two or three especially for ovariotomies. Though the hospital is a royal institution it is practically under the exclusive direction of Dr. Winckel, whose name is intimately connected with obstetrics and gynæcology. Two assistants, who must be Saxons, and who hold office for two years, stand between him and the internes, whose number is not limited. The position of interne is open to all foreigners who can furnish evidence of sufficient medical education, or pass a successful examination. Each interne is furnished with a separate room, whence he is called at all times day and night in all cases of obstetric emergency. An entrance fee of about five dollars and a monthly room rent of about eight dollars must be paid by foreigners.

The interne is expected to visit the patients assigned to him at least twice a day, and to write careful records of each case, to accompany Dr. Winckel on his morning visit, to attend the polyclinic, and to be present at all gynæcological operations. Beyond this his time, barring emergencies, is practically at his own disposal. All the ordinary nurses are pupils in a training-school, which is under the direction of Dr. Winckel, while the head nurse superintends the house work. The course of instruction lasts six months. At the end of this time an examination is held, and three of the students are chosen to serve as under-nurses for

the ensuing six months. Each under-nurse has charge of a certain number of wards, and is supposed to give instruction to the new students in their various duties.

Lectures and recitations, together with the information acquired in the hospital routine, are thought sufficient to qualify a midwife to take charge of a district outside, where she can practice her profession, with the understanding that she must call upon the district physician in difficult cases. The text-book by Cr   and Winckel, which forms the basis of instruction, is a thorough compendium of the art of midwifery, and in the simplest possible language states the exact directions for treatment in each case, the limits of responsibility, and the emergencies where a physician's aid is necessary.

When an interne enters the institution he is given the charge of a number of patients, varying inversely with the number of internes. At first he has the children to care for, and the duty of examining all women who, in the later months of pregnancy, wish to enter the hospital as servants. Soon he receives charge of those women already confined, and, later, of the patients in the delivery room.

On leaving the delivery room he takes the gynecological station, or returns to whatever other station may be open to him. Each interne must sign his name to the records he keeps. Upon the delivery journal must also be written the names of all persons who in the given case have made an internal examination. If, now, this patient, later, has high fever, and shows other signs of infection, those whose names stand upon the journal are prohibited for some days from making internal examinations, and the interne in charge of the delivery room must immediately give it up.

Dr. Winckel is a believer in the theory that infection cannot take place through the air, and that in cases of infection the fault is due to negligence or uncleanness on the part of the person or persons who have had to do with the lying-in woman.

Dr. Winckel starts on his morning visit at about eight o'clock. Any case of special interest is carefully explained by him. At about ten o'clock the morning duties are generally over. Twice a week a polyclinic is held for gynecological cases. Each interne takes a case, writes up the history, makes the physical examination and his diagnosis. Later, each case is read before Dr. Winckel, after which he examines the patient systematically, explaining at each step. He then gives the proper diagnosis and the directions for treatment. When it is necessary for the sake of clearness, diagrams are drawn, and specimens in alcohol, of which the hospital has a valuable collection, are demonstrated. Once a week all assemble in Dr. Winckel's private rooms. Here one of the number reads a summary of some article recently published of interest in obstetrics or gynecology. The whole is then carefully criticised by the doctor. If new methods of treatment worthy of further trial have been suggested, they are sometimes adopted on trial in the wards. At one time a summary was read on the Use of Laughing-gas as an Anesthetic in Labor. Klinkowitsch had published full details of the experiments on twenty-five cases in the *Archiv f  r Gyn  cologie Von Cr   und Spiegelberg*, Band xviii. The results obtained with a mixture of laughing gas four fifths and of oxygen one fifth were remarkably successful. Klinkowitsch affirms that the inhalation of this gas during delivery causes a striking diminution in actual pain

without interfering with the length of the "pains" or the pauses; that the consciousness remains complete throughout; and that the lying-in woman is thereby enabled to assist the pains by voluntary muscular action, that no danger attends the administration of this gas, and that the disagreeable sequels of anesthesia usually observed, vomiting, headache, and so on, are wanting. A trial of this method was made later in the hospital at Dresden in twenty cases of particularly painful labor. Practically the same results, which Klinkowitsch noticed in his twenty-five cases, were obtained. The gas was found, however, to be of far greater value in the first stage of labor than later. These experiments were to have been continued, and later the results obtained in a large number of cases published.

In each case of death in the hospital the body is carried to the autopsy-room of the city hospital near by, and Dr. Birsch-Hirschfeld performs the autopsy. The interne formerly in charge of the case is expected to be present and fill out the autopsy journal from dictation.

The system in Dresden of keeping journals seems to work remarkably well. The journals of pregnancy, of delivery, of the puerperal state, as well as those for the child and for autopsies, are all numbered according to the admittance number of the case.

Finally, all are brought together and the whole history, though written by different persons, is complete from beginning to end. All the journals are carefully sorted, filed away, and later bound together into huge volumes. Ovariectomies at the Dresden hospital are remarkably successful, and "first intentions" the rule. The operating room is aired for one or two days before the operation, and the spray is set in action a couple of hours before the patient is brought in. The operation is carried out with all the Lister precautions.

The silk-worm gut (*fil de Florence*) is much preferred to silk or catgut for closing the external wound in this operation, as well as in colporrhaphy, ruptured perineum, and so forth. Its stiffness is thought to hold the lips of the wound in much more perfect apposition.

Very truly yours, GEORGE H. MONKS, M. D.

DRESDEN, May, 1882.

#### LETTER FROM MINNEAPOLIS.

MR. EDITOR,—In your JOURNAL of June 22d the letter from St. Paul contains so much of and about that city and so little of Minneapolis, and that little of such a disparaging nature, that I am tempted to send these few lines.

Your correspondent says that Minneapolis has the disadvantages of St. Paul in respect to "drainage," for it "is situated on the more level ground on the flat shores of the Mississippi, probably depending largely upon wells for its water supply, and has a good many cases of typhoid fever."

I am afraid he was too much interested in seeing if the "champagne flowed like water" when he wrote you that, for if he had viewed the country between the two cities he would have seen that St. Paul is but the beginning of a gentle rise of the country westward, and that the bank of the river along the whole border of Minneapolis is in no place less than forty feet, and most of it over one hundred feet high. We have many wells it is true, but we also have a fine water



supply, the Holly system being in use here. It is impossible to obtain all the conveniences of a city in a moment, but we have far-sighted and enterprising citizens, and the water supply is being rapidly carried to all parts of the city.

Minneapolis looks that of course, to some people, but a deal of money has been spent, in its short life, for grading the streets according to our ideas. This does not injure our drainage, however, and to-day we have as fine a system as any city in the United States.

We have had some sickness since last September; so have other cities. We have correct monthly reports of our mortality so that everybody may see just the condition. Still our death-rate is no larger in proportion than many other localities, daily papers to the contrary notwithstanding. Our population is over 60,000, some say over 70,000. Five years ago we numbered 35,000 souls. Room has had to be made for all these people, and the upturning of so much ground for the construction of houses, with the condition of the elements, might be important factors in producing sickness.

But have we been visited by typhoid fever? It has gone forth as such, but the cases of fever I have seen since last September did not present those symptoms which we were taught at Harvard were characteristic of typhoid. The condition of the tongue, pulse, intestines, and stomach, was far different from that seen in typhoid in Boston. The temperature was the only thing that resembled typhoid. Then again, so far as I have been able to learn, there has not been made a single post-mortem, but so soon as a case terminated fatally it was "returned" typhoid and buried.

Now there has been abundant opportunity on the part of many physicians to look carefully into this matter of fever and verify the diagnosis by post-mortem, but they have not seen fit to do so, and it has gone forth that we have had a high death-rate, and that typhoid fever entered largely into the cause, when in reality it was not the case, or else the fever exists here with symptoms far different from those we find East.

Another cause for an erroneous return of death is the existing state of the profession. We have no State law regulating the practice of medicine, consequently everybody and anybody may come in here and do just as he sees fit, and there is no redress. The more a man advertises in our daily papers, or by hand bills, the larger practice he acquires, and he can obtain a kind of "good-standing" by admission to membership in the State Society through the good word of some brother already a member. What can be the standing of a State Society which will admit applicants to membership and good standing after adjournment?

It is a misfortune that more of the profession from Boston could not have been present at St. Paul. After adjournment of the National Association all the railroads West were in waiting with free transportation. Monday evening, June 12th, the larger number of the physicians with their families took the Manitoba train for Winnipeg, C. P. Arrived in that place Tuesday evening, passed the next day, and Wednesday evening returned to Glyndon, Minn., where the Northern Pacific Railroad had cars in waiting and took the whole party to Miles City, M. T., allowing a day at Fargo, D. T., to enjoy the hospitality of that place; another day at Bismarck, D. T., where all had an opportunity to visit the last town of that Territory, and inspect the construction of the railroad bridges across the Mis-

souri; to visit Fort Lincoln and the new town of Mandan, M. T. By transfer boat across the Missouri the trip was continued to Miles City, where a day was spent in seeing this sample of a frontier town and to visit Fort Keogh. The railroad runs for several miles in full view of the Yellowstone; and scenery more grand is rare to find even in New England.

Of particular interest were the Bad Lands. The road runs through this remarkable geological condition for miles. Many passed a day securing handsome and rare specimens of petrification. Some stopped at Terry and enjoyed a day hunting the buffalo, and were successful in securing a prize of some kind, for game is very plenty.

In due time the party bid farewell to Montana, and arrived in Minneapolis Wednesday morning, June 21st, all agreeing that the time was very profitably and enjoyably occupied.

We here hope the time may soon come for another meeting of the Association to be held in this city, and that a greater number may be able to be present.

Very truly, W. M.

MINNEAPOLIS, June 28, 1882.

#### A CASE OF FACE PRESENTATION IN THE MENTO-POSTERIOR POSITION.

MR. EDITOR,—My object in reporting the above is to draw out the views and experience of other physicians in similar cases. Authors and writers upon this subject all seem to concur that in face presentations, where the chin does not turn to the front, it is not safe for the mother, to say nothing about the almost inevitable death of the child, to trust such cases to the efforts of nature, or even to delay in rendering prompt assistance.

It is further conceded as a general, if not an almost absolute, rule, that in face presentations, whatever may have been the relations of the chin with the circumference of the superior strait at the commencement of labor, the chin must rotate to and be brought under the symphysis pubis before labor can terminate spontaneously.

It is doubtless true that there have been exceptions to the above rules, but according to Cazeaux, and other well recognized authorities in the cases reported, the fetuses were small and dead, and the mothers had on former occasions been delivered of large children. In the cases just referred to, the reported mechanism of labor has been sharply criticised, and even regarded as utterly impossible, by Cazeaux and others.

Generally, in face presentations, the efforts of nature alone have an almost never failing tendency to bring the chin forward. She sometimes fails to accomplish this, and then she relies entirely upon the aid of the attending physician.

"For," says Dr. Bedford, "you are to recollect that in no case, unless as an exception, if I may be permitted to say so, to an almost universal rule, can the head be made to accomplish its exit through the maternal organs if the chin continues to remain in a posterior position."

In view of the foregoing statements, drawn from the best authorities, the pertinent question arises, what is to be done in mento-posterior positions of the face? Taking it for granted that all physicians are familiar with the many methods proposed by various authors,

I will only speak of version, which was adopted in the case I am about to report.

Mrs. B., multipara, aged twenty-five, was seized with labor pains shortly before midnight on the 8th inst. This was her second pregnancy. The first child was delivered with forceps, still-born, some two or three years ago, by two Attleborough physicians, after labor had continued nearly two days. In her present illness the pains were reported to have continued regularly until three P. M. the next day, when they entirely ceased.

I first saw her at 3.30 P. M. Upon examination I found the os well dilated, membranes flaccid and extending in vagina nearly to vulva. I experienced no difficulty whatever in touching the child's head. This was all the examination made at this time. Her condition in other respects was excellent, no nervous excitement, skin cool and moist, tongue clean, and pulse normal. I now left her, promising to return at six P. M. I could not help being surprised that the pains should cease just before the commencement of the second stage of labor, and saw her again at the time specified. No change whatever had taken place since my first visit. I left her again, telling her husband to notify me when the pains should recur.

I was called at 9.30 P. M. Pains had commenced half an hour before, and were now occurring at frequent intervals, and with great severity. An examination showed that the membranes became tense during a pain, but otherwise everything was precisely as I found it six hours before. While touching her the membranes became ruptured, after which I made a careful and thorough investigation. My mortification and chagrin can readily be imagined when the following interesting state of affairs became apparent.

The anterior angle of the anterior fontanel was discovered just above the pubis. Passing directly backwards in the median line over the forehead, the nose with the orbits on either side were readily made out. Continuing further backwards and downwards over the nose, the finger entered the mouth, where the action of suction on the part of the child was distinctly felt. Having in my practice and in consultation witnessed ten cases of face presentation where labor was terminated safely though tardily, without version or forceps, I determined to give nature a fair chance, hoping that a spontaneous delivery might occur through one of the reported though doubted mechanisms laid down by various authors. The husband and friends were now notified of the true state of affairs, and that the chances were largely against the child's being born alive. No further examination was made for nearly five hours, during which time the pains continued at regular intervals and with great severity. The only change noticed was marked and increased tumefaction of the presenting parts.

I now informed the husband and friends that the time had arrived when assistance must be rendered, as further delay would doubtless prove disastrous to the mother as well as the child. Dr. Frank B. Fuller saw the case in consultation soon after, and agreed with me both regarding presentation and position.

After carefully considering the various methods of delivery, we came to the conclusion that version was the only procedure that offered any hope of delivering a living child.

The patient being placed under the influence of ether and in the usual position, the right hand was in-

troduced into the vagina, and two ineffectual attempts made to carry the chin to the sternum and bring the occiput under the pubes. Passing the hand slowly and carefully into the uterus, the child's left foot was seized and brought beyond the vulva. This was now enveloped in a napkin and held firmly with the left hand, while in the absence of a pain, steady and firm pressure was made against the presenting head with the other. Dr. Fuller carefully steadied the womb, and rendered valuable assistance during the operation. The head almost instantly receded, and the delivery was quickly terminated in the usual manner. The child was a male, and weighed when dressed nearly ten pounds.

Thus terminated, very happily, a case which promised to give us a great deal of trouble. I have often wondered why authors attach so much danger to the mother from podalic version. In seven other cases, besides the one reported above, which have occurred in my practice, all shoulder presentations but one, the operation was quickly, easily, and safely performed. The mothers all recovered without a single unfavorable symptom. Two children of the eight were still-born, one in a case of placenta previa, the other where the hand had been beyond the vulva quite a while before the operation was attempted, and forceps were used in delivering the head.

While I ask free discussion and criticism upon this case, I feel compelled to add that I am convinced that in mento-posterior positions of face presentations, version should be the first thing tried as offering about the only chance for a living child, and promising, if slowly, carefully, and successfully performed, the best results to the mother. I am fully aware that I am speaking from very limited experience, and from a case in which the conditions were very favorable to the success of the operation.

I will also add that the operation should be attempted at the earliest possible moment consistent with the peculiarities of the case, and never without the administration of an anæsthetic.

PHANUEL E. BISHOP, M. D.

PAWTUCKET, R. I., June 18, 1882.

### THE ALLEGED INSANITY OF GUITEAU.

MR. EDITOR. — Will you allow a layman to ask a question?

It certain physicians felt sure that Guiteau was insane, why did they not save his life by testifying at the trial? It is no answer to say, that those who did testify were not properly cross-examined, and so had no chance to express their full opinion. In such an event it was their duty to go to the counsel for the defense, after the session of the court, and demand to be recalled and properly cross-examined. They were the only men who could prove him insane. It was incumbent on them to insist on being heard.

My own conscience is clear, because, after reading the excellent essays published in the JOURNAL, I am still of the opinion that Guiteau was simply a bad and depraved man, and I have found nobody outside the medical profession who was not of the same way of thinking.

As for the physicians who might have testified and who did not testify, the least we can say of them is that they now are estopped. THEODORE LYMAN.

## REPORTED MORTALITY FOR THE WEEK ENDING JULY 1, 1882.

| Cities.                           | Population by Census of 1880. | Reported Deaths in each. | Deaths under Five Years. | Percentage of Deaths from         |                |                      |                       |                |
|-----------------------------------|-------------------------------|--------------------------|--------------------------|-----------------------------------|----------------|----------------------|-----------------------|----------------|
|                                   |                               |                          |                          | The Principal "Zymotic" Diseases. | Lung Diseases. | Diarrhoeal Diseases. | Diphtheria and Croup. | Scarlet Fever. |
| New York.....                     | 1,206,590                     | 780                      | 389                      | 37.17                             | 10.31          | 19.91                | 5.51                  | 3.81           |
| Philadelphia.....                 | 846,984                       | 372                      | 145                      | 15.41                             | 4.56           | —                    | 4.82                  | 2.41           |
| Brooklyn.....                     | 566,689                       | 298                      | 152                      | 30.82                             | 11.39          | 15.08                | 5.03                  | 4.53           |
| Chicago.....                      | 509,304                       | 188                      | 103                      | 23.84                             | 10.31          | 7.45                 | 4.79                  | —              |
| Boston.....                       | 362,555                       | 150                      | 62                       | 45.31                             | 10.66          | 3.33                 | 3.33                  | 5.33           |
| St. Louis.....                    | 350,522                       | 222                      | 143                      | 40.25                             | 3.60           | 24.30                | 1.80                  | 4.05           |
| Baltimore.....                    | 332,190                       | 242                      | 147                      | 41.71                             | 1.65           | 32.62                | .41                   | 1.65           |
| Cincinnati.....                   | 255,708                       | 168                      | 88                       | 42.60                             | 5.40           | 16.40                | 3.00                  | 4.20           |
| New Orleans.....                  | 216,140                       | —                        | —                        | —                                 | —              | —                    | —                     | —              |
| District of Columbia.....         | 177,638                       | 148                      | 100                      | 49.28                             | 1.35           | 43.89                | .68                   | 1.35           |
| Pittsburgh.....                   | 156,381                       | 105                      | 57                       | 33.33                             | 1.66           | 14.28                | 3.71                  | —              |
| Buffalo.....                      | 155,137                       | 65                       | 22                       | 23.07                             | 1.54           | —                    | 1.54                  | 3.08           |
| Milwaukee.....                    | 115,578                       | 43                       | 23                       | 4.65                              | 11.62          | 2.33                 | —                     | —              |
| Providence.....                   | 104,857                       | 39                       | 11                       | 12.80                             | —              | 7.68                 | 2.56                  | —              |
| New Haven.....                    | 62,882                        | 28                       | 8                        | 3.57                              | 3.57           | —                    | —                     | —              |
| Charleston.....                   | 49,999                        | 41                       | 19                       | 24.40                             | 2.44           | 2.44                 | —                     | —              |
| Nashville.....                    | 43,461                        | 25                       | 8                        | 32.00                             | —              | 16.00                | —                     | —              |
| Lowell.....                       | 59,485                        | 18                       | 9                        | 11.11                             | 11.11          | 5.55                 | 5.55                  | —              |
| Worcester.....                    | 58,295                        | 16                       | 11                       | 12.50                             | 12.50          | 6.25                 | —                     | 6.25           |
| Cambridge.....                    | 52,740                        | 27                       | 10                       | 18.55                             | 7.42           | 3.71                 | 7.42                  | —              |
| Fall River.....                   | 49,006                        | 14                       | 5                        | 7.14                              | 7.14           | —                    | 7.14                  | —              |
| Lawrence.....                     | 39,178                        | 12                       | 8                        | 50.00                             | —              | 8.33                 | 16.56                 | —              |
| Lynn.....                         | 38,284                        | 11                       | 3                        | 33.33                             | —              | 16.66                | —                     | —              |
| Springfield.....                  | 33,340                        | 6                        | 1                        | —                                 | —              | —                    | —                     | —              |
| Salem.....                        | 27,598                        | 8                        | 4                        | 12.50                             | —              | —                    | —                     | —              |
| New Bedford.....                  | 25,875                        | 11                       | 3                        | 18.18                             | 9.09           | 9.09                 | —                     | —              |
| Somerville.....                   | 24,985                        | 7                        | 5                        | 42.8                              | —              | —                    | 14.28                 | —              |
| Holyoke.....                      | 21,851                        | 7                        | 3                        | 28.56                             | —              | 14.28                | —                     | —              |
| Chelsea.....                      | 21,785                        | 8                        | 4                        | 25.00                             | —              | 12.50                | 12.50                 | —              |
| Taunton.....                      | 21,213                        | 6                        | —                        | —                                 | —              | —                    | —                     | —              |
| Gloucester.....                   | 19,329                        | 3                        | 2                        | —                                 | —              | —                    | —                     | —              |
| Haverhill.....                    | 18,475                        | 4                        | —                        | 25.00                             | —              | —                    | —                     | —              |
| Newton.....                       | 16,995                        | 4                        | 2                        | —                                 | 25.00          | —                    | —                     | —              |
| Brookton.....                     | 13,608                        | 1                        | —                        | —                                 | —              | —                    | —                     | —              |
| Newburyport.....                  | 13,537                        | 4                        | 1                        | —                                 | —              | —                    | —                     | —              |
| Fitchburg.....                    | 12,405                        | 2                        | —                        | —                                 | —              | —                    | —                     | —              |
| Malden.....                       | 12,017                        | 2                        | 1                        | —                                 | —              | —                    | —                     | —              |
| Eighteen Massachusetts towns..... | 150,076                       | 39                       | 8                        | 15.38                             | 5.13           | 5.13                 | 2.56                  | —              |

Deaths reported 3124 (no report from New Orleans); 1555 under five years of age; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 928, consumption 316, lung diseases 208, diarrhoeal diseases 458, diphtheria and croup 112, scarlet fever 83, measles 64, whooping-cough 51, typhoid fever 40, small-pox 39, cerebro-spinal meningitis 24, malarial fevers 23, puerperal fever 11, erysipelas nine, typhus fever four. From *measles*, New York 19, Chicago nine, St. Louis six, Baltimore, Pittsburgh, and Buffalo five each, Boston four, Brooklyn three, Philadelphia, Cincinnati, and Lawrence two each, Milwaukee and Nashville one each. From *whooping-cough*, New York 15, Brooklyn eight, Boston seven, St. Louis six, Charleston five, Pittsburgh four, Philadelphia, Baltimore, Cincinnati, District of Columbia, Salem, and Holyoke one each. From *typhoid fever*, Philadelphia 13, Chicago and Pittsburgh four each, Boston three, New York, St. Louis, Baltimore, and Nashville two, Brooklyn, Cincinnati, District of Columbia, Buffalo, Providence, Lawrence, Haverhill, and Spencer one each. From *small-pox*, Cincinnati 23, Chicago five, Baltimore four, Philadelphia three, New York two, Brooklyn one. From *cerebro-spinal meningitis*, New York and Cincinnati four each, Buffalo three, Boston, Baltimore, Cambridge, and Somerville two each, Philadelphia, St. Louis, Pittsburgh, New Bedford, and Attleborough one each. From *malarial fevers*, New York six, Brooklyn five, Charleston four, St. Louis and District of Columbia three each, Baltimore and Nashville one each. From *puerperal fever*, Chicago three, New York, Pittsburgh, and Milwaukee two each, Philadelphia and Brooklyn one each. From *erysipelas*, Philadelphia and Baltimore two each, New York, Chicago, Boston, Springfield, and Peabody one each. From *typhus fever*, New York four.

Eighty cases of small-pox were reported in Cincinnati, Baltimore 37, Buffalo six, Nashville two; diphtheria 16, scarlet fever 13, typhoid fever five, in Boston; scarlet fever eight, and diphtheria six, in Milwaukee.

In 35 cities and towns of Massachusetts, with a population of 993,008 (population of the State 1,783,086), the total death rate for the week was 16.95 against 12.17 and 16.65 for the previous two weeks.

For the week ending June 10th, in 173 German cities and towns, with an estimated population of 8,511,770, the death-rate was 28.1. Deaths reported 4603: under five 2425; pulmonary consumption 586, acute diseases of the respiratory organs 469, diarrhoeal diseases 286, diphtheria and croup 157, scarlet fever 86, typhoid fever 57, whooping-cough 55, measles and rötthel 44, puerperal fever 18, small-pox (Beuthen two, Königsberg, Essen and Strasburg each one) five, typhus fever (Königsberg two, Stargard and Bromberg each one) four. The death-rates ranged from 15.7 in Würzburg to 33.5 in Braunschweig; Königsberg 33.7; Breslau 30.4; Manich 34.4; Dresden 28.2; Berlin 35.8; Leipzig 22.9; Hamburg 27.2; Cologne 34.7; Frankfurt 20.8; Metz 27.4.

In the 28 English towns, with an estimated population of 8,459,571, for the week ending June 17th, the death-rate was 19.0. Deaths reported 3079: acute diseases of the respiratory organs (London) 200, whooping-cough 146, measles 84, scarlet fever 72, diarrhoea 76, fever 40, diphtheria 24, small-pox (London 15). The death-rates ranged from 11.2 in Norwich to 26.2 in Preston; Plymouth 14.7; Leicester 16.1; London 17.9; Birmingham 18.9; Leeds 20.1; Portsmouth 22.5; Liverpool 23.3. In Edinburgh 17.4; Glasgow 22.7; Dublin 19.3.

For the week ending June 17th, in the Swiss towns, population 494,390, there were 34 deaths from consumption, diarrhoeal diseases 22, acute diseases of the respiratory organs 13, scarlet fever six, diphtheria and croup three, measles two, whooping-cough two, typhoid fever two, erysipelas one. The death-rates were, at Geneva 13.4; Zurich 20.3; Basle 20.4; Berne 31.

The meteorological record for the week ending July 1st, in Boston, was as follows, according to observations furnished by Sergt. O. B. Cole, of the U. S. Signal Corps:—

| Date.            | Barom-eter. | Thermom-eter. |       |          |          | Relative Humidity. |            |             |       | Direction of Wind. |            |             | Velocity of Wind. |            |             | State of Weather. <sup>1</sup> |            |             | Rainfall.             |                   |
|------------------|-------------|---------------|-------|----------|----------|--------------------|------------|-------------|-------|--------------------|------------|-------------|-------------------|------------|-------------|--------------------------------|------------|-------------|-----------------------|-------------------|
|                  |             | Mean.         | Mean. | Maximum. | Minimum. | 7.23 A. M.         | 3.23 P. M. | 11.23 P. M. | Mean. | 7.23 A. M.         | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.        | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.                     | 3.23 P. M. | 11.23 P. M. | Duration, Hrs. & Min. | Amount in inches. |
| Sun., 25         | 29.685      | 81            | 92    | 69       | 83       | 50                 | 58         | 64          | SW    | W                  | W          | 3           | 12                | 12         | O           | F                              | O          | —           | —                     |                   |
| Mon., 26         | 29.734      | 76            | 82    | 68       | 64       | 40                 | 66         | 57          | W     | W                  | Calm       | 4           | 16                | 0          | O           | F                              | F          | —           | —                     |                   |
| Tues., 27        | 29.862      | 72            | 81    | 64       | 54       | 38                 | 66         | 53          | W     | NW                 | W          | 12          | 20                | 8          | O           | F                              | F          | —           | —                     |                   |
| Wed., 28         | 29.788      | 70            | 87    | 61       | 61       | 55                 | 70         | 62          | W     | SE                 | W          | 3           | 4                 | 7          | F           | T                              | C          | —           | —                     |                   |
| Thurs., 29       | 29.840      | 67            | 77    | 60       | 60       | 32                 | 54         | 49          | NW    | NW                 | NW         | 15          | 14                | 12         | F           | F                              | C          | —           | —                     |                   |
| Fri., 30         | 29.952      | 64            | 77    | 52       | 61       | 38                 | 81         | 60          | NW    | W                  | SW         | 11          | 1                 | 8          | F           | O                              | R          | —           | —                     |                   |
| Sat., 1          | 29.706      | 55            | 61    | 52       | 96       | 100                | 93         | 96          | SE    | E                  | NW         | 16          | 12                | 10         | R           |                                | T          | —           | —                     |                   |
| Means, the week. | 29.795      | 69            | 92    | 52       |          |                    |            | 63          |       |                    |            |             |                   |            |             |                                |            | 10.20       | .57                   |                   |

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; X., clearing.

# OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM JUNE 24, 1882, TO JULY 7, 1882.

HOFF, J. V. R., captain and assistant surgeon. Having reported at these headquarters, is assigned to duty as post surgeon at Alcatraz Island, Cal. S. O. 107, Military Division of the Pacific and Department of California, June 17, 1882.

GAEDNER, E. F., captain and assistant surgeon. Relieved from duty at Vancouver Barracks, W. T., and assigned to duty as post surgeon at Fort Coeur d'Alene, Idaho. S. O. 83, Department of the Columbia, June 19, 1882.

DE LOFFRE, A. A., captain and assistant surgeon. Relieved from further duty at Fort Wallace, Kans., and assigned to duty at Fort Sill, Ind. Ty. S. O. 124, Department of the Missouri, June 21, 1882.

O'DONOGHUE, F., captain and medical storkeeper. Died at New York City, June 29, 1882.

HEAD, JOHN F., lieutenant-colonel and surgeon. Granted leave of absence for fifteen days. S. O. 153, A. G. O., July 3, 1882.

Under the provisions of Section 1 of the Act of Congress, approved June 30, 1882, the following-named officers are by operation of law this day retired from active service, namely: Brigadier General JOSEPH K. BARNES, surgeon-general; Colonel JOHN M. CYLLER, surgeon; Colonel WILLIAM S. KING, surgeon; Lieutenant-Colonel JAMES SIMONS, surgeon. S. O. 151, A. G. O., June 30, 1882.

CORRECTION. — A correspondent writes to correct a statement, attributed to Dr. McLean, in the report of the meeting of delegates from the Boards of Censors on page 592, vol. cxi, of the JOURNAL. The words "the case of the death of a scrofulous medical college," should have been "the case of a former teacher," etc.

BOOKS AND PAMPHLETS RECEIVED. — *Sarcoma and Carcinoma: their Pathology, Diagnosis, and Treatment.* By Henry Trenham Butler, F. R. C. S., Assistant Surgeon, etc.

*Circulars of Information of the Bureau of Education.* No. c. 1881. The Effects of Student Life upon the Eyesight. By A. W. Calhoun, M. D., Professor of the Eye, Ear, and Throat in the Atlanta Medical College.

*The Physician Himself and What he Should add to the Strictly Scientific.* By D. W. Cathell, M. D., late Professor of Pathology in the College of Physicians and Surgeons of Baltimore, etc. Baltimore: Cushing & Bailey. 1882.

The American College Association. Sixth Annual Meeting, held at Cincinnati, Ohio, May 16, 1882.

The Announcement of the Women's Medical College of Baltimore, No. 126 North Eutaw Street, Baltimore, Md., for the Session of 1882-1883.

On the Treatment of Cancer. By John Clay, Professor of Midwifery in Queen's College, Birmingham. London: J. & A. Churchill. 1882.

Giornale del R. Accademia di Medicina di Torino pubblicato a cura di D. P. Fieschi di Presidentia. Anno XLV. Num. 1.

The Official Gazette of the United States Patent Office, containing the Patents, Trade-Marks, Designs, and Labels issued Tuesday, May 30, 1882. Published by authority of Congress. Diseases of the Ear in Children. By Anton von Troeltsch, M. D., Professor in the University of Wurtzburg. Translated by J. Orne Green, M. D., Aural Surgeon Boston City Hospital, etc. From *Gerhardt's Handbuch der Kinderkrankheiten*. New York: William Wood & Co. 1882.

Genius Restless. An Ode. A Tribute to Jenner and Pasteur. By J. J. Caldwell, M. D. Baltimore, Md.: Printed by William K. Boyle. 1882.

*Materia Medica and Therapeutics. Inorganic Substances.* By Charles D. F. Phillips, M. D., late Lecturer on Materia Medica and Therapeutics at the Westminster Hospital Medical School. Edited and adapted to the United States Pharmacopoeia by Laurence Johnson, A. M., M. D. Vol. II. New York: William Wood & Co. 1882. Wood's Library of Standard Medical Authors. May.

*Lectures on Diseases of Children. A Handbook for Physicians and Students.* By Dr. Edward Henech, Director of the Clinic and Polyclinic for Diseases of Children in the Royal Charité and Professor in the University of Berlin. New York: William Wood & Co. 1882. Wood's Library of Standard Medical Authors. March, 1882.

*The Experimental Method in Medical Science. Second Course of the Carwright Lectures of the Alumni Association, College of Physicians and Surgeons, New York, delivered January 21, January 31, and February 7, 1882.* By John C. Dalton, M. D. New York: G. P. Putnam's Sons. 1882.

*Papers and Proceedings of the National Association for the Protection of the Insane and the Prevention of Insanity at the Stated Meeting held in New York City, January 20, 1882.* New York: G. P. Putnam's Sons. 1882.

Catalogue of the Massachusetts College of Pharmacy, 1882-1883.

*Syphilis.* By V. Cornil, Professor in the Faculty of Medicine of Paris and Physician to the Lourcine Hospital. Translated, with Notes and Additions, by J. Henry C. Simes, M. D., and J. William White, M. D. With Eighty-Four Illustrations. Philadelphia: Henry C. Lea's Son & Co. 1882.

Annual Reports of the Trustees, Superintendent, Treasurer, and Financial Agent of the New Hampshire Asylum for the Insane to the Governor and Council, June, 1882.

On Ovarian and Uterine Tumors: their Diagnosis and Treatment. By T. Spencer Wells. Philadelphia: P. Blakiston, Son & Co. 1882.

Transactions of the American Gynecological Society. Volume VI. For the Year 1881. Philadelphia: Henry C. Lea's Son & Co. 1882.

The Fifty-Eighth Annual Report of the Officers of the Reformatory for the Insane at Hartford, Conn. April, 1882.

Annual Announcement of Trinity Medical School. Toronto.

On the Abstruse Treatment of Balneus and Lymphadenitis generally by Injections of Carbolic Acid. By Morse K. Taylor, M. D., Captain and Assistant Surgeon U. S. Army. (Reprint from American Journal of the Medical Sciences, April, 1882.)

Preventing Disease. A Lecture by J. R. Black, M. D., of Newark, Ohio, delivered at Columbus, Ohio.

## Original Articles.

INFANTILE MORTALITY: ITS CAUSES AND PREVENTION.<sup>1</sup>

BY JAMES P. LYNDE, M. D., OF ATHOL, MASS.

MR. PRESIDENT AND FELLOWS.—The Thirty-ninth Registration Report of Massachusetts is a valuable record of vital statistics, useful and interesting to the physician, the sanitarian, and political economist.

From its carefully prepared tables we learn the relative mortality of the different diseases, as influenced by age and sex, that prevail among our people, and are enabled to study those that are wholly or in part preventable, that we may check their ravages and promote the public health.

We find that in the year 1880 our population was 1,783,085. The number of deaths were 35,292, of which "consumption, as in previous years, heads the list," with a mortality of 5,494.

We also find that there were born alive during the year 44,217 children. In the same period 7190 died during the first year of life; 2281 the second year; 1250 the third; 857 the fourth; 635 the fifth; a total of 12,213 children who died under five years of age; 1463 died between five and ten, and 611 from ten to fifteen, showing that with increasing bodily development there is decreasing mortality, and that the age of infancy is the most perilous period of life. The deaths of the first year are 16.26 per cent. of the births and 20.04 per cent. of the deaths. The deaths under five are 34.60 per cent., or a little more than one third of the deaths.

This valuable registration report in its record of mortality, from "twelve of the most prominent causes in 1880," credits consumption with 5494, pneumonia 3076, cholera infantum 2118 victims.

When we consider that cholera infantum is a disease that occurs usually in the first year of life, among infants artificially nourished, and that consumption and pneumonia occur during almost the whole remaining period, grouping about certain ages more than others, it is evident that the deaths from cholera infantum, and the diseases from infancy and childhood, are the most suggestive and important on the list of vital statistics.

It is also very evident that the infant at birth, and for a long time after, is weak, feeble, immature, imperfectly developed, unable to bear successfully the vicissitudes of climate, resist morbid influences, and maintain its hold on life against adverse circumstances and the ignorance and inexperience of those intrusted with its care; and we are not surprised to find this period of life attended with excessive mortality, some of the causes of which, and its prevention, claim our consideration.

(1.) Among these causes are prenatal hereditary influences and inherited tendencies to certain forms of disease, like scrofulous and syphilitic affections, in their many varied forms, and congenital disturbances of fetal growth, often caused by perturbing influences, affecting powerfully the nervous system of the pregnant woman. These causes cannot be avoided; they are beyond the control of the physician. We can advise the expectant mother to live prudently, to avoid

undue emotional excitement, preserve self-control, and maintain a serene, cheerful, happy state of mind and disposition. We can advise the unhealthy mother to raise the child with artificial food, and perhaps do something by medication to modify morbid constitutional tendencies, and thus preserve life. The number of still-born premature deaths for 1880 was 1297.

(2.) Another important cause is the prevalence of acute infectious diseases, which are often severe and deadly. The most loathsome of these, small-pox, may be fully prevented by vaccination; and may we not confidently hope that by improved methods of treatment, either preventive or special, scarlatina and diphtheria will be robbed of their terrors and cheated of their victims? The deaths from this cause, under five in 1880, were 1909.

(3.) Another cause of this mortality is the severe acute inflammations, such as pneumonia, meningitis, and others; too often caused by exposure of the child, insufficiently clothed, to severe climatic influences, in accordance with the popular idea that such treatment makes a child tough, hardy, and vigorous; a most mischievous notion, as only the most robust can survive such treatment. Ignorance and carelessness have much to do with this cause of mortality, which, in children under five, in 1880, amounted to 2269.

(4.) Another cause is the great anatomical and physiological crisis of infancy, dentition, which with many children is attended with slight disturbance of the general health or nervous system; but when we consider the active nutritive processes going on in the growing teeth and dental follicles, the hyperæmia, and turgescence of the surrounding tissues, the intense excitement of the local nerves, we are not surprised when this physiological process passes the bounds of healthy action, and through disturbed innervations causes functional and pathological changes in distant organs, requiring watchful care and judicious treatment on our part to overcome. Dentition is rarely dangerous, unless associated with other disturbing influences. It is therefore important that all morbid conditions due to other causes should be carefully investigated, or our treatment will be empirical, irrational, and unsatisfactory.

(5.) Infantile mortality is often increased by the unhealthy hygienic influences to which many children are subjected, such as breathing impure air; by living in small, close, dark, sunless, overcrowded, ill-ventilated rooms; exposure to cold; heat, filth, want of proper care and clothing, impure water, and unsuitable food. Mortality from other causes is greatly increased by these insidious conditions, which are attributable in a large measure to parental negligence and ignorance, which can only be overcome by carefully instructing the people, and stimulating their moral sensibilities; a work which requires time and patient effort, but sure in the distant future to be accomplished. A large share of this responsibility rests upon our profession, and we should improve every suitable occasion to instruct, advise, admonish, and warn the people. The perfect sanitary house and home has not yet been built and established by man! It is only to be secured in the mansions of the ideal, heavenly hereafter!

(6.) The influence of intense solar heat upon the mortality of infant life is well known, and so important that we cannot neglect its consideration. If we again consult the valuable Registration Report, we shall find that July, August, and September, the hot

<sup>1</sup> Read at the annual meeting of the Massachusetts Medical Society, June 14, 1882.

months of the year, are peculiarly fatal to infants, by the prevalence of diseases of the central nervous system and digestive organs, such as convulsions and cephalitis, diarrhoea, dysentery, and cholera infantum. To a certain degree, peculiar to each department of organic life, solar heat is an essential stimulant and excitant to all the processes of growth and nutrition. Above and below certain ranges of temperature, all forms of life are impossible. Our human life is a mystery, so is every manifestation of the life force in every aspect of investigation. Next to the mystery of thought is the mystery of animal heat; constant in man, in health, under all external conditions, at about 98.4° of Fahrenheit's scale. A few degrees above this point is speedily fatal, through change in the soluble albuminoid constituents of the tissues, arresting muscular contraction, circulation, and respiration. The influence of solar heat upon human life cannot be studied, except in connection with many other coincident conditions, which modify its effects, such as the moisture of the air, atmospheric currents, electric and magnetic influences, the state of the bodily functions, the supply of food and drink, clothing and exercise. Cases of insolation afford examples of its depressing influence and deadly power. The functions of perspiration and renal secretion are checked or arrested, and a condition closely resembling that of uræmic poisoning is established, attended with convulsions, and congestions of the brain, lungs, and internal organs, great depression of the nervous system, a rapid rise of bodily temperature, and speedy death. The most important physical property of heat is its power to expand minerals, gases, and almost all substances subjected to its influence. It rarefies the air, so that the important function of respiration is imperfectly performed, less oxygen is inhaled, and the exhalation of carbonic acid is diminished. The gases contained in the tissues are expanded, the circulation is enfeebled, the secretions are checked, and the functions of the nerve centres which regulate circulation, respiration, and nutrition, maintain physical vigor, resist disease, and preserve the integrity of the organization, are greatly depressed, especially in delicate, ill-nourished, poorly fed infants, living under unfavorable hygienic influences. The indirect effect of radiant heat on the health of children and older persons is important, through its power to excite and quicken the processes of fermentation and putrefaction, in foods of a perishable nature, such as eggs, milk, fresh meat, fish, bread, fresh vegetables, and fruits, rendering them unfit for consumption, causing gastric and bowel derangements, that may be severe and fatal. To overcome this powerful cause of infantile mortality, it is important that the child should be kept quiet at home in the largest, coolest room in the house, supplied with light clothing, frequent cool baths, fresh air, and pure water. If necessary, cool the air of the room by keeping ice in a tub, or by hanging a wet sheet near inflowing currents of air. The refrigerator is an indispensable luxury and necessity with the rich. An abundant supply of ice for the poor, in hot weather, would favorably affect the mortality of infants, and greatly increase the comfort, health, and happiness of such people.

(7.) We will now consider the most important of all causes of infantile mortality: the use of improper, indigestible articles of food — the prolific cause of gastric disturbance, diarrhoea, colitis, cholera infantum, and starvation. Milk has been divinely ordered as the only proper food for the young of all classes of mammalia,

and Nature has made provision for a bountiful supply. Milk is an animal food composed of several elements in variable proportionate quantities, in a state of emulsion, each of which is essential to the growth and nutrition, and no one that is superfluous to the necessities of the young mammal or human infant. In ordinary normal conditions, this fluid is abundantly and perfectly prepared in the mammary glands of the mother, and when properly administered fully meets the wants of the young child for both food and drink. Therefore it is a mother's most imperative duty to nurse her child, if possible, until several teeth appear, when it will desire, and be able to digest, animal and farinaceous food, and may be safely weaned.<sup>1</sup> The health and comfort of a child is greatly promoted by regular feeding, once in two hours and a half in the day-time, and twice in the night, and at longer intervals with increasing age.

We are often called to prescribe for children made sick by irregular nursing, every time they wake or worry, who have been dosed with Mrs. Winslow's infernal syrup of morphine, and the whole list of domestic remedies, and now comes the doctor, who will be expected to lance its gums, administer alteratives, laxatives, alkalies, astringents, tonics, stimulants, digestives, and more opium, which he may do only to be disappointed, unless he can persuade the mother to properly administer its food. Succeeding in this, the child will recover without medicine, and he can cure it in no other manner.

Again, to keep a child in a growing, healthy condition requires tact and judgment in its general management. The good physician will often remind mothers and nurses of the importance of pure air, sunlight, suitable clothing, and cleanliness. He will advise the mother to avoid visiting and traveling in the hot months, and keep the child quiet and cool at home, and offer it frequently cold water to relieve its physiological demand for fluids, and prevent it from overloading its stomach in nursing. He will advise frequent bathing to soothe, invigorate, and refresh its nerves. He will secure for it a good bed, at least when sick, and not allow it to be packed into a deep wooden box on rockers, with a rubber blanket or an old soiled comfortable to lie upon, with its head buried in a soft, hot feather pillow. A good-sized crib with a hair mattress, or a sack filled with clean oat straw, covered with a folded sheet, makes a good bed, especially in warm weather.

The good doctor will administer but little medicine for the disturbances incident to the process of dentition, for the child will not be well in hot weather, especially in the second summer, except under most favorable circumstances, until the teeth emerge or the autumnal frosts appear, making the air more bracing and invigorating, when diarrhoeal disorders will speedily disappear.

Attention to these and many other seemingly unimportant, trifling matters secures good care, and good care is no trifle. It is indispensable if we would promote the health and comfort of our infants, and prevent this excessive mortality.

<sup>1</sup> The changes in the physical organization of our American women, growing out of our high pressure civilization, affecting their fecundity and their ability to properly perform the functions and duties of maternity, especially in nursing, have been ably discussed in the annual discourse for 1874, by Nathan Allen, M. D., L. L. D., of Lowell, and the reader is advised to review that address in this connection.

Circumstances may prevent the nursing of the child from its birth, or we may be obliged to wean sooner than is desirable; a wet nurse cannot be obtained, and artificial food must be provided. How shall this be secured?

The prevailing custom with physicians and nurses is to use cow's milk diluted with one, two, or three parts of water, with the addition of a little salt and sugar. Some prefer milk, water, and cream in variable proportions, or the use of some one of the many patent commercial foods that have recently been invented. Others rely upon thin gruels of arrowroot, corn starch, gelatine, barley, oatmeal, or wheat, either pure or enriched with milk. Such methods of artificial alimentation are recommended in all standard works on medicine, and by almost all teachers.

The books abound with learned arguments to prove that it is dangerous to administer undiluted cow's milk to an infant, and minute directions are given how to dilute, adulterate, and render it more acceptable and safe.

The chemist has been asked to determine, by the methods of his subtle art, the constituent elements and the difference between human and cow's milk, and he finds proportionally more sugar in human, and more casein in cow's milk, with less important variation in the fatty, saline, and animal elements. He also finds that the casein of human and that of cow's milk differs in its physical characteristics when acted upon by reagents, that of the cow forming a more tough, firm, indigestible curd.

Different analyses give variable results in all particulars, as might be expected, for it is apparent that the composition of any milk, human or animal, will be modified by the season of the year, the quality of the food and drink, the state of health, the time since parturition, individual and race peculiarities, and many other influences. Again, milk has certain volatile elements, and it may be polluted with septic germs or the infection agent of severe or deadly disease, which no art of the chemist can detect. So that whatever may be the results of analysis showing differences in the grosser constituents, they are not of sufficient practical importance from which to deduce the conclusion that it is dangerous to feed infants with undiluted cow's milk, and that they cannot be safely and successfully raised in this manner.

The power of the chemist ends with his destructive analysis. He can neither mix nor distill any fluid having the nature and physical characteristics of milk. The female is the only chemist who can prepare this invaluable food, elaborating it through processes secluded from observation in the laboratory of her mammary gland.

The artificial substitutes for human milk that have been mentioned have certainly been most thoroughly tried for many years, and the results have not been very flattering to the scientific acumen of the inventors. Thousands of helpless, beautiful children have been yearly starved to death, poisoned, and made sick by the use of these unsuitable, indigestible foods.

A consideration of some of the anatomical and physiological peculiarities of the digestive organs in infancy will aid us in the further discussion of this subject, for the scientific successful method of artificial alimentation must be in harmony with the facts of anatomy and physiology, and not rest on any other basis or theory however indorsed by eminent fathers in medicine.

At birth the child has no visible teeth. The salivary glands are small, weighing, as stated by the Drs. Jacobi of New York, "at the age of one month, thirty-four grains; at fifteen months, eighty grains; at two years, one hundred and eighty grains."

Their physiological function is the secretion of an alkaline lubricating fluid for assistance in deglutition, having power to convert amylaceous foods into grape sugar, or dextrose. These glands are so small at birth, and until the fourth or fifth month, that but little saliva can be secreted. After this age, while teething, it is often excessive.

The stomach is a simple dilatation of the alimentary canal, the curvatures of after life being absent. It easily rejects its surplus contents when overloaded, and saves the child from distress and sickness.

Its physiological function is the digestion of albuminoid or proteid foods by the solvent power of its secretions. Sugar, starch, and oil are not digested in the stomach. They pass into the duodenum with the chyme, and are digested by the secretions of the liver, pancreas, and intestinal glands.

In this connection we must mention the important anatomical fact, as stated by the Drs. Jacobi, "that the pancreas varies in weight in infants of the same age; that in infants under four months it is often less than a drachm, never weighing two drachms." If these are unquestioned facts, it is clearly evident that the infant has but feeble power to digest the starchy elements of farinaceous foods; and that decoctions or gruels, made from wheat, oats, barley, corn starch, arrow-root, and rice, which contain from sixty to eighty-six per cent. of starch, and are the basis of all commercial infant foods, should have a low place in an infant's diet, compared with cow's milk, which contains no starch, but has an abundance of all needed elements, and is almost perfectly adapted to the digestive organs of the child, the trouble being with the quality of the casein, and the liability to be acid instead of alkaline, like human milk.

"The investigations of Guilloit into the change undergone by the food given to children in French hospitals, and the great mortality attending those who were fed on farinaceous and starchy substances boiled in water," is confirmatory on this point. "He found uniformly present in the bowels a jelly-like substance, which on analysis was found to be nearly pure starch." The children were starved to death.

If with care in the selection, management, and feeding of the cow, we can modify the milk product, and secure a food almost identical with, yes, infinitely nearer human milk than any artificial mixture can be, and if by some method of administration we can render it acceptable to the stomach, overcoming objections by good practical results, all of which we declare can be accomplished, ought we not, considering the enormous death-rates attending old methods, to take a new departure, and establish our practice on the only sound basis, the facts of anatomy and physiology? We can lose nothing in reputation. A larger mortality cannot be easily secured and placed to our credit!

Let then the physician and the physiological chemist, in dealing with this important matter, consult the great high priest of nature, the farmer, and, by his aid, using the chemistry of nature, secure an abundance of perfect natural food for our children, pure, sweet, rich cow's milk.

All theories and methods of administration to be

accepted as fixed must successfully stand the great crucial test of science, that of observation and experience. What testimony then can we secure from observation and experience?

In 1868 Dr. Stephen Rodgers, of New York, published an article in the *Medical Record* recommending undiluted cow's milk for infants, after nine years' experience, and its use in bringing up three of his own children.

Dr. Hiram Corson, in an address before the State Medical Society of Pennsylvania, on food for infants, some fifteen years ago, after observations extending over a period of more than thirty years, declares: "I feel quite certain that it is almost as easy to raise children by hand, if they have an abundant supply of good, undiluted cow's milk, as it is by the breast."

His experience confirms his opinion "that thousands of children who die annually of diarrhoeal diseases, die for want of food. They are really starved to death." He says to the profession, "and we are not blameless."

Dr. Austin Flint, in his work on the Practice of Medicine, article *Cholera Infantum*, page 417, says: "There is reason to believe that infantile mortality in cities is attributable in no small measure to the use of diluted, sophisticated, artificial milk. The importance of undiluted milk from a pure source to the welfare of children is far from being generally appreciated."

It was with great pleasure that I found, while preparing for this occasion, in the last, the April, number of the *American Journal of Obstetrics*, a "special report of the discussion on the question of nourishment in the pediatric section of the fifty-fourth meeting of German naturalists and physicians, at Salzburg, September 19, 1881."

A commission had been previously appointed to prepare papers and investigate this important subject. A circular was prepared and widely distributed, directing the discussion to two points:—

"First. Substitution of natural, unadulterated animal (cow's) milk for human milk, and its production.

"Second. Substitution of artificial foods, with or without milk, for the natural milk; their nature and value."

After earnest discussion for two days the conclusions reached in regard to artificial foods were expressed by Dr. Soltmann as follows: "Now and evermore it is unanimously agreed, that these preparations *can in no way be substituted for mother's milk, and as exclusive foods during the first year are to be entirely and completely rejected.*"

In regard to cow's milk he said: "Therefore we now stand at this point: cow's milk is the only substitute for mother's milk. Our whole endeavor must be to procure and use this in the best way. This standpoint is a long step in advance on the broad field of work before us." As presiding officer he closed the discussion thus: "Let us hold fast, gentlemen, to what we have already gained. Let us attempt in the future to put it in the power of even the poorest to obtain good, pure milk for his children. United work on the part of doctor, experimental pathologist, physiological chemist, and land owner can alone fill up the gaps in our knowledge of dietetics."

For thirteen years, when for any cause it has been necessary to resort to other food than mother's milk, and the fears of mothers and nurses could be overcome, I have used undiluted cow's milk, and failed only in three instances to raise the child.

One was born in midsummer; the mother had no milk. The parents had previously raised a child with pure milk. They attempted to raise this with farrow cow's milk, which was unsuitable; vomiting and purging did its work in a few days. A midwife attended at its birth. I saw it once the day before it died. It was not fairly under my care.

Another was born April 22, 1874. The mother had convulsions, was delivered with forceps. The child was partially nursed for three weeks, and then weaned with undiluted milk. It was very feeble from birth, but did well for nearly three months; July 27th it died after a week's illness, caused by fevered bloody milk, which was not detected until the child was made sick. The cow was injured in the pasture, and the unhealthy putrid milk poisoned and killed the baby.

The third case occurred in August, 1881. The mother was confined while suffering from a severe attack of acute dysentery. She died in seven days. The child was sick from birth, its body emitting a sour, urinous, sickening odor, like that from the mother during her sickness. It lived twenty-four days.

A brief recital of a few severe test cases, to illustrate the views here presented, is important.

CASE I. June 27, 1869, a daughter was born to Dwight E. Clement, of North Orange; nursed a month to July 30th, when the mother was prostrated with a severe typhoid fever. The milk "dried up," and grandmother, fearing "clear milk would kill the child," gave it one fourth milk with three fourths water. This was in the hot July. In a few days the child was sick with vomiting and purging. It rapidly failed, its flesh wasted, the anterior fontanelle was depressed. It uttered the peculiar plaintive moan we have all too often heard in similar cases. The hands dropped lifeless; the tongue lay on the floor of the open mouth; eyes half open; extremities cold; death imminent. Grandmother was ready to try anything. Undiluted milk was carefully administered.

The child is now a fine, healthy girl, thirteen years of age. This was my first case; it gave me confidence and courage.

CASE II. September 2, 1872, a son was born to Hollon Farr, of Athol. It never nursed, and was fed on milk and water, and Graham gruel and milk, until it was nine months old, when it was prostrated with vomiting and purging. Clear milk was advised, and the boy is to-day a fine, healthy fellow, nine years old.

October 10, 1875, another son was born. The mother had no milk. When the yellow bile appeared in the discharges, undiluted milk was given, and the nurse, who was very timid, was instructed to let it have all it would take, after giving it a little cold water. I was called in two weeks. The child did not thrive; it worried, was weak and feeble, with a peculiar red blush on the skin. The nurse had left, and the mother said she had given it only a great spoonful of milk at a time. It was starved. We advised the mother, and the child soon had all it wanted, and is to-day a fine, healthy boy, six years old.

Now mark this: four out of six of their children died in infancy, of cholera infantum, fed on milk and water and farinaceous gruels and milk, before I became acquainted with the family.

CASE III. July 23, 1876. A son was born to A. M. Sawyer, of Athol, after a hard labor, terminated with forceps; weight twelve pounds. Nine hours



after the mother suddenly died. The child never nursed. It was fed with water and a little milk for two days, until the yellow bile appeared in the discharges and appetite was manifested, and the nurse was instructed to give it undiluted milk. Three weeks after, August 14th, I was called. It was vomiting and purging. The nurse, a good one, the same as employed by Mr. Farr, was timid, and had added one fourth water. The child was cheated twice, first by the milkman, who supplied the milk from that of several cows mixed, instead of from one as he had agreed to do, and that was evidently extended with water. Second, the nurse added more water. Milk was obtained twice a day from a young healthy cow that had recently calved. It was carefully fed pure, a little medicine and brandy administered, and we had no further trouble. It is now six years old.

A child of E. A. Thomas was brought up on milk from the same cow at the same time.

CASE IV. May 2, 1867. A son was born to O. T. Brooks, of Athol. In six weeks the mother's milk failed from debility and "nursing sore mouth," and the child was weaned with one third milk and two thirds water. As usual the food disagreed; it irritated and poisoned the child; vomiting and purging finished its work August 30th, and a beautiful child passed away, aged four months.

December 6, 1871. Twin boys were born. At eight weeks they were weaned for the same cause, in the same manner as before. They lived, pale, ill-nourished and weak, until August, 1873, when the inevitable "vomiting and purging," made quick work with its victims, and the two dear children were laid away, aged one year and eight months.

October 26, 1875, a daughter was born. In two months was weaned, as the others were. The old enemy, vomiting and purging, tried for a few weeks to do the work which in midsummer it would quickly and easily accomplish. At length the fearful, reluctant mother consented to use undiluted milk, and in a few days the child was well, and is to-day a robust, healthy, beautiful girl, seven years old.

A son was born August 3, 1879. Was weaned in hot weather on undiluted cow's milk, without trouble, and is now a tough, strong boy, nearly three years old.

I have no record of the number of cases weaned and raised on undiluted cow's milk, probably nearly a hundred, as my obstetrical cases at full term, for the thirteen years, number five hundred and twenty; and I fully agree with Dr. Corson, "that it is about as easy to raise children by hand, if we have an abundant supply of good, undiluted cow's milk, as it is by the breast," and I will further add that under these conditions I neither hesitate or fear to wean in hot weather. Success with any plan of management can only be secured by attention to a multitude of seemingly unimportant details. The child seeks the breast to satisfy its thirst and appetite, and for no other purpose. It draws the warm milk slowly, with much effort, from the mother's breast. As it reaches the palate the gastric glands are excited, the digestive fluids are freely secreted, and mixing with the inflowing milk exert their solvent power on the whole bulk of ingesta with great energy. Therefore it is good practice, especially in hot weather, to offer the child cold water before nursing to satisfy its thirst, and prevent it from overloading its stomach.

In artificial feeding we should carefully observe the

methods, and follow the indications of nature. Therefore we would satisfy the infant's thirst by allowing it to draw water from a tumbler slowly through the nurse tube; some children will require considerable, others but little. Not being an aliment it does not excite the secretion of the gastric juices. Then in a few moments allow the child *all the fresh, undiluted cow's milk it will take*, warmed to the temperature of the blood, only being sure that it is slowly ingested, just as nature supplies it when nursed from the mother's breast.

Some will ask, Why not mix the water and milk in the bottle instead of the stomach? What is the difference in result?

Milk and water is neither the one nor the other. It is extended, adulterated, weakened milk, and when thus administered more bulk is required for a given amount of nourishment, the stomach is over-distended, and the gastric juice so diluted as to weaken its digestive power; besides, the water and milk separately administered mix but little in the stomach, the water is so rapidly absorbed. By this method we do closely imitate nature, and in a great measure, yes, almost entirely overcome the difference in quality and digestibility of the casein between human and cow's milk.

The cow should be selected with great care. Milk from different breeds, and from cows of the same breed vary widely in their essential elements. That from the Jerseys and Alderneys is excessively rich in cream. The Ayrshire and grade cow should be preferred, as they furnish a fluid more nearly resembling human milk. A very fat baby is not to be desired. The quality of milk is influenced by the season of the year, the food, air, water, and care which the cow receives, and the state of her health. For obvious reasons we would avoid a diseased, old, or farrow cow, one fed on turnips, onions, cabbage, slops, garbage, and coarse, sour, swamp grasses, supplied with water from a stagnant pool or polluted well, or kept in a damp, filthy, ill-ventilated stable, and select a young, healthy Ayrshire or grade cow, that has recently had a calf; one that has good, sweet, upland pasturage, with pure spring water to drink, and a plenty of salt; one that is sheltered in a clean, well-ventilated stable; one that has good care, that is kept quiet and gentle, not worried by dogs or boys. We would examine the milk with a test tube, note its specific gravity, its color, smell, and taste, the percentage of cream, its reaction to test paper, and if acid reject it. We must use our eyes, our nose, our taste, and secure pure, rich milk, milked morning and evening from a clean cow, into a clean pail; keep it in a clean bowl, covered with a clean napkin, in a clean closet, away from the pantry where food is stored. It will rapidly absorb odors, dust, and septic germs, and in hot weather will quickly ferment, putrefy, and spoil unless cared for, and thus become the vehicle or cause of severe or perhaps deadly disease. It is the most sensitive and easily spoiled of all animal foods.

Having secured good milk we would procure a suitable nurse tube and bottle; one with a screw in the stopper is desirable to regulate the flow. We must be sure that the child draws the milk slowly, just as in nursing, for if poured into the stomach faster than the gastric juices can be secreted to mix with it, it may form a hard mass of curd, distress the child, and perhaps cause a convulsion.

The nurse tube and bottle should be kept scrupulously clean and sweet by rinsing in weak soda water

immediately after using. Perhaps, after all our care, the milk may not be acceptable to the delicate stomach; then render it more alkaline by adding a suitable quantity of bicarbonate of soda or potassa or the phosphate of soda, or try the milk of another cow. The trouble may be due to bacteria or microdemes; then sterilize the milk as advised by Tyndall, by subjecting it to a heat of 150° F. for a few minutes.

I never boil milk for a child; it changes its specific gravity and other characteristics. Salt should not be forgotten.

We cannot manage all children by one precise rule. Rules and methods must be elastic, and varied to meet individual idiosyncrasies and peculiar conditions.

That many children have been successfully raised on milk and water, mixed and other foods, we freely admit. They often look plump and well nourished, but how quickly their flesh wastes under a slight illness! Their tissues lack firmness and stamina; they lack endurance, and if much sick in hot weather are about sure to die, while breast-fed and pure milk raised children bear disease and dentition equally well; cholera infantum rarely attacks them.

The Registration Reports record the fact, which is confirmed by our observation and experience, that of all the causes of infantile sickness and mortality that of defective alimentation is the most important. Diseases of the digestive organs from this cause, when intensified by other unavoidable conditions, like hereditary tendencies, dentition, and solar heat, are not readily controlled by medicine. They are best treated by prevention. The resources of preventive medicine are of incalculable value to mankind. Can the worth of vaccination be estimated, or the immortal Jenner be forgotten? The power of the great anæsthetic to prevent pain, and save life, which was first demonstrated to a startled world in yonder hospital, by skillful surgeons of the Massachusetts Medical Society, will continue to bless all future generations.

In the late war the able and energetic General Butler, aided by his medical staff, through wise measures of prevention, in transferring his command to his successor, was able to declare to the people of New Orleans that he had demonstrated that the yellow fever could be kept from their borders, — a peaceful victory, of more value to this country than a successful battle.

We cannot have forgotten the epidemic of small-pox that so disturbed and alarmed the people a few years ago. Boston suffered not only from the loathsome pestilence, and its mortality, but in every branch of her industry and trade. Conceited, incompetent men controlled the most important department of administration, that of the Public Health, and the disease marched on unchecked. But when intelligent, competent Commissioners were appointed, and clothed with authority, one of whom, a respected Fellow of our Society, now His Honor, the mayor of this city — Dr. Samuel A. Green — the power of preventive medicine, wisely employed, checked the pestilence, the public health was restored, confidence and prosperity returned to this beautiful city, and the results were brilliant!

If that "perpetual and unrelenting source," typhoid fever, can be eradicated by preventive measures, as claimed by Dr. Parkes, Dr. Budd, and many English and German physicians, and, as very ably and suggestively discussed by Dr. Thomas H. Gage in this place two years ago, what a dark shadow of suffering

and death would be dissipated! The comfort, happiness and security of human life would be greatly increased; the prosperity and welfare of society immeasurably promoted, and scientific medicine would achieve imperishable laurels.

If in the department of infantile therapeutics preventive methods can be so employed as to check the ravages of these diseases that rob our homes of our brightest jewels, will not the results be most brilliant and of incalculable value to society? To the accomplishment of this high purpose the profession should direct its investigations; and although we may be modest, obscure physicians, we can aid in this work, through associated effort, in our district medical societies, by imparting to each other our opinions derived from investigation, observation, and experience.

The crowning glory of our profession is its broad, practical humanity, that reaches with its ministrations the sick poor, provides care in asylums for the insane, the blind, the outcast, the inebriate, the consumptive, the feeble-minded, and even the nervous.

No adequate provisions have been made for the safety and welfare of the helpless infant. Our profession should encourage the generous philanthropy of wealthy men like Thomas Wilson, of Baltimore, who, dying in 1879, left a bequest of \$500,000 "for the purpose of securing a summer retreat for sick children, from the heat and unhealthfulness of the city." His will says: "Having observed for many years the great and alarming mortality which occurs each summer among young children, . . . I do not think I can make a better use of some of the means of which God has made me steward than in the alleviation of the pains and prolongation of the lives of these little children." One hundred and sixty acres of land six hundred feet above tide water have been secured, a half hour's ride from the city of Baltimore, and the Wilson Sanitarium started in its beneficent work, dealing only with the poorer classes, without pay.

It is pleasant to notice that in our State similar institutions are being established, though on a small scale, with insufficient equipment: one, the Seashore Home at Winthrop; another, the Children's Hospital at Baldwinville. If generous benefactions could be secured for their maintenance and extension, and the mothers among the poor, of large cities, living under unfavorable sanitary conditions, could receive, with their children, assistance and care during the hot months, very much would be accomplished towards preventing this excessive infantile mortality.

May we not reasonably hope that in the near future some member of our Massachusetts Medical Society, having the kind heart and executive ability of our late associate, Dr. Samuel Gridley Howe, will engage in this work, and accomplish for helpless infancy that measure of relief which he secured for the blind and feeble-minded; and that from the ranks of business some man with princely wealth, generous, humane, philanthropic, with the heart of a George Peabody, influenced by the spirit and example of the Great Nazarene, "who took little children up in his arms, put his hands upon them, and blessed them," who will establish a beneficent charity, after the example of Thomas Wilson, that will relieve poor children in their homes by furnishing an abundant supply of pure milk, ice, and other comforts, or provide for them good care in a well-regulated asylum.

This subject is so important, so far reaching, so in-

tricate a problem, so interwoven with the welfare and foundations of human society, that its discussion kindles enthusiasm, and I am reluctant to leave the duty of this hour so partially and imperfectly performed.

Anxious fathers and mothers are seeking our aid, in our respective places of duty, to save their children from death! May we so wisely, tenderly, and successfully discharge our responsible duties as to deserve and receive the gratitude of parental hearts and the blessing of Almighty God!

## PANCREATIC APOPLEXY, WITH A REPORT OF TWO CASES.<sup>1</sup>

BY MORTON PRINCE, M. D.

**II. Subacute form.**—Of this we have nine cases. The general course of an attack may be described as follows: In the majority of cases the patient has been subject at varying intervals to attacks of illness referable to the digestive organs. The symptoms complained of at these times are such as usually accompany disturbances of digestion; such as palpitation of the heart, depression of spirits, burning and uncomfortable feeling in the pit of the stomach, indigestion, heart-burn, etc. In other cases they may be more severe, accompanied with colicky pain, "cramps," vomiting, and diarrhoea. In one case (Hooper) the patient had suffered two or three times a fortnight for some years from "bilious attacks;" other attacks in this patient consisted of vomiting of yellowish or greenish fluids, occasionally food. In another case (Loeschner) the attacks followed excesses at intervals during five years. They consisted of symptoms of indigestion, burning feeling in the upper part of the abdomen, belching heart-burn, colic, and frequent diarrhoea. In Homan's case the patient, besides having had colic, had been ill about one year previously with "jaundice." He described himself as being at this time yellow, with some epigastric pain, and disinclination to move, but most of the time he was able to attend to his business.

These attacks may have occurred at intervals during several years, or only during the previous few months.

In other cases again there is complete absence of any such history. The patient, who has previously been perfectly well, is suddenly taken with the illness which terminates his life. In almost every case the unfortunate, whether previously liable to such attacks as above described or not, is suddenly, while in good health, seized with severe pain in the abdomen. When the hæmorrhage occurs the patient may be quietly resting or pursuing his usual occupation. The pain which ushers in the attack is usually very severe, and located in the upper part of the abdomen. It steadily increases in severity, is sharp or perhaps colicky in character. It is almost from the first accompanied by nausea and vomiting; the latter becomes frequent and obstinate, but gives no relief to the pain. The patient soon becomes anxious, restless, and depressed; he tosses about, and only with difficulty can be restrained in bed. The surface is cold, and the forehead covered with a cold sweat. The pulse is weak, rapid, and sooner or later imperceptible. The abdomen becomes tender, the tenderness being located in the upper part of the abdomen or epigastrium. In some cases the tenderness is such as to prevent an accurate examina-

tion. Tympanites is sometimes marked. The temperature in most cases is either normal or below normal. The bowels are apt to be constipated.

These symptoms continue without relief; those which are most striking being the pain, vomiting, anxiousness, restlessness, and the state of collapse into which the patient soon falls. If reaction does not set in, the symptoms increase in severity, and death occurs with sudden collapse at the end of from thirty-six to forty-eight hours. Other cases pursue a more protracted course. The symptoms are more moderate, and life may be prolonged for four or five days, when death takes place. Sometimes there is an abatement of the symptoms, and an improvement in the general condition. There soon appear, however, symptoms of general peritonitis to which the patient finally succumbs at the end of from fifteen to twenty days.

Rarely the attack differs from the description just given in a more gradual appearance of the symptoms. In this form the patient who has formerly suffered at times from colic is attacked with what appears at first to be a similar condition. Instead, however, of recovery taking place, the attacks are repeated, and the pains recur with increased frequency and severity, sometimes during several days, until finally the pain becomes constant, and the condition described above is then presented.

The above is a general picture of the disease, but there are a few particulars which it will be well to consider in detail.

The number after each heading indicates the number of cases in which the symptom or other particular was noted.

*Previous history* (12).—In six cases the patients had always previously been free from illness, although this fact is only to be inferred from the reports in some instances. Four of these six cases were of the "apoplectic" form, death occurring suddenly. In seven cases there had been a history of attacks of some kind occurring at intervals and extending over a varying period of time, from some months to several years. These attacks were always referable to the digestive organs, and in character such as has already been described above. What relation, if any, these attacks bear to the one that finally ends the life of the patient, is a question, which, with our present knowledge, cannot be determined. That there is, however, some connection seems probable from the fact, that at least in more than one half the cases some such history is found, a frequency which seems to indicate something more than coincidence. Furthermore, at the autopsy in one case (Hooper), the appearance of the pancreas was such as to lead the examiner (Beale) to believe that successive capillary hæmorrhages had occurred. In another case the patient, some months previously, had been "jaundiced" for over two months, besides at other times having had colic. Now, jaundice is usually looked upon as one of the symptoms of pancreatic disease, and it is possible it may have had such a pathology in this case. Another patient had passed a gall-stone fifteen years previous to her fatal illness. A remarkable case (to be referred to later on) has been reported by H. Chiari, in which the pancreas sloughed, and was passed from the bowels. During the attack eighteen gall-stones were passed in the stools. In the light of these cases it may be questioned whether the hæmorrhage may not in some cases at least be dependent upon the pancreatic duct being obstructed by a

<sup>1</sup> Concluded from page 32.

gall-stone (or pancreatic calculus) becoming impacted in the duct common to it and the ductus communis choledochus. In this way the pancreatic secretion would be retained, and might exert some corrosive action upon the walls of the vessels.

*Onset of attack* (12).—In ten cases the patient was suddenly attacked while perfectly well, the symptoms being from the outset of an alarming character. In two cases, on the other hand, the symptoms came on more gradually, requiring some time to culminate.

*Initial symptoms* (10).—Pain in the upper part of the abdomen is the first symptom to herald an attack. It was absent in only one case, and in this death occurred in a few minutes. The only symptoms complained of were a feeling of being unwell and an inclination to vomit. At other times the pain at first is less decided in character, appearing rather as a feeling of distress and fullness. Obstinate nausea and vomiting soon follow, and the patient, in the course of a few hours, falls into a state of collapse. From the outset anxiousness and restlessness on the part of the patient are strikingly prominent.

The *pain* (10) is almost always located in the epigastrium. In one case the patient described it as being below the left breast. In other cases it is stated simply to be in the abdomen. The pain is always severe and rebellious to treatment, morphia sometimes having little effect over it. In character it differs somewhat, even varying at different times in the same case. Sometimes it is described as colicky; it may be piercing or burning; it is generally constant with exacerbations. It is usually a fixed pain in the upper part of the abdomen, and does not appear to shoot into the shoulder, as has been stated. In only one case did this occur, and in this case it is described as being at first colicky, then, later, burning and piercing in the upper part of the abdomen; sometimes gripping, shooting to the right towards the duodenum, to the left towards the spleen, downwards towards the umbilicus, backwards and to the right towards the shoulder.

*Tenderness* (7) is often a prominent symptom, and, like the pain, is located in the epigastrium, except in those cases where secondary peritonitis is developed, and then it becomes diffused over the abdomen. Sometimes this symptom is so marked as to prevent an accurate examination.

*Nausea and vomiting* (10) are distressing symptoms, and usually present from the first. In one case only does vomiting seem to have been totally absent, and in this it may have been controlled by the large doses of morphia given. Though in some cases the act of vomiting is not complete, in most cases it is constant, excessive, and not connected with the ingestion of food. Usually there is nothing characteristic about the vomitus, but in one case it is described as black matter. If diffuse suppurative inflammation occurs towards the end of the illness with perforation of the duodenum, as occurred in one case, the dark, foul-smelling fluid which escapes into the intestine and stomach may be vomited.

The *pulse* (5) becomes early increased in rapidity, and weak; later, almost imperceptible at the wrist as collapse sets in.

The number of cases in which the *temperature* is positively stated, or in which it can be inferred from the symptoms, is nine. In the remaining five cases death occurred suddenly. Of these nine cases in five the temperature was either normal or below normal.

In one there was said to be "slight fever," but this was probably due to secondary inflammation, as it is not stated at what time in the course of the attack, which lasted in all twenty days, the temperature was taken. In two cases fever is noted or is to be inferred, but in both these peritonitis was present, and in the remaining case the fever is said to have been "high." In this case, however, the report is very incomplete both as respects the clinical history and the autopsy. It may be stated then that the temperature is not elevated unless secondary complications arise.

*Tympanites* was present in five cases, absent in two, and not noted in two. It thus occurs in more than one half the cases in which life is prolonged.

The *skin* (6), especially of the extremities, is usually cold, and covered with a cold sweat.

*Bowels* (7).—Constipation seems to be the rule in the early stages before peritonitis appears. In one case diarrhoea was noted, but was probably the result of large doses of calomel which were given.

*Duration*.—In some cases life may be prolonged for twenty days. In these cases there seems to be a recovery from the primary lesion, and death results from secondary inflammation.

*Pathology*.—The cause of the hæmorrhage like much else still remains obscure. In four cases, all very fat subjects, there was extensive fatty degeneration of the pancreas, while in the remaining cases either it did not exist or was not noted. But this condition does not of itself seem to be a sufficient explanation; for however plausible it may seem that, owing to such degeneration, the vessels, supposing them to be implicated, should give way in one or two places, it does not appear probable that they would do so all at once throughout the whole organ, as is frequently the case; nor would it account for the hæmorrhage into the neighboring connective tissue which was found in nine out of eleven cases. Some such theory as that suggested by Klebs seems more probable. He considers that the cause is to be found in the secreting portion of the pancreas, possibly in the corroding action of the juice. When we consider how peculiar is this lesion, how unparalleled it is in other organs of the body, and when with this we look at the structure, and the physiological function of the pancreas, with its power of digesting albuminous substances, this certainly seems to be the direction in which we should look for an explanation. What conditions, however, are necessary for such an action of the pancreatic juice are unknown. It may be questioned whether the hæmorrhage may not in some cases, at least, be due to a preceding acute pancreatitis. In one case excessive tobacco smoking has been assigned as the cause (Loeschner). Occupation does not seem to have any influence. The subjects of eight cases are described as fat; five muscular, or robust; and five are said to have been intemperate. No note in two.

*Prognosis*.—As this condition has never been diagnosed during life, it is impossible to say whether or not recovery may take place. It may be that cases ending favorably have occurred which have not been recognized. Two cases reported by Chiari, in both of which the pancreas sloughed and was passed by the rectum, and which, though not included here among the above collected cases, may or may not be examples of this affection, are at any rate of interest as showing the possibility of a favorable termination. The first was a case which occurred in the practice of Dr. Traboyer. It was that of a wine merchant, fifty-two

years old, who, on July 9, 1862, was attacked, while on a journey, with colic. The attack was so severe that he had to be taken home in a wagon, arriving in a very weak condition. The patient, a very strong and robust man, stated that he had suffered for two months from indigestion, and that in this time he had lost a marked amount of flesh. Biliary colic was diagnosed. The attacks of colic recurred at intervals of several days with increasing severity. After one attack of remarkable severity, eighteen gall-stones, the largest the size of a pea, were found in the stools. Three days later so severe an attack with vomiting came on that a fatal issue was feared. But the attack passed off, and four days later still, a *discolored mass of tissue was passed from the bowels*. This was recognized by Rokitansky as the *sloughed pancreas*. From this time on the patient improved, and in three weeks was completely well.

At the time of writing he was sixty-nine years old and in perfect health.

The second case was a man thirty-eight years old, who had previously, in the year 1878, suffered with the symptoms of the passage of gall-stones. He recovered and remained well till September of the same year, when he suffered from pain in the abdomen. The pain though continuous did not prevent him from continuing at his business. At the end of ten days (September 28th) it suddenly increased in severity, becoming intense and of a colicky character; obstinate vomiting supervened, and the symptoms resembled those of intestinal obstruction. The principal symptoms were pain in the region of the stomach, vomiting, constipation, increased respiration, feeble pulse, cold skin, profuse perspiration, anxious countenance, tenderness over stomach. These passed away, however, but only to return again at the end of two days (October 4th). Improvement again set in and continued until October 20th, when high fever came on, together with similar symptoms of obstruction, and continued for three days at 104.8° F. These symptoms again disappeared, and continued to this intermit till November 7th, when *there was passed from the bowels a piece of tissue which proved to be the greater part of the pancreas in a state of extreme gangrene*.

From this time the patient made a good recovery.

One of the most interesting questions connected with this subject is the *cause of death* in those cases which have ended suddenly in an apoplectic form. The hæmorrhage of itself is not sufficient in quantity to be fatal, or to cause the alarming collapse observed in more protracted cases. Zenker, who noticed venous congestion of the semilunar ganglion without alteration of the ganglion cells or nerve fibres in two of his cases — the only ones in which these bodies have been examined — draws attention to the similarity between these cases of sudden death and those of shock following severe mechanical violence inflicted on the abdomen, and thinks both resembles Goltz experiment of tapping on the abdomen of the frog, and that death is due to reflex paralysis of the heart through the semilunar ganglion. Friedreich considers that there is a marked difference between these cases and that of Goltz' frog, in that there is complete absence of congestion of the abdominal viscera observed in the tapping experiment, and attributed the sudden death to reflex paralysis of the heart due to pressure upon the semilunar ganglion from the suddenly enlarged pancreas. Both, however, look to a reflex paralysis of the

heart through this body. To my mind a fatal objection to the pressure theory lies in the fact, that other and larger tumors, though to be sure of more gradual growth, but placed so as to exert a similar influence, are known to occur in the abdomen without any such ill consequence. Furthermore, the inadequacy of this explanation is shown by Draper's first case, where death suddenly occurred at the end of forty to forty-five minutes, where no enlargement of the pancreas was found, notwithstanding the hæmorrhage.

In regard to the congestion theory, it is necessary to examine the semilunar ganglia in a larger number of cases before accepting such an hypothesis.

I am inclined to the opinion that the best explanation is to be found in the condition known as *shock*, using this term to denote a sudden and profound depression or inhibition of the nervous centres, as a reflex result of so sudden and extensive injury of the pancreas itself, without requiring the mediation of the semilunar ganglion.

This view receives some support from the fact that we find cases of all grades: from those where death is nearly instantaneous, to others where it is delayed several days, and in which the condition of "shock" is established at equally varying periods. In the latter class of cases there may be a recovery from the shock, but final death from peritonitis. This state of collapse or shock, which sooner or later appears, is similar to that which is common to any of the more violent diseases of the abdominal organs (such as nephritic colic, strangulation of the intestine, wounds, etc.), and which is brought about through reflex depression of the nervous centres depending upon neural disturbances originating directly in the organs involved. When death is sudden the reflex disturbance is more acute and profound than when it is delayed.

Dr. W. F. Whitney, in a paper<sup>1</sup> read before this Section, rejects the theory that death is due to loss of blood, and suggests that "it is much easier to conceive of it [the hæmorrhage] as the accompaniment of some lesion, as yet overlooked, of the central nervous system, and standing in the same relation to this that the subserous ecchymoses and pulmonary extravasations do to injuries of the head; or else consider with Zenker that it is the cause of profound changes in the nervous centres through reflex action of the sympathetic. This explanation I can only regard in the same spirit in which I believe it was offered, namely, as one of the possibilities which it would be well to look into.

#### "PHONIC PARALYSIS," WITH RAPID RESPIRATION.

BY ROBERT M. LAWRENCE, M. D.

THE following paper was suggested by a case of which I have prepared a brief account, to which has been added a synopsis of an analogous case. I have endeavored to make partial amends for my own limited observation by a somewhat extended study of the literature of the subject. The term "Phonic Paralysis" or "Palsy" is used by Tobold, and has at least the merit of being comprehensive. It is applicable to all cases where there is loss of voice due to paralysis, however caused, of the adductor muscles of the larynx, as in functional, nervous, intermittent, and hysterical aphonia, and also paralytic dysphonia. It is that va-

riety of glottic palsy where the movements of the glottis are not wholly suppressed, but in which there is observed an incomplete or only a momentary closure, and where, in consequence of faulty innervation of the laryngeal muscles, the vibration of the vocal cords either entirely fails or is insufficient to produce a voice sound in spite of the efforts of the patient. The affection presents different forms.

**CASE I.** Sarah McC., aged twenty-three years, of American birth, tall and of spare figure, had had a fair degree of health until the spring of 1878, when she became much debilitated owing to overwork. As the oldest of several children, a large share of household work devolved upon her, whereby her strength was unduly taxed. There was no previous history of syphilis or rheumatism. At the time above mentioned her menses, previously regular, ceased, and have not since reappeared. Three months later her voice suddenly failed. She could no longer speak aloud, but only in a husky whisper. She was seen by me in April, 1880. At this time, besides the aphonia, there was dyspnoea of a peculiar type. The respiratory rhythm was very much accelerated, and so continued; the number of respirations being from 60 to 70 in a minute and somewhat jerking, noisy, and irregular. Pulse 80, regular and alike at each wrist. Countenance anxious. Appetite poor. Bowels regular. No pain or soreness in the chest. This was the condition of things up to the spring of 1881, when I lost sight of the case. I shall ask your attention later to the character of the respiration.

There was a slight cough and expectoration. No pain in the region of the larynx. For two years previous, rest in the recumbent position had been impossible on account of the dyspnoea. Two or three hours' sleep were obtained at night in an arm-chair. Sometimes, and especially in summer, it has been necessary to carry her out into the open air, on account of threatening asphyxia. Repeated examinations of the chest have failed to reveal any signs of pulmonary or cardiac lesions, nothing indeed except varying bronchitic râles.

Laryngoscopic examination demonstrated that there was no induration or inflammation of the vocal cords or adjacent parts, nor any signs of chronic laryngitis.

On the patient's attempting phonation the cords approximate but slightly, the left cord being stationary, the right one moving sluggishly, thus indicating paralysis of the lateral crico-arytenoid and arytenoid muscles. . . . The above is a brief sketch of the history and average condition of the patient during the past three years.

In this period she has on several occasions suddenly regained her voice and as abruptly lost it after intervals of from two to six days. The treatment of this case consisted chiefly in the administration of tonics and emmenagogues.

Faradization was applied to the vocal cords and externally to the thyroid cartilage, on several occasions, but without marked benefit.

**CASE II.** Naventil<sup>1</sup> relates the case of a middle-aged man who complained of dyspnoea upon the least exertion. At night also his breathing was often embarrassed, and he was forced to sit up in bed on this account. Inspection of the mouth and pharynx revealed nothing abnormal, but laryngoscopic examination,

showed the right vocal cord to be stationary in the middle line of the glottis, immovable during respiration, and also during attempts at phonation and laughter. The left cord moved sluggishly, and marked hoarseness, amounting almost to aphonia, was the result. The laryngeal mucous membrane was everywhere reddened and thickened. Auscultation and percussion of the chest gave absolutely normal results, evidences of trivial catarrh excepted. There was a slight cough. How could the existing phonic palsy in this case be accounted for? It might be a local rheumatic affection, for there were no signs indicating pressure on the vagus or recurrent nerves. A coincident laryngeal catarrh seemed to confirm this theory. In spite of treatment the patient grew worse, began to expectorate pus and blood, and was seized with a fatal attack of asphyxia. The autopsy showed that the air-passages had been perforated by a large posterior mediastinal abscess; thus explaining the perplexing incongruity between the subjective symptoms, namely, the feeling of oppression on the chest, with dyspnoea, and the absence, during life, of explanatory physical signs.

Niemeyer, in commenting on the fact that mental emotions are proverbially influential in the causation and cure of hysterical aphonia, is of the opinion that the origin of the affection is to be attributed to that part of the brain where the more complex mental operations are performed; on the contrary, it is quite improbable that it is ever due to a derangement of nutrition in the motor centres. He prefers the title "Psychical Palsy," in contradistinction to the centric or peripheral varieties. Occasionally, however, the affection may arise from disease of the cerebral substance or from a lesion of the cervical portion of the spinal cord. Exactly what part of the brain must be affected by pathological processes in order to give rise to a disturbance of the vocal function, has not yet been determined with precision. It is probably the region of the fourth ventricle.

Persistent laryngeal catarrh is not unfrequently a cause of phonic palsy, as is also the inspiration of intensely cold air, and like wise excessive straining of the voice in singing. Hence auctioneers and hawkers are subject to it. The affection may arise in consequence of pressure either of morbid growths in the neck and mediastinum, or of enlarged lymphatic glands, especially those which lie along the course of the recurrent nerve. It may also be due to inflammatory processes in the neck or to traumatic influences. Other causes are poisoning by lead, arsenic, atropia, hyoscyamus, stramonium, or ergot. It may be a reflex manifestation due to irritation of the intestine by worms, and last, but not least, to disorders of the uterine system. Irregularity in the menstrual function, delicacy of constitution, excitability of temperament; these are conditions which predispose to the affection. To quote from Ziemssen<sup>2</sup>: "Menstrual disturbances occur in many hysterical women, without its being always possible to state in how far they precede or cause the disease, as an independent functional disturbance, or whether they are merely to be regarded as a symptom and consequence of it. Increased vascular fullness, and irregularities of the circulation caused by a suppression of the menses, can influence the nervous system in a similar manner."

Aphonia may also occur as a sequela of typhus, diphtheria, or croup. Often the notable pallor of the larynx

<sup>1</sup> *Berliner Klin. Wochenschrift*, 1869.

<sup>2</sup> *Encyclop.*, vol. iv., page 481.

geal mucous membrane sufficiently indicates the diminished irritation of the nervous filaments and the inadequate motor innervation caused thereby. Malarious agencies may be an important factor in some cases. Flint asserts that loss of voice may be caused by paralysis of the spinal accessory nerve, which is the nerve of phonation. Gerhardt,<sup>1</sup> in speaking of vocal palsy, caused by tuberculosis invading the apices of the lungs, says, that of fifty-two patients with tuberculosis, where the *right* pulmonary apex was affected, fifty were hoarse. And of thirty-two in whom the *left* apex was affected only *one* was hoarse. He describes three forms of the affection, of rheumatic origin, namely: First. Meta-rheumatic vocal paralysis, following acute articular rheumatism. Second. A catarrhal rheumatic variety, which may occur in connection with laryngeal catarrh, and may persist after the latter has subsided. Third, direct rheumatic vocal paralysis, which is comparatively rare. Friedrich<sup>2</sup> relates a case where bilateral vocal palsy was due to the appearance of trichinae in the laryngeal muscles. Lastly, Naveatil mentions syphilitic periostoses, circumscribed indurations or softening of the cerebral substance, as causes of the affection.

With the aid of the laryngoscope, the *diagnosis* of the ordinary forms of phonic palsy is usually easy. Some writers distinguish between a *true* paralysis of the cords, giving rise to a so-called functional aphonia, and a *false* paralysis, meaning thereby hysterical aphonia. In order to ascertain which of these conditions is present, the following method has been suggested. Having placed the small mirror in position, the patient is told to cough. Should the case be one of true paralysis, the cords will remain immovable. If false paralysis, they will approach the median line.

On the other hand, Bosworth<sup>3</sup> says: "Hysterical aphonia is a *true* paralysis for which the sufferer is not directly responsible, and although it has much resemblance to a counterfeit affection, it cannot be controlled by the patient. It is always bilateral and assumes the form of incomplete closure of the glottis." Flint<sup>4</sup> remarks that in aphonia from paralysis, which is functional, there is simply a weak, but not a husky, voice; or a soft, easily produced whisper. If the trouble be due to laryngitis, on the other hand, or to morbid growths, there is either a harsh whisper produced with considerable effort or there is huskiness.

In certain rare cases, we may have derangements of the respiratory function as a complication, of which neither the rational nor the physical signs afford a satisfactory explanation. In Case I. there was at first sight much resemblance to asthma. But this theory was excluded on further examination, for the dyspnoea was constant, not paroxysmal, and, moreover, both inspiration and expiration were abnormally shortened, whereas the reverse is ordinarily true in asthma. Again, aortic aneurism was thought of, or the possible presence of an intra thoracic tumor pressing on the recurrent laryngeal nerve or on the air-passages, but neither of these theories was supported by any confirmatory physical signs on examination of the chest, and, moreover, the paralysis was bilateral. That the dyspnoea was not of cardiac origin is obvious from the fact that exercise did not especially aggravate it; and auscultation confirmed this view. Failing to obtain

in the thorax any sign which could aid in accounting for the dyspnoea, the cervical region was carefully examined. Could the presence of a tumor or enlarged gland in that region affect in any way the respiratory rhythm? But this too yielded negative results.

We have then here a case of functional aphonia, due either to hysteria, debility, anaemia, or to menstrual suppression, and indicated by a paralysis of the adductor muscles of the vocal cords. Such cases are frequently met with. But how is it possible to account for the permanent rapidity of the breathing in our case? On this point I have not been able to find a ready and perfectly satisfactory explanation. A *temporary* acceleration of the respiratory rhythm is sometimes observed in hysteria. With a pulse at or about the normal figure, the respirations may reach 70 or 80 in a minute, and may thus continue for a short time. Dr. S. Weir Mitchell<sup>5</sup> says: "In other forms of disease, when the breathing becomes rapid, the pulse rate is proportionately increased, but hysteria breaks all laws except its own rules of eccentricity. Where the respiratory rhythm is very rapid, and the pulse about normal, we have a 'clinical curiosity' except it be owing to hysteria. In hysterical subjects, however, rapid breathing may accompany cardiac derangements, which is uncommon, or may exist alone, the pulse being unaffected."

It seems to me that the most plausible theory of this unusual case (for I have in vain sought for the record of a parallel one) is that a localized hysteria was the cause of the two prominent symptoms, namely, the aphonia, which is not uncommon, and the permanently rapid breathing, which is exceedingly rare. Leaving now this latter feature, I will speak briefly of the prognosis, and lastly of the treatment of phonic palsy.

In cases where the loss of voice has been occasioned by exposure to cold, and which are usually of a catarrhal nature, the outlook is favorable. The same is true of cases of aphonia occurring in hysterical subjects, of those which are a reflex manifestation of uterine disorder, and of the sequelae of diphtheria and croup. Somewhat less favorable is the prognosis in that form of the affection due to habitual over-straining of the voice. According to Naveatil local rheumatic palsies of the vocal cords often disappear spontaneously. If persistent, however, the muscles lose their contractility and become atonic. They may even undergo fatty degeneration. Least amenable to treatment is that form associated with cerebral or spinal lesions.

In many cases of nervous aphonia the simple introduction of a sound, with which the cords are incidentally touched; has sufficed to restore the voice, temporarily at least, and it is a peculiarity of that form of the affection due to hysteria, that while certain cases seem to resist obstinately the most energetic treatment, others yield to the simple contact of the laryngeal mirror. A spontaneous cure is not rare, and of especial efficacy are those influences which act on the mind of the patient.

It is related that at the time when homoeopathy was most flourishing in France, Trousseau and Tournand cured several cases by means of marshmallow pills, the patients supposing that they were being treated after the most approved homoeopathic style.

Dr. H. K. Oliver<sup>6</sup> has proposed a method of treat-

<sup>1</sup> Virchow's Archiv, vol. xxvii., 1863.

<sup>2</sup> Berliner klin. Wochenschrift, 1869, page 407.

<sup>3</sup> Diseases of the Throat, page 344.

<sup>4</sup> Clinical Medicine, page 162.

<sup>5</sup> Nervous Diseases, page 188.

<sup>6</sup> American Journal of Medical Sciences, 1870.

nent by external manipulation of the larynx, which is now mentioned by most writers on the subject. Briefly, this consists in the compression of the alae of the thyroid cartilage in their posterior and upper part by the thumb and forefinger. The patient is told to attempt to produce a vocal sound while the larynx is being compressed. It was found that usually, after a little prevalence, a feeble sound was produced, and this was followed by a normal voice sound. The chief thing is to make the cords vibrate properly once or oftener. The mechanism, once set in motion, seemed to continue of its own accord. According to his theory the manual external compression produces a degree of approximation of the cords sufficient for a decided resistance to the inspired current of air, while a further approximation, sufficient to cause a vibration of the cords, is effected by forcible inspiratory efforts on the part of the patient. Of course the treatment by manipulation is contraindicated in cases of unilateral paralysis due to pressure. In five out of six cases reported by Dr. Oliver restoration of the voice followed this treatment.

When, as is frequent, the affection is due to catarrh, topical stimulating applications are serviceable, such as tinct. iodine or solution argenti nitrat. (one drachm to one ounce) or tinct. ferri perchloridi (two drachms to one ounce) applied with a brush or sponge probang or in the form of spray. These remedies stimulate the laryngeal mucous membrane, and thus provoke a reflex glottic spasm. Inhalation of the vapor of a mixture containing aqua ammonia and water, equal parts, or chlorine, is also recommended. Skoda was an advocate of turpentine vapor. The inhalation of sulphuric ether is sometimes effective, particularly where there is reason to doubt the genuineness of the affection. Cohen says, with reference to his experience of such cases while an army surgeon during the war, "It was curious to notice, after the patients had learned the object of placing them under anæsthetic influence, how well they could control themselves under the influence of the ether, not a sound escaping them until the moment of unconsciousness, but oblivion having once ensued the effect in coming to was not anticipated, or at least was forgotten under the anæsthetic condition, and the intoxication would be evinced by the usual clamors, when a sudden restoration of consciousness would announce to them with a moral shock the cure of their aphonia."

In insufflations of powdered alum, tanning, or other astringents are sometimes promptly curative in catarrhal cases. Probably not a few of those present have practically tested the value of this method in the clinics of Schrotter, Störk, or Schnitzler in Vienna.

Faradization is mentioned by all writers as the most important therapeutic measure in phonic palsy. Its results are proverbially variable, and while often successful it fails in some instances. Ordinarily one pole of the instrument is applied directly to the vocal cords, the other to the thyroid cartilage externally. Before applying electricity it is considered advisable to wait until any local inflammation has subsided. It should not be forgotten that "in hysterical aphonia" any form of irritation, electrical or otherwise, may cause instantaneous cure, and that some of the most brilliant achievements of mesmerizers and of those who practice laying on of hands and other hummeries have been made in this affection." Tobold, while admitting

the good results of the application of the induced (faradic) current in many cases of paralysis, considers it inferior to the constant (galvanic) current. He testifies that the effect of the latter, especially in phonic palsy, is often prompt, and that it produces comparatively speedy results when the induced current is unsatisfactory or negative. Dr. F. I. Knight says that in cases of functional aphonia arising from bilateral paralysis of the glottis closes, the application of the electric current almost always effects a cure, sooner or later, through reflex action. Dr. Tanner,<sup>2</sup> after commenting on the fact that the treatment of phonic palsy is often unsatisfactory, dwells upon the good results obtained by the application of electro-magnetism to the tongue only, employed in connection with other remedies. Having proved by laryngoscopic examination that the aphonia is not caused by polypi, diseased arytenoid cartilages, or any morbid growth in the region of the larynx, and that there is no inflammation, ulceration, or serous infiltration of the mucous membrane, these organic conditions being often associated with hysteria, and any uterine functional disorders having been, so far as practicable, corrected, his method of procedure is as follows: The patient is placed in an arm-chair, the head being steadied by an assistant. One handle of the instrument (moistened) is then placed in her hand, while the other one is pressed upon the tongue. Usually a loud scream is sufficient evidence to herself and others that the voice has actually returned.

Dr. Seaverns<sup>3</sup> has reported a case in which, after various gargles and inhalations had been tried, and after repeated faradization of the laryngeal muscles had failed, the voice was eventually restored by means of blisters, one of which was placed along the spine, and another over the upper part of the sternum. They were applied at bed-time, and on the following morning the patient, although suffering greatly from the local effect of the blisters, was able to speak. It was a doubtful matter whether the happy result was due to the pain caused by the heroic treatment or to the counter-irritant effect upon the spinal nerves.

Dr. Thaan<sup>4</sup> advocates the actual cautery applied upon different points along the spine, and remarks that this measure is often successful. In attempting to explain its mode of action he asserts that it "probably acts by modifying the cerebral zone which holds the laryngeal trouble under its sway!" He also recommends metallo-therapy. The application of a necklace of gold pieces worn over night was sufficient in one case to banish the aphonia. Whether this result was due to the actual contact of the precious metal or to the moral influence of this attractive therapeutic measure upon the patient's mind is, perhaps, an open question.

After the restoration of the voice pathological conditions<sup>5</sup> which have existed in connection with the aphonia may serve as a guide to the subsequent treatment. Reading aloud for a while every day is valuable as a means of furthering the nutrition of the laryngeal muscles. Absolute rest of the vocal organs is not advisable, but rather their systematic exercise, and this is true even of those comparatively infrequent cases where the aphonia was caused by over-straining the voice.

<sup>2</sup> Lancet, vol. ii., 1879.

<sup>3</sup> Boston Medical and Surgical Journal, August 15, 1878.

<sup>4</sup> Edinburgh Medical Journal, October, 1881.

<sup>5</sup> Flint.

<sup>1</sup> Beard and Rockwell, Medical and Surgical Electricity, page 529.



## RECENT PROGRESS IN GYNÆCOLOGY.

BY W. H. BAKER, M. D.

CAPILLARY DRAINAGE OF THE PERITONEAL CAVITY.<sup>1</sup>

Dr. F. A. KEHRER, in a paper on this subject, after referring to the importance in general surgery of quickly removing from wounds blood and secretions, speaks of the different opinions existing among surgeons as to drainage after operations opening the peritoneal cavity, some considering it a necessity in all operations of the kind, others, and by far the greater number, only when certain complications occur. The problem to be solved is to completely draw off the fluids from a cavity which is only partially filled, having several shallow depressions at its base.

The author now considers the various methods which have been employed hitherto, and notes their objections. The prone position, after fixing short drainage tubes in the abdominal wound, he says, has not been tried, and rightly judges it would be impossible. The second method, by drainage tubes through the vagina, is open to the objection of the difficulty of keeping the vaginal secretions from the abdominal cavity. The third method, by means of drainage tubes through the abdominal wound into Douglas's pouch, is objectionable, because the fluids will flow out only when they have reached the height of the outer end, or must be removed in some manner by suction. The fourth method, that of a syphon, is not applicable, because the fluids are not usually present in sufficient quantity.

The author recommends a fifth method, that of capillary drainage by means of a wick. He has tried it with excellent result. The wick, after being thoroughly disinfected by several hours' boiling in a five per cent. solution of carbolic acid, is drawn through a piece of rubber tubing, and this introduced into the abdominal cavity. The end in the abdomen is divided into three portions: one in Douglas's pouch, the other two at the sides of the peritoneal cavity. The free end is spread out in the gauze dressing. In less than twenty-four hours the dressings become soaked with reddish fluid, so that they must be changed under spray. This occurs several times in the first forty-eight hours, when the secretion as a rule ceases and the tube is removed.

In order to change the wick frequently, which is necessary as the capillary spaces become quickly plugged and the capillary action ceases, the author has prepared a double canula, the outer one being left *in situ*, the inner one removed, and charged with a wick as often as may be necessary.

Dr. Hegar, in a later number of the same journal,<sup>2</sup> refers to the method as described by Kehrer, and says that he has used it in his clinic for several years, with two modifications, however. The first is that he uses a simple glass tube in place of the complicated metal double canula described by Kehrer. The second difference is that Kehrer uses a long wick, the end of which projects from the upper end of the drainage tube and conducts the fluids into the gauze dressings. Hegar regards the procedure as increasing the difficulty of keeping the whole antiseptic, and instead he uses short strands of wool, which are changed as often as they become thoroughly soaked. Ordinarily only in the first twelve hours is a frequent change necessary.

## PERIUTERINE ADENITIS.

A. Courty, in a recent paper,<sup>3</sup> describes a disease which is characterized by severe subjective symptoms, and consists in an inflammation of the lymph channels behind and near the uterus. Numerous clinical observations, and also observations from post-mortem examinations, give the following characteristic symptoms for this affection: pains in the abdomen shooting towards the rectum or ischium (which continue even after the cessation of uterine pains occurring simultaneously) especially on sexual intercourse, and also when sitting, walking, or riding. Touching with the finger or the edge of the speculum always causes pain. On digital examination one finds one or more hard, sometimes smooth, sometimes irregular bodies, the size of beans, or even smaller, behind the cervix uteri, or near by, especially to the right side at the lower edge of the broad ligament. They are sometimes easy, sometimes difficult to reach. The uterus is usually freely movable, and the surrounding tissue normal. Ordinarily there is coexistent a chronic endometritis, or such has preceded it, and the author considers the affection of the lymph channels as dependent upon this cause. Prolapse of the ovary or cellulitis might be confounded with this trouble, but the ovary is larger than these glands, and exudations can be distinguished by their greater extent, their immobility, and their bands of cicatricial tissue.

Treatment should be at first antiphlogistic, later directed towards absorption. Hot-water douches, gray ointment, cathartics, iodine, iron, quinine, and baths are indicated.

## ABDOMINAL DELIVERIES IN THE UNITED STATES FOR 1880.

Dr. R. P. Harris, of Philadelphia,<sup>4</sup> continues his record of the abdominal deliveries in the United States, and gives as the result for 1880 five Cesarean operations, and three Porro Cesarean. The results of the classic Cesarean sections are encouraging, three women and four children having been saved. The antiseptic method of Lister, the cleansing of the abdomen from blood and other fluids, the wire uterine suture, and numerous minor modifications of the operation have undoubtedly contributed to this result. The uterus was sutured in three out of the five cases, with a saving of two. The Lister method was used in two cases, and phlegmasia dolens, which attacked two of the three American Porro cases, occurred in one case.

The results of the three Porro Cesarean sections were one woman and two children saved. With enlarged experience and improved methods we should equal the record of the maternities of Milan and Vienna. The Santa Caterina of Milan has saved six women out of eight, and the Krankenhans of Vienna eight out of eleven; the last six operations in each having been successful.

REMOVAL OF CANCEROUS UTERUS IN A PREGNANT WOMAN.<sup>5</sup>

October 21, 1881, Mr. Spencer Wells performed Porro's operation, or a combination of the operations of Freund and Porro, on a patient aged thirty-seven, between five and six months advanced in pregnancy, and suffering from epithelioma of the cervix uteri. Porro's operation is a supra-vaginal amputation of the uterus in addition to the Cesarean section. Freund's

<sup>1</sup> Centralblatt für Gynäkologie, No. 3, 1882.<sup>2</sup> Centralblatt für Gynäkologie, No. 7, 1882.<sup>3</sup> Archives de Gynäkologie, April, 1881.<sup>4</sup> American Journal of the Medical Sciences, April, 1882.<sup>5</sup> British Medical Journal, October 29, 1881.

operation is total excision of a cancerous uterus by abdominal section. Mr. Wells has combined the two operations.

In this case strict antiseptic precautions were used. The vagina was plugged with wet phenolized cotton wool; then the uterus was exposed by an abdominal incision eight inches long. The fetal movements were active. The uterus was brought out of the wound, the upper half of which was temporarily closed by several silk sutures. The left broad ligament was next transfixed by a stout silk ligature, external to the ovary, and below the Fallopian tube. The same proceeding was repeated on the right side. The bladder was then dissected off the uterus, the walls of which were very thin. A small rent was made into the uterine cavity during the process of separation of the bladder, the liquor amnii escaped, and the fetus, which measured ten and three fourths inches and weighed fourteen ounces, was extracted. The umbilical cord was divided, the placenta being left in the uterus; the fetus made only three or four respiratory efforts. The ureters were invisible throughout the operation.

After the separation of the bladder the cancerous mass close around the os uteri was exposed. The uterus was separated by cutting through the vaginal wall around and quite close to the uterine wall, all bleeding surfaces as they were divided being secured by pressure forceps. All bleeding vessels were then secured by ligatures of phenolized silk. The opening from the vagina into the peritoneal cavity was closed by silk sutures after removing the vaginal plugs of cotton wool. Very little blood was lost. The patient suffered chiefly from sickness during the first two days after the operation, but she said not more than after some of her previous labors. The patient otherwise did well, and eventually recovered. This was the first operation of the kind done in England.

#### ÆTIOLOGY OF LACERATION OF THE CERVIX UTERI.

Dr. Ely Van de Warker, in an interesting paper on this subject,<sup>1</sup> deals very fully with the numerous pathological and mechanical causes of this affection, of which the following is a summary:—

"A. Pathological changes in the cervix may lead to laceration during parturition from: (1) progressive degeneration of tissues due to repeated labors; (2) cervical inflammation and hyperplasia; (3) degeneration of ovula Nabothi, or cysts or follicles degenerated into cavities; (4) softening due to chronic catarrh and inflammation; (5) presence of cicatricial tissue; (6) ardency of vaginal portion occurring at the first stage; (7) oedema due to heart disease.

"B. Deviations from the normal in conditions of the cervix antecedent to the labor due to general conditions, as follows arrested or impaired gestation, softening due to many causes.

"C. Deviations from the normal in the mechanism of labor. (1) Want of balance between radial expansion of cervical canal and elongation; (2) untimely expansion with reference to cervical expansion; (3) excessive amplitude of pelvic strait; or (4) a small fetus permits too sudden expansion; (5) adherent membranes; (6) sudden rupture of membranes, with rapid expansion; (7) administration of ergot.

"D. All the foregoing conditions being normal, the cervix may be endangered from defect in the action of the uterus: (1) irregularity in action of the uterus (uter-

ine polarity); (2) disturbance in direction of descent of head from uterine obliquity; (3) harmony of uterine action disturbed by mental emotion; (4) hysterical state.

"E. Mechanical causes: (1) obstetrical operations; (2) vesical calculi; (3) long-continued distention by arrest of the head at the perineum."

#### MODIFICATION OF PÉAN'S OPERATION FOR REMOVAL OF UTERUS.

Dr. de Zwann, in the Transactions of the International Medical Congress held in London, 1881, gives an account of the removal of a large interstitial fibromyoma of the uterus by Dr. Péan's method. He proposes the following modifications of the method:—

(1) An abdominal incision is made large enough to allow of the tumor being easily drawn out of the abdominal cavity without injury to the peritoneum.

(2) The abdominal cavity is immediately but temporarily closed.

(3) The tumor is surrounded by an elastic band.

(4) The temporary stitches are replaced one by one by permanent peritoneal and surface sutures.

The purpose and aim are:—

(1.) To protect the organs of the abdominal cavity against a sudden chill.

(2.) To obviate all risk of bowels being forced from their position.

(3.) To prevent hemorrhage.

## New Instruments.

### LARYNGEAL FORCEPS.

BY THOMAS AMORY DE KLOIS, M. D.

The forceps of Schroetter consist substantially of a tube which is fixed and contains a sliding wire, or stilet; to the extremity of this wire the forceps are attached.

The motion of closing these forceps is made by a traction on the stilet which partially draws back the forceps within the tube, thus approximating their opposing jaws; therefore, at the moment of closure there is a retraction of the instrument, which often causes

FIG. 1.

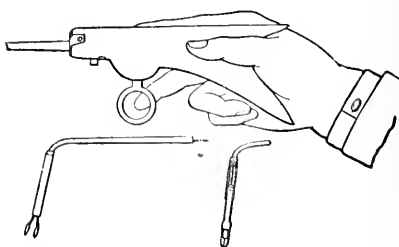


FIG. 3.

FIG. 2.

Figure 1 represents the manner of holding the forceps.

Figure 2 represents the end of the forceps closed, with the covering sleeve removed to show the moving parts.

Figure 3. The end of the forceps open.

the object to elude the grasp of the forceps when otherwise it might be seized.

To obviate this difficulty Turck somewhat changed Schroetter's instrument by fixing the stilet in the handle and pushing the tube over it by a motion of the thumb. Although this change obviated the retraction motion, it substituted for it a motion of translation

of the jaws of the instrument, equal in extent to the other and almost as vicious.

What I have sought to accomplish is to do away with both these motions, by fixing the forceps to the end of an immovable tube. The jaws are approximated by a forceps closer, which slides over them without in any way deranging their position; the whole mechanism is covered by a metal sleeve to protect the parts from contact with the mouth.

I have also so arranged the handle as to be grasped as one would hold a pen; and by making use of the mechanical appliance of the rack and pinion, I have sought to overcome the large amount of friction which seems to distinguish the other forceps.

### Recent Literature.

*Medical and Surgical Reports of the City Hospital of the City of Boston.* Third Series. Edited by DAVID W. CHEEVER, M. D., OLIVER F. WADSWORTH, M. D., and A. L. MASON, M. D. Boston: Published by the Trustees. 1882.

THE surgical portion of the volume is comprised in an account of some cases by Dr. Cheever, a surgical abstract by Dr. Gay, a description of new surgical apparatus by Dr. Bolles, and tables of statistics of amputations by Dr. Burrell, the summary of the latter including all the major amputations since the opening of the hospital in 1864. Of course the chief interest of the surgeon is centred upon the first two, but we propose to touch briefly upon all these contributions. Before doing so, however, we would draw attention to the fact that the present series maintains the high character of its predecessors, and is full of instruction and interest. It seems to be established that the laboring oar in the preparation of these Reports shall fall upon the same members of the surgical staff. Thus, while in the first series Dr. Cheever bore off all the honors, in the second and the present series they have been shared with Dr. Gay. It would seem that in so large a hospital, with so many important cases and operations, and with so distinguished a staff, more might be accumulated in the space of five years that would be of general and permanent interest to the profession, and this not in the way merely of reports of cases and abstracts, but as broad and comprehensive monographs on different subjects connected with the art and the practice of surgery. In this respect we think the present issue falls somewhat behind its predecessors, and the surgical portion does not quite come up to the other contributions. But we are grateful for what has been given us, and would only remind the surgical staff that they have in these reports the opportunity of speaking to a far larger audience than they ordinarily address, and one which is eager to profit by their distinguished learning and varied experience.

The first of the surgical articles is entitled *Surgical Cases*, by Dr. Cheever, and, as might be expected, contains the reports of some operations which add to his already brilliant reputation for boldness and skill, but from which the ordinary surgeon would shrink.

The first cases are under the head *Excision of the Goitre*. Four cases were operated upon successfully, and so far as known no recurrence has taken place. A fifth case, in which excision was impossible, was treated by setons, and the patient died of pyæmia in a week's time. We are glad to find that when the tumor is

small Dr. Cheever will in the future advise a six months' use of the iodides of iron and potash, the latter in cumulative doses. Of course it is hardly necessary to remind the reader in this connection that, when the enlargement is chiefly cystic, a cure has often been effected by the injection of the tincture of iodine.

Under the head of *Aneurism* Dr. Cheever reports an extremely interesting case of temporal aneurism of the cirsioid variety, which was safely conducted to a permanent cure after repeated operations. Dr. Cheever, like a skillful general, planned his attack so as first to cut off the main supply of the tumor by tying the external carotid, and thirteen days later ligating the tumor by "seventeen deep sutures radiating from the incision toward the periphery." During the latter operation thirteen ligatures were used to check hæmorrhage. In the preliminary operation the benefits of Listerism were shown in the fact that the wound healed by first intention, and the risks of secondary hæmorrhage were happily avoided.

Dr. Cheever reports a second case of excision of the tonsil for a malignant growth, the first having been reported in the first series of the *City Hospital Reports*. In the present instance the tumor was attacked from without through a section of the lower jaw, just in front of the masseter muscle. Tracheotomy was performed. The operation was accomplished successfully, the divided bone wired, and the wound closed. For a short time everything promised well, but at the end of a month a bubo was removed; in two months the tumor had started again, and was twice burned away, and in five months "the pharyngeal tumor was larger than ever, and the bubo was recurrent in an enormous growth!" After reading the extremely interesting and instructive account of this case we were struck with the grim humor of the first sentence of the closing paragraph: "The question remains whether, in view of such rapid and persistent recurrence, as in the second case, it is worth while to interfere with cancer of the tonsil at all by operation." To our mind the question does not remain, but is definitely answered, and we think most surgeons take this view.

But we cannot dwell longer upon this article, and pass to the surgical abstract. The first subject that arrests our attention is the diagnosis, prognosis, and treatment of malignant growths, and we agree fully with the views advanced and with the indorsement of Prof. S. W. Gross's valuable work on *Tumors of the Mammary Gland*. In the absence of certainty in the diagnosis, and in the firm belief that an early operation secures a prolonged life, freedom from pain for a while, and encourages hope, we have always advocated early and repeated operations. So far as those on the breast are concerned we are left a little in doubt whether the writer has practiced the method of operating advised by Dr. Gross. For ourselves we have not yet been convinced of the advantage of the large open wound left to granulate, over the ordinary method, provided the incisions in the latter are well removed from all apparent disease. We question whether the majority of surgeons have as yet yielded their adhesion on this point to the views of Dr. Gross. In the operations for malignant growths of the tongue we find no mention made of the valuable procedure brought forward by Dr. G. F. Shrady, namely, ligation of one or both of the lingual arteries as a preliminary step. In a recent case at the Massachusetts General Hospital this was done by Dr. Warren, and the removal of

the entire organ was almost bloodless. There is one more point in this connection to which we would refer, and that is the treatment by caustics. We agree entirely with the writer's view that their use is extremely limited, and that excision presents every advantage, and yet we find, in common with other surgeons, we presume, that patients often slip away from us, and prefer the slow torture of the "cancer doctor's" method. It is evident that the sound views of the writer, and, we think, of the profession, need to be widely disseminated among the laity.

In the operations upon the vessels for aneurism, etc., we are disappointed in not finding more positive testimony for or against the use of animal ligatures. In one case of Dr. Thornthike's it is stated that "the operation was antiseptic," and perhaps the animal ligature was used; in six days there was secondary hemorrhage, but probably it was not due to the slipping of the ligature. In a case of Dr. Gay's the femoral artery was tied "with a double catgut ligature" with entire success. These are the only references in this connection to the animal ligature.

The experience of the hospital in operations for strangulated hernia is not particularly favorable. Of twenty-six cases operated upon twelve died. The advocates of the views so strongly urged by the late Dr. Erskine Mason will feel themselves fortified by the statement that "the sac was opened in every case but two," which were of femoral hernia, and both of which recovered! We are glad to find some testimony as to the value of the Heaton method of obtaining a radical cure. The writer has given us the result of his experience in eighteen cases of rupture, partly in private practice, and of these five only were cured, eight were, and five were not, relieved. We presume that is quite as favorable a showing as can be given, and it has always seemed to us that the operation by no means warrants the merit attributed to it. We should, from a limited observation, be inclined to ascribe more risk to it than does Dr. Gay, and we think that many of the cases in young persons, and with small rings, would have been equally cured by the application of a well-fitting truss. It is precisely in the cases with large rings and large tumors that the need of the operation is greatest, and in these it seems signally to fail.

Under Head Injuries we notice a fact bearing upon the diagnosis of fracture of the base of the skull. "Of twenty-nine cases with hemorrhage from the ear," seven recovered, and of fifty cases of the kind occurring in ten years nineteen recovered. We believe that this sign is no sure indication of fracture of the base, and the large proportion of recoveries here stated would seem to indorse that opinion. The operation of trephining has been performed "five times in as many years," with the fortunate result of three successful cases. This operation is evidently once more in the ascendant with American surgeons, and we think with propriety. If it is reasonably clear that the substance of the brain or its coverings are pressed by bony fragments, there can be no question of the propriety and advisability of the operation. To wait for symptoms is in such a case a sign of timidity, and fraught with danger to the patient.

Among the operations for excision we find eight of the hip with a mortality of six! The previous record of the hospital had been more favorable, showing more than half relieved or cured. But we think, except for certain quarters, the conclusions of the writer are true,

namely, that the operation is less frequently employed than formerly, and conservative measures are found to yield more satisfactory results. We observe, too, that of eight excisions of the elbow none required a subsequent amputation, which speaks volumes for the skill of the operator and the subsequent care of the patients, although something may be due to the selection of the case. There was no excision of the knee-joint, and we regard this as silent testimony to the fact that this operation is not held in favor. We are inclined to think that, for this joint, amputation presents the greater advantages.

We cannot dwell longer upon this abstract, but would recommend to the reader's perusal the singular case of removal of a stone from the abdomen by Dr. Thornthike, and two cases by Dr. Gay, one of oesophagotomy, performed at the expiration of forty-eight hours, and one where rhinoplasty, judging from the heliotypes, relieved a most hideous deformity.

The "new surgical apparatus," brought forward by Dr. Bolles, certainly commends itself for its ingenuity. We cannot confess to any special leaning towards it, however. The adjustable fracture box is so complicated in its simplicity that we hardly think it will come into general use even in hospitals. To us it seems as if, at this late day, time was lost in devising new splints and apparatus. A few sheets of wadding, a few metal strips, and a few plaster bandages, with a good knife, and a fair amount of skill and quickness of observation, will make a patient quite as comfortable, and are much more available, than most of the appliances with which the lumber rooms of our hospitals are filled.

We turn now to the statistics of amputations as presented in the table for fifteen years since the opening of the hospital, and for the purpose of comparing the results obtained we present the statistics of the Massachusetts General Hospital, as given by Dr. Chadwick, and the interesting tables published by Dr. Ashhurst in Wood's International Encyclopedia, which include the statistics of Dr. Chadwick. We have grouped the three classes of cases, that is, the traumatic primary and secondary, and the pathological, and give the gross result:—

|                    | City Hospital. |                     | Massachusetts Gen. Hospital. |                     | Ashhurst's Tables. |                     |
|--------------------|----------------|---------------------|------------------------------|---------------------|--------------------|---------------------|
|                    | Cases.         | Mortality per cent. | Cases.                       | Mortality per cent. | Cases.             | Mortality per cent. |
| Shoulder . . . . . | 21             | 42.9                | 26                           | 42.3                | 1387               | 37.7                |
| Arm . . . . .      | 68             | 27.5                | 76                           | 18.6                | 7284               | 28.4                |
| Elbow . . . . .    | 2              | 0                   | —                            | —                   | —                  | —                   |
| Forearm . . . . .  | 42             | 11.9                | 88                           | 19.1                | 2820               | 19.4                |
| Arm . . . . .      | 4              | 100.0               | 3                            | 33.3                | 633                | 64.1                |
| Thigh . . . . .    | 167            | 69.4                | 233                          | 28.8                | 6696               | 63.8                |
| Knee . . . . .     | 13             | 46.1                | 16                           | 43.7                | 794                | 47.7                |
| Leg . . . . .      | 38             | 27.5                | 267                          | 21.7                | 6247               | 34.3                |
| Ankle . . . . .    | 23             | 13.1                | —                            | —                   | —                  | —                   |

We thus see that the records of the hospital show a very favorable result in comparison with the large number of cases tabulated by Dr. Ashhurst, with the single exception of the hip-joint amputations, and this is particularly true of the amputations of the thigh, leg, and forearm.

Without trespassing farther upon our limited space we will only express our regret that we have not some more positive testimony, *pro* or *con*, from this great

hospital upon the point which is so widely discussed, antiseptic surgery. The report shows most conclusively what a large amount of work is done, and well done, by the able staff of surgeons connected with the hospital. It would be gratifying to the profession if the series was continued at shorter intervals than that of five years.

## Medical and Surgical Journal.

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### FOURTH ANNUAL REPORT OF THE BOARD OF HEALTH OF THE STATE OF RHODE ISLAND.

THE fourth annual report of the State Board of Health of Rhode Island contains, like its predecessors, some interesting things. The secretary's report, with which it opens, covers the usual ground. The general report is for the year ending December 31, 1881, but the figures dealt with are for the year 1880.

The whole number of births recorded in the State of Rhode Island during the year 1880 was 6295; the whole number of marriages 2769; and the whole number of deaths 4829.

From the secretary's report in regard to the returns of vital statistics we take the following items:—

The number of births, marriages, and deaths do not occur with any regularity from year to year, but the opposite is the rule. At the same time there is a gradually increasing number of each of the classes of events, taking periods of five years together, corresponding in some degree with the increase of population. A comparison of the results of registration during the year 1880 with the previous year will show that of the whole number of births there were 55 less than during 1879, and of living births 31 less. There were in the whole number of births during 1880 419 less than during the year 1878, and with one exception less than in any year since 1873. With an increase of population during these years of between 20,000 and 25,000 there must have been causes outside of natural causes to have so largely lessened the ratio of births to population. The number of marriages during 1880 was 373 larger than during the previous year, and larger by 139 than in any other year during the whole period of registration. Of deaths there were recorded 357 more than during the previous year, the number being the largest ever recorded in any one year.

**BIRTHS.** In the division of births it will be found that the average proportion of that class of events to the population varies from one birth in every 33.54 persons, or nearly three per cent., in Bristol, to one

birth in every 99.59 persons, or about one per cent., in Jamestown.

The towns having an exceptionally high birth-rate, following Bristol, are: Lincoln one birth in every 35.61 persons; Woonsocket, one in every 36.29; North Providence, one in every 40.92 persons.

Of the 6295 children whose births were reported in 1880, there were 3241 males and 3054 females. This gives 104.8 males to each 100 females, or 5148 males and 4852 females in each 100 children.

There has been no year during the whole period of registration in which the number of male children born during the year has not exceeded the number of female children born during the same time. In 1865 the proportion was 112.9 males to each 100 females, or about 53 males and 47 females in each 100 births, an excess of 60 males in each 1000 births. In 1880 the male children born were in excess in every county except Washington, and also in excess in the cities of Providence and Newport. The proportions, however, vary considerably, though the larger the population the less the variation from year to year.

During a period of twenty-seven years the average order of the occurrence of births in the different quarters of the year, from the smallest number upward, has been as follows, namely, second, first, third, fourth. The returns for 1880 show the same result. During the period of five years, from 1858 to 1862, inclusive, the proportion of births of purely American parents was nearly one half of the whole number. The proportion of births of children of the same parentage gradually lessened until in 1876, fourteen years thereafter, it was only 40.84 per cent. It then, in the following year, began to increase, and has so continued to the present time, the difference between the year 1879 and 1880, however, being exceedingly slight, a simple falling off of less than three hundredths of one per cent. The maximum proportion of births of children of purely foreign parentage occurred between 1863 and 1867, since which time, with slight exceptions, the proportion has gradually declined. In 1863 the proportion of children born of foreign parentage was 46.79, the largest during the existence of the State. In 1880 the proportion of the same was 40.60. In the mean time the proportion of children born of American fathers and foreign mothers has increased from 3.72 per cent. in 1863, and in the average of five previous years, to 6.62 per cent. in 1880. At the same time, and during the same period, the children born of foreign fathers and American mothers have increased from the proportion of 3.45 per cent. to 9.23 per cent. Previous to 1863 the number of children born of mixed parentage was scarcely more than seven per cent. in any year. In 1879 the proportion of the same was 15.90 per cent., and in 1880 15.85 per cent.

**MARRIAGES.** For various obvious reasons the marriage rates of the different towns present very much less uniformity than those of either births or deaths. The proportions vary from one person married in every 32.69 of the population, or 3.06 per cent., in Foster, to one person married in every 163.42 persons, or 0.61

per cent., in Cranston, a difference of more than five to one. It has happened, with scarcely an exception, during the whole period of registration in Rhode Island, that the largest number of marriages in any quarter of the year have been in the last quarter, and the smallest number in the first quarter. The difference in percentage between the first and last quarters of 1880 is larger than the average of twenty-seven years, and the percentages of first and third quarters of 1880 are smaller, and the second and fourth are larger than the average of the long period.

**DIVORCES.** The number of applications for divorce reported from the different counties in Rhode Island in 1880 was 347. This number is 92 more than in 1879, and 89 more than in 1878. During the year 1880 there were 273 applications for divorce granted, which were 27 more than in 1879, and 77 more than in 1878. The proportion of the number of divorces granted during the year 1880 to the number of applications for a decree of divorce was 78.6 per cent. This proportion is rather larger than the average of a series of years. The number of applications for divorce in 1880 was an excessive increase over that of any preceding year. The ratio of applications to the whole number of marriages during the year was one application for divorce to less than every eight marriages.

**DEATHS.** The greatest mortality, in proportion to population, is found in the city of Providence, with an annual average of one decedent to every 50.24 persons, or 1.99 per cent., following which is the town of Woonsocket, with an annual average of one decedent in every 51.66 of the population, or 1.92 per cent. Following Woonsocket in the bad eminence of a high death-rate are, Cranston, with the average annual ratio of 1.82 per cent.; Richmond and West Greenwich, 1.71 per cent. each. For the period of ten years no town in the State shows an average annual death-rate as high as two per cent., the city of Providence, however, falling short by only a small fraction.

The minimum ratio of mortality to population is found in the town of Jamestown, with one decedent to every 116.19 persons, or 0.86 per cent. Jamestown, it will be remembered, had also the minimum percentage of births.

As a rule it will be found that a high birth-rate in any town will also be attended by a high death-rate. The reason will be obvious when it is remembered that of every 100 children born in the State of Rhode Island during the last twenty-five years 35 have ceased to exist at the end of five years.

Of the 1829 persons whose deaths were returned during the year 1880, 2366 were males, and 2463 were females; the ratio standing at 96.06 males to each 100 females, or 18.96, males, and 51.01 females in each 100 decedents.

During a period of ten years previous to 1863, the number of female decedents exceeded the male decedents by about an average of three per cent. each year, and during the eighteen following years the rule then apparently established has held good, the exceptions being simply confirmatory, the average only being slightly less. But at the same time the records of death have

shown an excess of mortality in the female sex, the records of birth have shown an excess of births of the male sex. This would naturally lead to the supposition that the number of the male sex must be increasing and *vice versa*. By the census of 1880 the population of the State by the sexes was as follows: Males, 133,030; females, 143,501. This will show an excess of 10,471 females in the general population. It is obvious that there is either a larger proportional immigration of females, or a larger proportional emigration of native males from the State, to account for the difference. Probably the fact is the result of both circumstances. This excess of female population would account for the excess of mortality in numbers of the female sex.

The decedents of American parentage have been steadily losing in the proportion to the whole number, from year to year, until in 1880 there was a slight gain, not reaching one per cent.

On the other hand, the decedents of foreign parentage have been steadily increasing in percentage as well as numbers, except as just stated.

August, which for a long period was the first of the different months of the year in the order of largest mortality, has fallen to the second place in the list during the last four years. June is the only month in the year which has sustained its place on the list without large change.

In addition to the secretary's report the volume contains papers on Malaria in Rhode Island by Dr. C. V. Chapin, of Providence, on Prenatal Education by Dr. Franklin C. Clark, of Providence, and one on House Drainage and Sanitary Plumbing by William Paul Gerhard, of Newport.

In regard to malaria Dr. Chapin says, reviewing the returns from different parts of the State: "It appears that though a few cases of malarial disease had been noticed in the State prior to 1880, that was the first time that any serious outbreak had occurred in many years, in fact since the early settlement of the colony. During the summer of 1880 intermittent fever, which had been slowly approaching us from the valley of the Hudson, seemed to gain a firm foothold on Rhode Island soil, and a very serious endemic occurred at the works of the Nayatt Brick Company, in Barrington. Only a comparatively few cases were reported from Providence and one or two other places. In the summer of 1881 it had certainly not decreased in Barrington, and had increased to an alarming extent in Providence and other towns which had been only slightly visited before, and appeared to the extent of a considerable number of cases, in many places hitherto exempt. The regions that were particularly affected were the low-lying portions of Westerly, the town of Barrington, the lower portion of the valley of the Pawtuxet River, together with the region drained by the streams there flowing into it, and the valley of the Blackstone, especially from Central Falls to the Massachusetts line. All these regions abound in marshes, swamps, and reservoirs, subject to frequent and great change of level. The subsoil is usually sandy and gravelly, more rarely clayey. Un-

usual excavations were in progress in one or two places. The streams and reservoirs were exceedingly low on account of the severe drought, but, on the whole, it would be rather unreasonable to say that the difference in the physical conditions of these places last summer was the cause of the prevalence of malarial disease. Neither were the atmospheric conditions so different from those of former years as to warrant the theory that we could here find a sufficient cause for the development of malaria. Almost the only general statement that can be made after a review of the reports from the several towns, is, that malarial disease first appeared in the immediate vicinity of low, wet regions, and that during last summer the *immense majority* of the cases occurred within a short distance of such places, a few occurred near excavations, and some very few apparently had no connection with either. Except in rare instances, there seemed to be no relation between the disease and imperfect sewerage."

Mr. Gerhard, in his paper on House Drainage and Sanitary Plumbing, points out the dangers arising from the introduction of the so-called "modern conveniences" into our dwellings, and at the same time establishes good and safe rules for the proper drainage and plumbing of houses. The various details of drains, traps, methods of ventilation and different forms of water closets and water fixtures are made plain and clear by some very good illustrations.

#### THE GUTEAU AUTOPSY.

THE autopsy of the assassin of President Garfield did not indicate the presence of any pathological condition characteristic of insanity, nor, on the other hand, could it be inferred from the appearance of Guiteau's brain that he was not insane. If his disease were the so-called moral insanity, which had developed into chronic subacute mania with periods of greater and of less excitement from time to time, the results of the microscopic examination will be equally negative.

So far as the official report is concerned, the conclusion cannot be reached that the post-mortem examination has shown the brain to be of a low type in development or asymmetrical to an extent which would make *primäre verrücktheit* a fair inference.

Indeed, the relation between degrees of asymmetry of the brain and congenital defects, on the one hand, and, on the other hand, between demonstrable evidence of physical disease and insanity, is so little understood at the present time, that there are very few of the mental diseases associated with lesions of the brain which may be said to be characteristic of these diseases. In general paralysis of the insane, only, might a microscopic examination prove a particular form of insanity when nothing definite could be learned from the gross appearance of the brain. It can be still said, however, that some mental aberration is more likely in the individual whose brain shows signs of local inflammation than in him whose brain is perfectly healthy, and that easily recognized marks of patholog-

ical changes are more common in those who have been for a long time insane than in others whose physical and mental health has been good.

The fatality or bad arrangement which has marked this unfortunate case throughout has pursued it to the end; and the record of the autopsy is most conspicuous by the absence of that scientific accuracy and thoroughness which were so much to be desired.

#### THE MEDICAL TESTIMONY AT THE GUTEAU TRIAL.

IF it is true, as is suggested by Mr. Lyman in his note last week, that the medical experts called to testify in the case of Guiteau had a right to demand of the lawyers that they should be asked certain questions, it is a fact that those gentlemen did not know that they could do so.

The prosecution adopted the theory that Guiteau was sane and responsible, the defense that he was acting under the insane delusion of inspiration, and both discharged, or failed to examine, those physicians who did not adopt the view favorable to their theory. We had always supposed—it certainly is the custom—that lawyers call what witnesses they please, and ask them only such questions as they choose.

Our experience of public opinion in this matter is quite different from Colonel Lyman's. Many persons, including lawyers, consider Guiteau insane, although they differ in opinion as to hanging him. To be "bad and depraved" is quite characteristic of insanity. If we would hang, immediately upon commitment to an insane asylum, those of the insane whose disease has let their worst passions loose, we might save many murders and more dangerous assaults upon asylum officers.

With this we hope to be allowed to take leave, at least for the present, of this case and its immediate consequences. All sides and all opinions have been given a fair hearing in our columns. In forming and advocating our own opinions we have been influenced by a careful consideration of all the details presented by the case as they have been brought to light, and not at all by the names or the numbers of those differing from us.

#### AN ACT TO PREVENT THE SPREAD OF CONTAGIOUS DISEASES.

APPENDED is the draft of an Act reported at the ninth annual meeting of the American Public Health Association, at Savannah, December 2, 1881, by a committee appointed for the purpose and in accordance with a vote passed at the eighth annual meeting at New Orleans in 1880. The committee was instructed to make a final report at the tenth annual meeting in October, 1882, at Indianapolis. As most of our readers know, the chairman of this committee is Dr. Albert L. Gihon, Medical Director United States Navy, Washington. Suggestions are requested by the committee of such a character as may enable

it the better to complete the duty with which it is charged, which is to secure uniformity in legislation in the States of the Union for the prevention of venereal disease.

The form of this Act is considered advantageous and calculated to win general support, in that men and women are put on the same footing, and there is no suggestion of a licensed prostitution; but the penalty of imprisonment for communicating contagious disease will be a new one.

ARTICLE I. *Be it enacted by the* [Senate and House of Representatives of the State of ]

That any person within the jurisdiction of the State [or Territory], who shall knowingly communicate, or be instrumental in communicating, directly or indirectly, any contagious disease, such as small-pox, scarlet fever, or venereal disease, shall be guilty of a misdemeanor, and subject upon conviction in any court having cognizance of misdemeanor [where the offense may have been committed] [in the State or Territory], to the punishment of six months' imprisonment in the [county jail].

ART. II. That if any person being the owner, agent, or occupant of any house, room, or place within the jurisdiction of this State [or Territory], shall have reasonable cause to believe any person located permanently or temporarily therein to be affected with a contagious disease, and shall fail to make such fact known to the proper health authorities [or if there be no such officials, to the nearest magistrate having jurisdiction of misdemeanor], he or she shall be deemed guilty of a misdemeanor, and upon conviction in any court having jurisdiction of misdemeanors [where the offender may reside or the offense have been committed], shall be liable to a penalty not exceeding [five hundred] dollars or to imprisonment not exceeding six months, or to both.

ART. III. That the State Board of Health, with the approval of the Governor, and the Health Board of the city of , with the approval of the mayor of said city, shall have power to institute and carry out all suitable measures to prevent the spread of diseases of a contagious character, and may, if deemed advisable, remove to proper hospitals selected by them, all persons suffering from contagious diseases, who, neglecting proper precautions, imperil the health of the community.

ART. IV. That this Act shall go into effect from and after the day of , A. D.

### MEDICAL NOTES.

—We very much regret that an accident to the press last week delayed the delivery of the JOURNAL from Thursday until Monday. Some contributions, and especially the abstract of the Harveian oration, by Dr. George Johnson, thus losing the freshness they might otherwise have had.

—Considerable excitement was recently created in the town of Paterson, New Jersey, by the extraordinary conduct of a small-pox patient of the public pest-house. During the absence of the nurses at breakfast, about seven in the morning, he sprang from the window and made his escape, having nothing on but his undershirt. He wandered about the country, meeting with various adventures, and it was several hours before Dr. Hurd, one of the city physicians, succeeded in finding him and getting him in an ambulance. On the way back to the hospital the man jumped from the vehicle and started to run, but was soon recaptured. Scarcely had he been placed in bed, however, before he again jumped from the window, and made off for the mountains. This time he was caught more quickly, and when brought back was tied fast in bed with strips of sheet torn up for the purpose; but about two o'clock word was received at the

police station that he had a third time escaped, and was running naked through the principal street of the town, followed by about five hundred persons, principally children. Several officers started in pursuit, and he was finally captured in a cellar, from whence he was taken again in the ambulance to the hospital, where he was so securely fastened in bed that further escape was impossible. The health authorities then published a notice to all persons who had come in contact with the man to visit the city physician's office and be vaccinated free of charge.

—Dr. Milo A. Wilson, of Denver, Col., died in New York, on July 6th, of Bright's disease. He was a son of the late Dr. R. A. Wilson, of Pittsburgh, and a brother of the late Cregan Wilson, and formerly practiced in New York, where he was assistant surgeon of the Seventh Regiment. At one time he was much interested in experimenting with the effect of music on the insane in the asylums on Blackwell's and Ward's Islands.

—Among the recent discoveries promotive of the comfort and happiness of human kind none is more important than the uses to which common ammonia can be properly put as a leavening agent, and which indicate that this familiar salt is hereafter to perform an active part in the preparation of our daily food.

The carbonate of ammonia is an exceedingly volatile substance. Place a small portion of it upon a knife and hold over a flame, and it will almost immediately be entirely developed into gas and pass off into the air. The gas thus formed is a simple composition of nitrogen and hydrogen. No residue is left from the ammonia. This gives it its superiority as a leavening power over soda and cream of tartar when used alone, and has induced its use as a supplement to these articles. A small quantity of ammonia in the dough is effective in producing bread that will be lighter, sweeter, and more wholesome than that risen by any other leavening agent. When it is acted upon by the heat of baking the leavening gas that raises the dough is liberated. In this act it uses itself up, as it were; the ammonia is entirely diffused, leaving no trace or residuum whatever. The light, fluffy, flaky appearance, so desirable in biscuits, etc., and so sought after by professional cooks, is said to be imparted to them only by the use of this agent.

The bakers and baking powder manufacturers producing the finest goods have been quick to avail themselves of this useful discovery, and the handsomest and best bread and cake are now largely risen by the aid of ammonia, combined, of course, with other leavening material.

Ammonia is one of the best known products of the laboratory. If, as seems to be justly claimed for it, the application of its properties to the purposes of cooking results in giving us lighter and more wholesome bread, biscuit, and cake, it will prove a boon to dyspeptic humanity, and will speedily force itself into general use in the new field to which science has assigned it. — *Scientific American*.

—The monthly report for May of the Connecticut State Board of Health says that malarial diseases



are reported as extending slowly over the hitherto unaffected parts of the State, while in the places where they appeared years since the cases are not as numerous of acute ague, but the irregular and masked forms are more prevalent as well as malarial cachexias, that is, chronic malarial poisoning. As the warmer weather approaches the frequency and severity of all forms and types show a marked increase. This is the general report without specifying localities, which would take too much space.

—A boy at play in a court-yard, in Glasgow, a few weeks ago, happened to sit down on a flagstone above a printer's premises. In this flagstone there was an aperture, and while the lad was sitting there some one thrust upwards a red-hot iron, which penetrated some distance into the rectum of the boy, inflicting such injuries that he died at the Glasgow Royal Infirmary in the course of two days. Some arrests have been made in connection with the occurrence.

—There is at present in the wards of the Glasgow Western Infirmary, under the care of Prof. George Buchanan, an interesting case of gun-shot wound of the abdomen. About three weeks ago the patient, a young man, aged twenty-six, was accidentally shot by a companion while examining some revolvers. The two were standing quite close to one another at the time of the occurrence, and the bullet entered the abdomen of the wounded man. He was without delay removed to the infirmary. On admission there he was found to be in a state of great collapse, and an examination revealed a wound just below the ensiform cartilage, and to the left side. From this wound, which evidently communicated with the abdominal cavity, some bloody serum issued. The patient complained also of pain in the left thigh and leg, which was relieved by flexing the limb. No wound of exit of the bullet could be detected, but the injury received was evidently of so serious a nature that the patient was not expected to survive. Next day, however, he rallied, and no bad symptoms showed themselves. There was no vomiting, the bowels acted regularly, and no peritonitis supervened. Last week, however, he complained of pain in the left lumbar region, and some swelling showed itself, accompanied by a rise of temperature. On the 23d ultimo Prof. George Buchanan cut into this swelling, with antiseptic precautions, and found a cavity filled with blood. On introducing his finger he came upon the broken transverse process of one of the vertebrae, and further examination detected the bullet lying in the erector spinae muscle of that side. The patient has progressed very favorably since the operation. No doubt the case will be reported at full length subsequently. The *British Medical Journal* believes that it possesses special interest when contrasted with the late President Garfield's case.

## CHICAGO.

—The reorganization of the staff of the Cook County Hospital lately made by the Board of County Commissioners has resulted in an increase of the number of members to eighteen, and the addition of Drs.

R. L. Rea, D. W. Graham, Sarah Hackett Stevenson, Marie J. Mergler, John B. Murphy, and Geo. P. Cunningham.

—The public attention to small-pox has almost entirely abated. The practice of vaccinations has decreased to such an extent that the trade in bovine virus has so far fallen off that it is impossible always to procure of local dealers a perfectly fresh article.

—A few cases of typhoid fever have occurred this summer so far, but so few compared to the number at this time last year that it encourages the hope that nothing like an epidemic of the disease is to occur. Probably at this time there are less than a quarter as many cases of this disease in the hospitals as there were a year ago, and a year ago now there were fully three times as many cases as there were two years ago. Evidence comes to us daily from the country about Chicago that the disease is generally less prevalent than last year.

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### Miscellany.

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#### A REMONSTRANCE AGAINST CUTTING DOWN THE APPROPRIATION FOR THE NATIONAL BOARD OF HEALTH.

THE Michigan State Board of Health have memorialized the National Senate and House of Representatives, remonstrating strongly against the proposed reduction in the appropriation. This would be a good example for other State Boards to follow. Unfortunately the Massachusetts Board of Health, Lunacy, and Charity has no meeting until the first Saturday in August. We reproduce the text of the Michigan remonstrance:—

MICHIGAN STATE BOARD OF HEALTH, OFFICE OF }  
THE SECRETARY, LANSING, MICH., July 12, 1882. }

To the Honorable the Senate and House of Representatives in United States Congress assembled:—

Your memorialist, the Michigan State Board of Health, respectfully represents:—

That small-pox, diphtheria, and scarlet fever have been and are being repeatedly introduced into this State by immigrants newly arrived from foreign infected places, and by travelers who have come in contact with such immigrants; that because of the rapidity of travel, and the vast amount of inter-State travel, it is impossible for State or local boards of health without extraordinary interference with inter-state commerce to successfully quarantine against or effectually control these diseases while the United States government permits one or more of them to be introduced so frequently as of late by immigrant vessels which reach this country; that while in ordinary years the introduction of scarlet fever and diphtheria is believed to be of exceeding consequence in causing epidemics, in swelling the death-rates, sickness-rates, pauperism, and general suffering, cholera and yellow fever are sometimes thus introduced, and at the present time small-pox is causing especially widespread disaster in this and other Western States; that, by reason of such introduction of diseases, the lives, health, and happiness, those dearest and most important interests of our people, are constantly destroyed or placed in imminent danger from those foreign pestilences from which it is entirely possible for the United States government to afford protection; that we believe that it is the highest duty of a government to protect the lives of its citizens from dangers which threaten all, and from which no other than governmental protection is adequate; that it is with deepest apprehension that this State Board of Health learns that by reason of insufficient provisions, in the Sundry Civil Service Appropriation Bill, for the National Board of Health, the important work which that Board has lately commenced and is expected to do is likely to be crippled; that this Board

believes that now, more than ever before, is a most inopportune time to lessen in any way the activity and usefulness of the National Board of Health, believing as this Board does that there is no other governmental department, bureau, or "service" so closely connected with the highest interests of all citizens and of humanity.

Therefore this State Board of Health earnestly prays Congress to grant sufficient appropriations to the National Board of Health, and to make such other provisions as will enable it to continue the immigrant-inspection service at all important ports of entry, and on important lines of travel, and to provide in every possible way for the protection of the whole country from cholera and yellow fever, and also from those contagious diseases heretofore mentioned which are well known as causing the most deaths and distress throughout the greater portion of this country.

By direction and on behalf of the Michigan State Board of Health. LE ROY PARKER, *President*.

HENRY B. BAKER, *Secretary*.

### THE BIRTH OF AN ELEPHANT.

DR. GUSTAVUS E. SUSSDOFF, of New York, contributes to the July number of the *New York Medical Journal and Obstetrical Review* an account of the process of parturition as it took place in the case of the elephant "Queen" last February. The period of gestation was 597 days. There was no noticeable enlargement of the abdomen until it suddenly became quite prominent the day before labor began. This enlargement did not subside with the expulsion of the fetus and after-birth, but continued four days longer. During the latter months the mammae became swollen, and soon filled with serous milk. These were the only signs of pregnancy to be seen. The labor began at three p. m., February 2d. At this time the mammae were greatly distended with milk, which came away continuously in drops. The vagina now began to drop down and swell. In a short time thick mucus began to come from the vagina in long ropy strings, and almost poured out just before delivery. From three until eight o'clock "Queen" was evidently uneasy, as she constantly moved her body from side to side, but did not seem to suffer *pain*, and quietly munched some hay up to the very moment of delivery. At 8.10 the young elephant was born, the head presenting, completely enveloped by the unbroken membranes. The head and part of the body rested between the hind-legs of the mother, and touched the ground. Without waiting a moment, the mother ruptured the membranes with her two hind-feet, when the young one rolled out, on its back. The membranes were no sooner liberated than they quickly returned into the vagina. The umbilical cord had not been seen at all, having probably been torn away during the descent of the fetus. The mother now quickly turned to the young, and, on seeing it, began to roar and bellow furiously, which she continued for ten minutes. As soon as she saw the baby she also at once placed one fore foot on it and rolled it several times, as one does a lemon under the palm of the hand, the bellowing and roaring continuing. In a moment or two more she placed her abdomen upon a short post in the ground, to which she was chained, standing almost upon her head, and grasping the post with her trunk, thus forcing the abdomen with great power against the post. "Queen" remained in that position for about ten minutes; then became quiet, and, while playing with her young, took some food. Nothing indicative of after-pains could be recognized after this, and in one hour and thirty minutes the placenta was expelled. With it there came

about two quarts of clotted blood. There was no hæmorrhage either from the uterus or from the umbilicus of the calf. The duration of labor was five hours and ten minutes. The calf, a female, weighed 245 pounds, and stood just three feet high. It began nursing one hour and forty minutes after birth. It had two middle upper teeth. The umbilical cord entered the abdomen about three inches anterior to the vagina, and had been detached very close to the abdomen, as none was visible at that point, the canal being open and large enough to admit a good-sized finger for half an inch. Dr. Sussdorff remarks that there are several very interesting and instructive points in this history. First, the period of gestation is evidently not affected by change of climate and captivity, lasting about nineteen and a half months. The time of labor is short, and evidently there is not much pain. The sagacity of the animal is remarkable, as shown by the manner in which she ruptured the membranes, she means she took to excite respiration by rolling the young, and, finally, her effort to express the placenta from the uterus. He then describes the placenta and the fetal membranes, comparing them with those described by Owen, and adds a summary of various observations that have been made of the milk of the elephant as compared with that of other animals, giving drawings which show its microscopical characters in comparison with those of cow's milk.

### OVARIOTOMY.

THE thirty-fifth annual report of the Samaritan Free Hospital for the year 1881 contains various matters of interest. We refer to the report chiefly for the statistics of ovariectomy and its success during the last year. The time has gone by when any hospital or any single operator had a monopoly of skill in regard to this operation. Nevertheless, the association of this hospital with the triumphant vindication of ovariectomy as not only a safe, but a life-saving procedure, gives its operations somewhat of a special interest still. During the year 1881 there were eighty-four ovariectomies and ten deaths. Some were done with antiseptic precautions, and some without. Dr. Bantock treated his cases non-antiseptically. Of thirty-four of his cases eight died, or 23.52 per cent. Dr. J. Knowsley Thornton operated antiseptically in forty-one cases, of which only two died, and Mr. Meredith had nine ovariectomies, with antiseptic precautions, of which none died. Dr. Bantock explains in a note that five of his eight fatal cases died from causes having no bearing on the question of antiseptics—namely, two from shock and the severity of the operation, two from hæmorrhage, and one from intestinal obstruction. Even so, there remain three deaths in thirty-four ovariectomies treated without antiseptics, as against two in fifty cases treated antiseptically. The result is not otherwise in regard to other operations. Thus of eighty-seven non-antiseptic operations thirteen died; while of eighty-three antiseptic operations, or, including Mr. Meredith's, ninety-four, only five died. The tables include nine nephrectomies; of these one died in the non-antiseptic series. It is evident that this operation will have to be undertaken with considerable reluctance and care, whether we regard the risks of it or the moral questions arising out of such a serious mutilation.—*Lancet*.

## REPORTED MORTALITY FOR THE WEEK ENDING JULY 8, 1882.

| Cities.                            | Population by Census of 1880. | Reported Deaths in each. | Deaths under Five Years. | Percentage of Deaths from       |                |                       |                     |                |
|------------------------------------|-------------------------------|--------------------------|--------------------------|---------------------------------|----------------|-----------------------|---------------------|----------------|
|                                    |                               |                          |                          | The Principal Zymotic Diseases. | Lung Diseases. | Diphtheria and Croup. | Diarrhæal Diseases. | Typhoid Fever. |
| New York.....                      | 1,206,550                     | 695                      | 368                      | 36.58                           | 10.23          | 9.03                  | 23.47               | .86            |
| Philadelphia.....                  | 846,984                       | 289                      | 104                      | 12.46                           | 3.46           | 6.57                  | —                   | 1.28           |
| Brooklyn.....                      | 566,689                       | 292                      | 162                      | 37.02                           | 7.88           | 2.05                  | 28.42               | .34            |
| Chicago.....                       | 503,304                       | 218                      | 108                      | 29.31                           | 6.87           | 6.87                  | 12.82               | 3.66           |
| Boston.....                        | 362,535                       | 130                      | 41                       | 17.69                           | 13.91          | 4.62                  | 7.69                | 2.31           |
| St. Louis.....                     | 350,522                       | —                        | —                        | —                               | —              | —                     | —                   | —              |
| Baltimore.....                     | 332,190                       | 244                      | 151                      | 48.41                           | 1.98           | 2.96                  | 37.54               | .98            |
| Cincinnati.....                    | 255,708                       | 155                      | 89                       | 44.57                           | 5.17           | .65                   | 20.03               | 1.29           |
| New Orleans.....                   | 216,140                       | —                        | —                        | —                               | —              | —                     | —                   | —              |
| District of Columbia.....          | 177,638                       | 118                      | 74                       | 43.20                           | 5.08           | .85                   | 36.42               | 2.54           |
| Pittsburgh.....                    | 156,381                       | 103                      | 56                       | 40.77                           | 6.80           | .97                   | 23.50               | 2.77           |
| Buffalo.....                       | 155,137                       | 67                       | 27                       | 33.97                           | 4.43           | 2.95                  | 2.95                | 2.95           |
| Milwaukee.....                     | 115,578                       | 51                       | 30                       | 15.68                           | 9.80           | 1.96                  | 5.88                | —              |
| Providence.....                    | 104,857                       | 30                       | 10                       | 13.33                           | 6.66           | 3.33                  | —                   | 3.33           |
| New Haven.....                     | 62,882                        | 30                       | 7                        | —                               | —              | —                     | —                   | —              |
| Charleston.....                    | 49,999                        | 28                       | 12                       | 17.85                           | —              | 3.57                  | —                   | 3.57           |
| Nashville.....                     | 43,461                        | 26                       | 10                       | 42.31                           | 3.85           | —                     | 34.71               | 3.85           |
| Lowell.....                        | 59,485                        | 14                       | 4                        | 21.42                           | —              | —                     | 14.28               | —              |
| Worcester.....                     | 58,295                        | 21                       | 5                        | 14.28                           | 19.04          | —                     | 14.28               | —              |
| Cambridge.....                     | 52,740                        | 10                       | 3                        | 10.00                           | 10.00          | 10.00                 | —                   | —              |
| Fall River.....                    | 49,006                        | 26                       | 15                       | 7.69                            | 3.85           | 3.85                  | 3.85                | —              |
| Lawrence.....                      | 39,178                        | 16                       | 8                        | 37.50                           | 18.75          | 6.25                  | —                   | 6.25           |
| Lynn.....                          | 38,284                        | 13                       | —                        | —                               | —              | —                     | —                   | —              |
| Springfield.....                   | 33,340                        | 8                        | 2                        | 12.50                           | —              | 12.50                 | —                   | —              |
| Salem.....                         | 27,598                        | 10                       | 3                        | 20.00                           | —              | —                     | —                   | —              |
| New Bedford.....                   | 26,875                        | 7                        | 1                        | 14.28                           | 28.56          | —                     | —                   | —              |
| Somerville.....                    | 24,985                        | 3                        | 2                        | —                               | —              | —                     | —                   | —              |
| Holyoke.....                       | 21,851                        | 8                        | 3                        | 28.56                           | —              | —                     | 28.56               | —              |
| Chelsea.....                       | 21,785                        | 5                        | 3                        | 20.00                           | 40.00          | 20.00                 | —                   | —              |
| Taunton.....                       | 21,213                        | 4                        | 1                        | —                               | —              | —                     | —                   | —              |
| Gloucester.....                    | 19,329                        | 9                        | 5                        | 22.22                           | —              | 11.11                 | —                   | 11.11          |
| Haverhill.....                     | 18,475                        | 5                        | 1                        | —                               | —              | —                     | —                   | —              |
| Newton.....                        | 16,995                        | 4                        | 3                        | —                               | 25.00          | —                     | —                   | —              |
| Brocton.....                       | 13,608                        | 4                        | 2                        | 50.00                           | —              | 25.00                 | —                   | —              |
| Newburyport.....                   | 13,537                        | 2                        | —                        | 50.00                           | —              | —                     | —                   | 50.00          |
| Fitchburg.....                     | 12,405                        | 7                        | —                        | —                               | —              | —                     | —                   | —              |
| Malden.....                        | 12,017                        | 8                        | 2                        | 37.50                           | —              | —                     | 25.00               | —              |
| Seventeen Massachusetts towns..... | 127,330                       | 28                       | 6                        | 7.14                            | 3.57           | 3.57                  | 3.57                | —              |

Deaths reported 2578 (no reports from St. Louis and New Orleans); 1318 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhæal diseases, whooping-cough, erysipelas, and fevers) 831, consumption 299, lung diseases 176, diarrhæal diseases 483, diphtheria and croup 96, scarlet fever 54, typhoid fever 46, measles 39, small-pox 36, whooping-cough 28, cerebro-spinal meningitis 21, malarial fever 13, puerperal fever seven, erysipelas six, typhus fever two. From *scarlet fever*, New York 21, Brooklyn 11, Cincinnati six, Philadelphia five, Buffalo three, Chicago, Baltimore, and District of Columbia two each, Pittsburgh and Lawrence one each. From *measles*, New York nine, Baltimore and Pittsburgh five each, Brooklyn four, Chicago, Boston, and Buffalo three each, Philadelphia, Cincinnati, and Lawrence two each, Milwaukee one. From *small-pox*, Cincinnati 22, Baltimore five, Philadelphia and Chicago three each, New York two, Buffalo one. From *whooping-cough*, New York 12, Brooklyn, Chicago, and Charleston three each, Philadelphia two, Cincinnati, Pittsburgh, Buffalo, Salem, and Malden one each. From *cerebro-spinal meningitis*, Buffalo six, Milwaukee three, New York, Chicago, and Providence two each, Baltimore, New Haven, Lawrence, Lynn, Salem, and New Bedford one each. From *malarial fevers*, New York eight, District of Columbia two, Brooklyn, Baltimore, and Nashville one each. From *puerperal fever*, Cincinnati and Pittsburgh two each, Philadelphia, Boston, and Buffalo one each. From *erysipelas*, Cincinnati and Buffalo two each, New York and Lowell one each. From *typhus fever*, New York two.

Fifty-three cases of small-pox were reported in Cincinnati, Baltimore 17, Buffalo six, Pittsburgh and Milwaukee each one; diphtheria 15, scarlet fever nine, typhoid fever six, in Boston; diphtheria nine, and scarlet fever three in Milwaukee.

In 37 cities and towns of Massachusetts, with a population of 1,049,015 (population of the State 1,783,086), the total death-rate

for the week was 16.61 against 16.95 and 12.17 for the previous two weeks.

For the week ending June 17th, in 173 German cities and towns, with an estimated population of 8,198,292, the death-rate was 26.5. Deaths reported 4173: under five 2262; pulmonary consumption 558, acute diseases of the respiratory organs 422, diarrhæal diseases 258, diphtheria and croup 153, scarlet fever 86, typhoid fever 48, measles and *roteln* 43, puerperal fever 14, small-pox (Benthen two, Flensberg, Hamburg, Cologne, Essen, and Koblenz one each) eight. The death-rates ranged from 13.6 in Munster to 40.6 in Halle a. S.; Königsberg 29.8; Breslau 33.2; Munich 25; Dresden 23.6; Leipzig 16.3; Berlin 33.5; Hamburg 22.6; Cologne 29.8; Frankfurt a. M. 17.2; Strasburg 31.7.

In the 28 English towns, with an estimated population of 8,469,571, for the week ending June 24th, the death-rate was 19.1. Deaths reported 3097: acute diseases of the respiratory organs (London) 198, whooping-cough 128, measles 106, diarrhæa 70, scarlet fever 69, fever 44, diphtheria 24, small-pox (London nine) 15. The death-rates ranged from 8.4 in Halifax to 28.8 in Preston; Portsmouth 14.5; Birmingham 13.8; Sheffield 16.5; London 18.6; Plymouth 19.6; Sunderland 23.7; Liverpool 25.3. In Edinburgh 17.1; Glasgow 25.1; Dublin 23.2.

For the week ending June 24th, in the Swiss towns, population 494,390, there were 38 deaths from consumption, acute diseases of the respiratory organs 27, diarrhæal diseases 11, diphtheria and croup seven, scarlet fever six, erysipelas four, measles three, whooping-cough three, typhoid fever two, puerperal fever two. The death-rates were, at Geneva 18.6; Zurich 16.2; Basle 27.7; Berne 22.

The meteorological record for the week ending July 8th, in Boston, was as follows, according to observations furnished by Sergt. O. B. Cole, of the U. S. Signal Corps:—

| Date.            |   | Barom-eter. |    | Thermom-eter. |    | Relative Humidity. |            |             |       | Direction of Wind. |            |             | Velocity of Wind. |            |             | State of Weather. |            |             | Rainfall.              |                   |
|------------------|---|-------------|----|---------------|----|--------------------|------------|-------------|-------|--------------------|------------|-------------|-------------------|------------|-------------|-------------------|------------|-------------|------------------------|-------------------|
|                  |   | Mean.       |    | Mean.         |    | 7.23 A. M.         | 3.23 P. M. | 11.23 P. M. | Mean. | 7.23 A. M.         | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.        | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.        | 3.23 P. M. | 11.23 P. M. | Duration, Hrs. & Mins. | Amount in inches. |
| July, 1882.      |   |             |    |               |    |                    |            |             |       |                    |            |             |                   |            |             |                   |            |             |                        |                   |
| Sun.,            | 2 | 29.678      | 60 | 74            | 52 | 80                 | 47         | 80          | 69    | SW                 | W          | W           | 4                 | 18         | 12          | O                 | O          | C           | —                      | —                 |
| Mon.,            | 3 | 29.869      | 66 | 77            | 53 | 65                 | 37         | 68          | 57    | W                  | W          | SW          | 14                | 9          | 6           | C                 | O          | O           | —                      | —                 |
| Tues.,           | 4 | 29.945      | 63 | 71            | 58 | 60                 | 68         | 81          | 70    | N                  | E          | NE          | 2                 | 11         | 8           | F                 | O          | T           | —                      | —                 |
| Wed.,            | 5 | 29.811      | 56 | 60            | 55 | 96                 | 100        | 100         | 99    | NE                 | E          | N           | 11                | 21         | 6           | R                 | R          | O           | —                      | —                 |
| Thurs.,          | 6 | 29.916      | 64 | 76            | 54 | 96                 | 46         | 73          | 72    | W                  | W          | W           | 6                 | 11         | 7           | O                 | F          | C           | —                      | —                 |
| Fri.,            | 7 | 30.047      | 68 | 80            | 57 | 70                 | 48         | 70          | 63    | W                  | E          | SW          | 3                 | 6          | 9           | C                 | F          | C           | —                      | —                 |
| Sat.,            | 8 | 30.027      | 74 | 88            | 63 | 57                 | 40         | 78          | 58    | W                  | SW         | SW          | 7                 | 12         | 12          | C                 | F          | C           | —                      | —                 |
| Means, the week. |   | 29.899      | 65 | 88            | 52 |                    |            |             | 70    |                    |            |             |                   |            |             |                   |            |             | 21.25                  | .72               |

1 O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; X., clearing.

# OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM JULY 8, 1882, TO JULY 14, 1882.

GREENLEAF, C. R., major and surgeon. Now awaiting orders, to report in person to the commanding officer, Columbus Barracks, Ohio, for duty as post surgeon at that post. S. O. 160, A. G. O., July 12, 1882.

FORWOOD, WILLIAM H., major and surgeon. To report in person to the lieutenant-general at Fort Washakie, Wyo., on or about July 23, 1882, for duty as surgeon and naturalist on the tour of inspection and exploration to be made by the secretary of war and the lieutenant-general. S. O. 70, Department of the Platte, July 6, 1882.

GRUBB, J. B., captain and assistant surgeon. Relieved from duty at Fort Grant, A. T., and assigned to duty at Fort Lowell, A. T. S. O. 106, Department of Arizona, July 3, 1882.

BYRNE, C. B., captain and assistant surgeon (Fort Barrancas, Fla.). Granted leave of absence for one month, with permission to leave the department and to apply for an extension of two months. S. O. 68, Department of the South, July 12, 1882.

HAYARD, VALERY, captain and assistant surgeon. Relieved from temporary duty at these headquarters, and at post of San Antonio, and assigned to duty as post surgeon at Fort Duncan, Tex. S. O. 68, Department of Texas, July 5, 1882.

FISLEY, J. A., captain and assistant surgeon. Assigned to duty as post surgeon at Fort Concho, Texas (Fort McKavett abandoned). S. O. 68, C. S., Department of Texas.

BARNETT, RICHARDS, captain and assistant surgeon. To accompany the brigadier-general commanding on his journey to Forts Bridger, Wyo., and Thornburgh, Utah. S. O. 70, Department of the Platte, July 6, 1882.

POWELL, J. A., first lieutenant and assistant surgeon. To report to the commanding officer, Fort Davis, Texas, for duty (Fort Stockton, Tex., abandoned). S. O. 68, C. S., Department of Texas.

GORGAS, W. C., first lieutenant and assistant surgeon. When relieved by Assistant Surgeon Hayard to report to the commanding officer, Fort Brown, Texas, for duty. S. O. 68, C. S., Department of Texas.

AMERICAN MEDICAL ASSOCIATION. — The Committee of Publication of the American Medical Association have adopted the following rules to insure promptness in the appearance of the forthcoming volume of *Transactions* (Vol. XXXIII.): —

(1) All addresses and papers read at the recent meeting of the Association, and referred to the Committee of Publication, must be in the hands of the Permanent Secretary before July 31st.

(2) The *Transactions* will absolutely go to press August 5th, and all papers or addresses entitled to appear in the volume, not received by July 31st cannot be inserted.

(3) Under no circumstances will the Committee permit new material, different from that in the original manuscript, to be added to the proof sheets.

The foregoing provisions of the By-Laws of the Association will be strictly enforced: —

"Every paper received by this Association and ordered to be published, and all plates, shall be the exclusive property of the Association, and shall be published for the exclusive benefit of the Association."

"Proofs must be returned within two weeks after their reception; otherwise they will be omitted from the volume."

BOOKS AND PAMPHLETS RECEIVED. — Double Irrigation and Drainage Tubes. Uterine Dilatation by Elastic Force. The Cure of Hernia by the Antiseptic Use of Animal Ligature. By Henry O. Marcy, A. M., M. D., Boston, U. S. A. (Reprint from the *Transactions of the International Medical Congress for 1881*.) London: J. W. Kolkman, 2 Langham Place, 1881.

Two Cases of Hemiatrophia. By Henry D. Noyes, M. D., New York. (Reprint from the *Archives of Ophthalmology*.)

The Prevention of Venereal Disease by Legislation. By Albert L. Gibson, A. M., M. D., Medical Director U. S. Navy. Read before the New York Medico-Legal Society, April 5, 1882.

Catalogue of the Baltimore Medical College, No. 93 North Paca Street, Baltimore, Md., 1882-83.

Report on Surgery. By W. O. Roberts, M. D., Professor of Surgical Pathology and Operative Surgery, University of Louisville. (Reprint.)

Atlas of Gynecology and Obstetrics. Edited by Dr. A. Martin, Professor of Gynecology at the University of Berlin. Containing 475 black and 37 colored illustrations from the Original Designs by Beigel, Virehow, Hertl, Kilian, Naegele, Schroeder, Rokitsky, Spiegelberg, Diss, Veit, Pole, Otto Hille, and many others. Supplemented by Numerous Illustrations from J. P. Maygrier, *Nouvelles Demonstrations d'Accouchements*. A. E. Wilde & Co., Publishers, Cincinnati, Ohio. Folio, fifteen parts.

Fourth Annual Announcement of the California Medical College (Berkeley) Oakland, California.

Letters and Facts, not heretofore published, touching the Mental Condition of Charles J. Guiteau since 1865. Submitted to the President of the United States by John W. Guiteau, in the matter of the Application for a Commission de Lunatic Inquirendo.

Static Electricity as a Therapeutic Agent. A Paper read before the Academy of Medicine, June 15, 1882. By James Knight, M. D., Surgeon-in-Chief of the New York Society for the Relief of the Ruptured and Crippled.

Plastic Splints in Surgery. By Samuel N. Nelson, A. B., M. D., of Boston. (Reprint from the *Annals of Anatomy and Surgery*.)

Syphilitic Diseases of the Lachrymal Apparatus. By Charles Stedman Bull, A. M., M. D. (Reprint from the *New York Medical Journal*.)

The Treatment of Scars of the Face involving the Eyelids, directly or indirectly. By Charles Stedman Bull, A. M., M. D. (Reprint from the *Transactions of the American Ophthalmological Society*, 1881.)

Add to Common Schools. Speech of Hon. Henry W. Blair, of New Hampshire, in the Senate of the United States.

House Drainage and Sanitary Plumbing. By William Paul Gerhard. (Reprint.) 1882.

## Lectures.

### THE RELATIONS OF THE FELLOWS OF THE MASSACHUSETTS MEDICAL SOCIETY TO HOMŒOPATHY AND THE HOMŒOPATHS.<sup>1</sup>

BY J. WINTHROP SPOONER, M. D., HINGHAM.

MR. PRESIDENT AND GENTLEMEN,—We have assembled to-day, at this our annual meeting, to celebrate the beginning of another year of our Society. The lately instituted custom of more frequent meetings has won certainly a fair measure of success. Considering the wide extent of territory over which the Fellows of this Society are scattered the meetings have been well attended, and a general interest has been manifested. With scientific discussion a fair measure of sociability has been combined.

Prevented by the exacting duties of his profession from sharing in much of the social festivity of the community, the busy practitioner is inclined to revolve in a small circle, and perhaps to take a morbid view of life. Anything that breaks this monotony, that brings the physician out of himself and in contact with men, even if perhaps of similar, but yet not identical, thoughts, serves to broaden the field of vision and to give a new view of life.

To discover and bring to your attention a new subject in fields already well winnowed is the task allotted to me this day.

The Massachusetts Medical Society, proud of its century of active, prosperous life; proud of its achievements in medicine, surgery, and collateral science; proud of its great men who have reflected their own glory upon it; proud of its high moral standing; proud of its excellent and thorough organization, occupies a position second to no similar organization in the country. Rich in the stores of ancient knowledge with the vigor of constantly renewed youth it has always, and we trust always will, represent the most advanced medical knowledge.

Our District Society, although representing but a small proportion of its membership, shares with the parent Society its honor and reputation. As a component part of one integral whole, the one must share the glory or the possible disgrace of the other.

But we live in a most progressive age, and no organization, whether professional, or political, or social, can hope for success or even for the respect of the community by simply "pointing to a record." Everywhere are seen the signs of active, progressive life. The merchant in his counting-room reads the prices at which teas are sold to-day in China. The railroad, that powerful promoter of civilization, has made San Francisco as near to Boston as was Philadelphia in the early days of the republic. Even the lightning winged telegraph in many cases has been superseded by her sister the telephone.

The public justly look for similar activity in our profession. It will not answer to say that the Massachusetts Medical Society is more than a century old; that its members have conferred lasting good upon the communities in which they have lived. The question will be asked, Is it to-day an active, healthy organization, able to carry forward and improve the work of the fathers?

<sup>1</sup> Annual address delivered before the Plymouth District Medical Society, April 19, 1882, and published at the request of the Society.

The value of ancestral honors is that of an incentive to the acquirement of present and future glory. The possession of them should be considered in the light of a pledge of renewed activity. I would not detract one iota from the glories of the Massachusetts Medical Society, neither would I call in question the glorious discoveries of to-day, but rather than dwell at greater length upon points acknowledged by all to be correct, it will be better to look for a moment at the reverse picture. To discover matters, which by discussion can be improved, and which improved may increase the glory of the Society and increase our usefulness as physicians. The stream never rises above its source. The virtues of a Society cannot surpass the component virtues of its constituents.

The recent action of the New York Medical Association in regard to consultations with medical men outside of its organization, opens once more a subject which often has been discussed in our State during the past decade. I beg to call your attention for a few moments to the relation of the members of this Society to the so-called systems of medicine and their adherents. In the remarks that I make I shall refer particularly to homœopathy and the homœopaths, because this is by far the largest class of its kind, although what I have to say will apply in general to all systems of medicine.

The theory upon which the composition of our Society is founded is perfectly correct. Any person wishing to become a Fellow of the Massachusetts Medical Society must "satisfy the Censors of the Society" . . . that he does not profess to cure diseases by nor intend to practice spiritualism, homœopathy, allopathy, Thompsonianism, eclecticism, or any other irregular or exclusive system, etc., etc.

This is the spirit of our organization, and when we are together and in conversation with each other we so regard it. But our meeting breaks up, the Fellows separate and go among the people, and at once give the lie to their professions. Who in this Plymouth District Medical Society if asked by a stranger (not a medical man) whether he is a homœopath or an allopath, would not say he was an allopath, although by such an answer he forfeits his claim to Fellowship in this Society?

Why not give an honest and straightforward answer, without equivocation, to this question? Say, "I am a physician." It will involve some explanation at first, and draw us into discussions which it may be more agreeable to avoid, but in the end it cannot fail to place us before the public in the true light, and justify us in our exclusion of the homœopaths from the Society. Their expulsion is a matter of the past. If there was a mistake it was a mistake of policy only. It is sufficient for our present purpose to state that the expulsion of the homœopaths has not solved in the least degree the problem of how to deal with homœopathy and its adherents. The same problem stares us in the face as in 1872.

Why not meet it as we meet other questions of a similar nature by weighing it in the balance and pronouncing an impartial judgment upon it. New drugs and new uses of old drugs are daily brought to our notice. Many of these uses have on their face an appearance of absurdity. Take this for example, from a recent number of the *Medical News*, which chances now to lie upon my table. Dr. Armandeau reports in the *Revue de Therapeutique* "some cases of tonsillitis

cured in less than twenty-four hours by the bicarbonate of soda," and in conclusion makes the following very remarkable statement: "Excision of the tonsil is a useless operation in cases of hypertrophy of the tonsils as the hypertrophy can be rapidly removed by frequent applications of the salt of soda."

Personally I have no faith in such a treatment, but it is not simply a matter of faith but a matter of fact which must stand or fall on its own merit. If bicarbonate of soda, after a fair trial, is proved to possess the remarkable properties which the doctor claims for it we shall cease before very long to hear of excision of the tonsil, and the tonsillitome will be allowed to rust in the cases of the instrument maker, or be preserved as a relic of barbarous ages and equally barbarous practices by the collector of professional antiquities. If, on the other hand, bicarbonate of soda is found to have no effect on the enlarged tonsil, this harmless salt will be consigned to the oblivion of eundurango and chian turpentine, monuments of credulity and of blasted hopes.

So must it be with homoeopathy. There is either truth in it or there is not. If there is nothing, not even the legislation of its enemies can give it a permanent existence. If there is any grain of truth, however small, it must be appropriated and assimilated by the physicians of to-day or they will be by so much distanced in the sharp competition for renown and even subsistence.

I have not investigated the subject with that degree of accuracy which would enable me to speak of it in detail. Of this I am convinced, that directly and indirectly the homoeopaths have discovered or caused to be discovered new uses for many of the old drugs of the materia medica, and perhaps have introduced new drugs which may be found worthy of attention.

The more minute and extended observations of recent years have led therapeutists to study the effects of medicines in small and frequently repeated doses with, as I am prepared to show, in some cases, remarkable results. I do not refer now to the introduction of alkaloids, such as morphia and atropia, which have resulted from the refinements of chemistry, but to small (not infinitesimal doses) of the preparations which have been known to practitioners for a long period.

Aconite is a drug that has been known and more or less used by medical men from the time of Pliny. It has been used for years by the homoeopaths to antagonize the febrile state. I cannot say that such a use of this drug has not been mentioned from time to time in the periodical literature of the day, but up to about fifteen years ago it had not been emphasized to such an extent as to be recognized in such of the standard works on therapeutics of that period as have come to my notice.

Still, in the third edition of his exhaustive treatise on *Materia Medica and Therapeutics* (1868), gives as the disease for which this drug has been recommended, the marasmus, gout, neuralgia, and allied diseases. He quotes Dr. Fleming as authority for its use in rheumatism, acute and chronic, but I judge from the manner in which he refers to the subject and the doses used the drug was administered even in acute rheumatism as an antidote to the pain, as in chronic rheumatism and neuralgia. No reference is made to its effects in small and frequently repeated doses to combat the febrile state in general. That Stillé did not recognize

this property of aconite is evident from his closing paragraph. He says: "In nearly all the published narratives the proof of its efficacy is far from satisfactory, or, if accepted, only shows it to be inferior to other medicines belonging to the class of narcotics."

In Wood's edition of Pereira's *Materia Medica and Therapeutics* (1866) there is no mention of the general anti-febrile powers of aconite. In acute rheumatism he says, "Its application has not been successful in my hands, but I have been informed of cases occurring to others in which it has been of great service."

Headland<sup>1</sup> speaks particularly of its use in neuralgia. He also, like Stillé, quotes from Dr. Fleming as to its use in rheumatism.

The twelfth edition of the *United States Dispensatory* (1868) (among twenty diseases in which aconite has been used) mentions intermittent fever, but quotes neither cases or authority. This work also quotes Dr. Fleming as an authority for its use as an antiphlogistic remedy, and especially applicable to cases of active cerebral congestion or inflammation.

As we come down a few years we find more and more stress laid upon the anti-febrile uses of this drug. H. C. Wood, Jr.,<sup>2</sup> under the use of aconite, says, "The first of these is to lower arterial action and often with it excess of temperature. For this purpose aconite is almost invaluable."

And, finally, to quote from the most recent authorities, Bartholow<sup>3</sup> says, in addition to other uses, aconite is "an antagonist to the fever process." It is recommended by him in "tonsillitis, acute pharyngitis, ulceration of the tonsils when accompanied by fever," "also in inflammatory states of the intestinal canal, the simple fevers of childhood, as also the eruptive fevers, particularly scarlet fever, and in acute inflammation of the cerebral and spinal meninges."

Ringer says<sup>4</sup> the power of aconite to control inflammation and subdue the accompanying fever is remarkable. It will sometimes cut short an inflammation. Though it will not remove the products of inflammation, yet by controlling inflammation aconite will prevent their formation, so saving the tissues from further injury." It is recommended by this author "in all acute febrile diseases, particularly of children."

These effects of aconite result from its action as an arterial sedative, and it will be found that veratrum has similar properties. It is not theoretically homoeopathic. Its action cannot be explained by the dogma of "*similia similibus curantur*."

The use of aconite is daily gaining, and it is noticed, particularly in this place, as giving a striking example of this fact that every drug of real usefulness, by whatever man or class of men introduced, will be appropriated eventually by the medical profession at large.

Arsenic, or arsenicum, as called by the homoeopaths, is a favorite remedy by this class of practitioners for vomiting, diarrhea, and other disarrangements of the gastro-intestinal canal.

Bartholow recommends it in irritative dyspepsia, vomiting, particularly of pregnancy, chronic gastric catarrh. "That form of diarrhea which consists merely in an intolerance of the presence of food with an evacuation of the undigested aliment soon after it is swallowed is cured by arsenic." It will not be con-

<sup>1</sup> *Act. on Medicine*, fourth edition, 1866.

<sup>2</sup> *Treatise on Therapeutics*, 1874.

<sup>3</sup> *Materia Medica and Therapeutics*, fourth edition, 1881.

<sup>4</sup> *Loc. cit.*, fourth edition, 1880.

sidered presumptuous on my part to add a single instance illustrating the beneficial results of arsenic taken from my own practice.

A little girl, two and a half years old, who had cut all her teeth, exhibited no sign of disease except a most obstinate indigestion and diarrhoea. Pepsin, lactopeptine, mineral acids, tonics, astringents, antacids, were all in turn and ineffectually tried. Article after article was dropped from the bill of fare until only a milk diet remained. The slightest deviation from this rigid regimen would be followed by a return of diarrhoea and the passage of undigested food. The little patient, full of animal spirits, and with appetite unimpaired, rebelled against so rigid a diet. Recourse was had at this time to arsenic. I gave her three quarters of a drop of Fowler's solution every three hours. The effect was magical. The entire tone of the intestinal canal seemed to undergo a change. I was able to increase the variety of her food from day to day. The medicine was soon reduced to three times daily, and a speedy and in every way satisfactory cure was established. This case occurred last summer. There have been since then two or three relapses, but these have only served as additional testimony to the benefit of arsenic, as the health was restored at once after the use of this drug.

The twelfth edition of the United States Dispensatory, Stillé in 1866, Headland in 1866, Waring in 1874, H. C. Wood, Jr., in 1876, make no reference to these uses of arsenic, showing that these effects were unknown to them at that time.

Bartholow says, "It has long been known that *ipecaacuanha*, in small doses, has the power to arrest certain forms of vomiting. Attention has been recalled recently to this curious fact." "A minim of the *vinum ipecaacuanhe* given every half hour or hour in a little water will sometimes relieve these cases in a very remarkable manner."

Mercury has been a remedy for various gastro-intestinal derangements much used by the homoeopaths. Dr. Morris Longstreth, physician to the Pennsylvania Hospital, thus speaks of calomel in one-twelfth grain doses every three hours in cases of subacute gastritis or catarrhal affections of the stomach, affections attended by an increased secretion of mucus. "The sensations which the patient describes after its use—and here I am speaking of the result in numerous other cases—are, first, a relief from the feeling that has been present in the stomach; the pain is gone, though often it comes again; the burning, if there has been any, lessens and disappears; the weight or dragging is slowly removed, and a sense of comfort pervades the usually rather despondent person, and in describing the effect the hands are spread or rubbed over the stomach as expressive of comfort. Nausea and vomiting usually disappear from the first, even after a few doses of the medicine."<sup>1</sup>

As examples not of homoeopathic remedies or of drugs used by this class of practitioners more particularly, but of the peculiar effects of small doses of well known medicines, may be mentioned iodine and belladonna. "A solution of the iodide of potassium (one to five grains to one ounce) is a useful application to the mouth in aphthæ, mercurial stomatitis, simple sore throat, tonsillitis. Vomiting can sometimes be relieved by drop doses of tincture of iodine (Bartholow)."

Writing of belladonna, Bartholow states, "no remedy

gives such prompt and sustaining relief as the appetite, catarrh with profuse watery secretion. A considerable milk whatso- five drops of the tincture are given at such patients lowed every hour by one or two drop doses, and per-

Many more examples of the peculiar effect of it, with small and frequently repeated doses of it, are found drugs might be given. Enough citations are needed to make to illustrate the point upon which I differ not my object, neither is it possible for me to give them a complete analysis of the therapeutic value of the way homoeopathic remedies, or to point out the effect of feeding for our drugs when given in much smaller doses habitually employ. This is a new country, how far only the outskirts have been explored, but it consists, there obtained from limited exploration would cure in justify further investigation. It is necessary, times, that discover the wheat and chaff of homoeopathy sufficient we shall be able to deal with this matter. Their tissues

Two objections readily occur to me in this, in them- statements I have made. disturbing

First. The uses of these drugs in the we have a for the diseases mentioned are merely empiric, from its use, are not founded on what we know of the effect of article ical action. No counterpart can be found in feeding, it tion of these drugs on the lower animal, administered deny the charge. They are empirical, the elimation, a suit of observation. They are not in accordance to fully known physiological laws. say, that it

When physiology and pathology become ho have ences; when the actions of the various internal who are as demonstrable as the theorems of geometry; and we know the essence of disease and its exact re- any upon the animal organism; when we possess a re- spondingly accurate knowledge of the materia me- ica, then the practice of medicine will become an art. Each remedy will be used with a thorough scientific knowledge of the effect to be produced, and there will be no need of empiricism.

"Tis a consummation  
Devoutly to be wished,"

but it seems as distant as the millennium. The man who depends solely on drugs whose action he can explain on physiological grounds, is heavily handicapped.

Who doubts the power of quinine over intermittent fever? Who questions the beneficial effect of mercury in secondary syphilis? Who will deny the direct antidotal power of opium in pain? Yet the discovery of the action of all these drugs was the result of observation, and although various theories of their action have been offered from time to time yet all these theories are, as far as I know, open to more or less serious objections. Some so-called explanations are not explanations at all but merely statements of theories in ambiguous language.

Even if the theory upon which homoeopathic drugs are introduced is proved to be false it need not impair our faith in the usefulness of such medicines. The instances are numerous where drugs have been introduced and successfully used in accordance with a physiological theory, which theory has afterwards proved to be false. When I was a medical student we were taught that iron was to be used only to replace that mineral when deficient in the blood corpuscles. Iron was in a certain sense a food. But Trousseau has shown the absurdity of such a theory. It seems probable, as he claims, that the principal, if not the sole action of iron, is to stimulate the stomach and thus increase the appetite.

<sup>1</sup> Medical News and Abstract, vol. xxxix., No. 12.

cured in less

ate of soda, of the bromides was supposed to depend very much on an anæmia of the brain, but although it is useless as has been for the most part abandoned we tonsils as the bromides produce sleep as well as ever, frequent rags will continue to be used until replaced Persing better.

it is not But why do you argue at such length on which usefulness of homeopathy, you may ask? bonate of our Society permit any one to use these as the remedy other means for the cure of disease. True, it we shou must acknowledge, that it is a custom of the red in the breach than in the observance. rust in so much inclined to meet this matter with rid- served or than as scientific men. The objection I al- ous prac have to homeopathy is its extreme narrow- ties. The idea that it is sufficiently broad and general found tication to serve as a foundation for a system of harmles absurd, and its most intelligent advocates durange Give it in their hearts. However useful we and of her remedies to be, one who has been in the

So migh them can never dispense with opium and truth in iron and mercury; iodide of potassium and even the acid; salicylic acid and its compounds, to- ment a host of other remedies without which, in ever sub- ary doses, we could not practice medicine. the phy- aths, by the frequent use of many of the distance, cines in their usual doses, constantly admit even sub- their own practice and its unworthiness to I have red a system of medicine.

of the risk of being tiresome I will repeat once de that it is necessary for us who claim only the r of physician to take and incorporate into our prac- tice all that may be of service to us. The tendency both of physicians and homœopaths is to approach each other. It is for us to see that the gain is not for the homœopath.

Should the Fellows of the Massachusetts Medical Society and the homœopaths meet in consultation? To this custom I am a thorough and most emphatic opponent. Should the Massachusetts Medical Society, after from a loss of possible gain, or in the hope of estab- lishing "the era of good feeling," follow the exam- ple of the New York Medical Association and admit homœopaths to consultation, it would be the grossest error our Society has ever committed. When this step is taken we shall have reached that stage of mad- ness which is said to precede destruction.

What is a homœopath? It has been said that it is a marked characteristic of the American people to ex- press their opinions freely on every matter, and the less they know of the matter the more pronounced are their opinions. This is particularly the case on the subject of medicine, a question concerning which men who informed on other topics know nothing. Yet it would be difficult to find a man, woman, or child pos- sessed of common intelligence who is not arrayed in the perience of the day, either in the ranks of the homœopaths or the allopaths.

When asked for a reason of the faith that is in them they are at a loss for an answer. Some perhaps would reply, as a simple minded, honest body once did to me, "For the question, What is a homœopathic doctor? Why do you ask, for one who has cured a medicine in a bottle and not in a bottle. Another would give the answer to the question, "Why do you ask, for a homœopathic was one of the most successful of the allopaths, and to cap the climax of the allopathy in the practice of the homœopaths. Indeed the homœopaths

would find himself a difficult subject to define. So many of his tenets have been absolutely sacrificed, so many more have been violated in spirit, that he could scarcely tell his own belief.

It may however be taken for granted that a belief in one or all of the following propositions (as stated in a recent number of the *Medical News*) is necessary to constitute a true disciple of Hahnemann.

(1.) That diseases are dynamic changes in a vital principle, or, in other words, are spiritual entities not depending upon material substance.

(2.) That the cure of disease is most easily and completely effected by drugs, the therapeutic action of which closely simulates the symptoms of the disease itself; and that the probability of a favorable result increases with the exactness of resemblance or similarity.

(3.) That the power of drugs increases with their attenuation, which may be carried to an almost un- limited extent.

(4.) That trituration or agitation confers new and augmented power upon the drug so treated.

Any person who believes these theories is too weak mentally to practice medicine or even to take care of himself. I presume in point of fact no person out- side of an insane asylum could be found who in his heart believed such arrant nonsense.

A man who falsely pretends to such a belief, who for the sake of gain trades in a name, who, to ingratiate himself with the people, pretends to be what he is not, is guilty of conduct unworthy of an honorable physi- cian, and is unworthy of the companionship of a Fel- low of the Massachusetts Medical Society.

There is no such thing as a theoretical and prac- tical homœopath. There is, however, in the com- munity a class of physicians known as homœopaths. A class who generally use medicines in small and fre- quently repeated doses. That some medicines used in this way have a certain definite action is beginning to be acknowledged by the therapeutists of to-day. That medicine used in this way is not universally effectual is proved by the fact that homœopaths often use drugs in what are ordinarily known as legitimate doses.

The main strength of these homœopaths with the public is the agreeability of their medicines. That this is a desirable point to attain, particularly in the treatment of children, will admit of no argument. The skill of the pharmacist is constantly taxed in the prepa- ration of elixirs and emulsions in order to present to the public a medicine which at the same time will com- bine efficacy and a pleasant taste. The small dose tends in the same direction. I would not sacrifice the good of the patient in my endeavor to cater to the pal- ate. But when the choice lies between an agreeable and a disagreeable drug, the efficacy of both being the same, does any one hesitate which to choose?

The position of the intelligent physician of to-day is full of promise. He may look forward with a fair amount of confidence to a useful and an honorable ca- reer. The stores of ancient knowledge, the accumu- lated wisdom of centuries, and all the discoveries of later years and of to-day, are at his command. Select- ing from time to time from these immense accumu- lations such weapons as to his trained judgment seem best fitted for his purpose, he is better calculated than any of his predecessors to cope with the problems of the day, and to confer on his fellow men un- limited happiness, and to confer on his fellow men un- limited happiness and achieve for himself an hon-



orable name. He must be wary at all times. The pendulum swings back and forth. Yesterday we bled every one; to-day the lancet is rusting among discarded implements; to-morrow it is to be taken out and burnished anew for intelligent use.

Centuries ago, Galen, as a result of close observation, concluded that the liver produced the solid constituents of the urine, which were afterwards excreted by the kidney. This theory was laid on the shelf, and within the memory of men still young, the largest gland of the body was regarded as an organ the uses of which were unknown. But the researches of Claude Bernard, and later of Murchison, have reestablished the dignity of the liver, and, strange to say, the crude observations of Galen have been reaffirmed.

High upon the mountain stands the physician of to-day, adding constantly to his store of knowledge, meeting and overcoming obstacles, constantly striving to reach the summit: He is above all "isms and pathies," interested in the strife of factions only so far as he can obtain benefit from it, constantly bearing in mind the injunction of Paul: "Prove all things; hold fast that which is good."

## Original Articles.

### PERMANENCY OF THE REST TREATMENT.<sup>1</sup>

BY F. W. PAGE, M. D.

A RECENT observation, that the results of the rest plan of treatment are of temporary and doubtful duration, has induced me to present for your consideration a few examples wherein the recoveries obtained and the permanency of cure cannot be questioned, both the length of intervening time and the present condition of sound health substantiating their stability.

As, however, a wide range of opinion seems to exist in reference to its applicability, before specifying individual cases it may be well to briefly consider what the rest treatment really is, what it hopes to accomplish in those cases in which it appears to be specifically adapted, and whether, after all, it actually depends, as has also been intimated, upon the superior influence of a single person possessed of unbounded confidence, unwavering determination, and unusual personal magnetism and skill, which contributes the largest element in the production of the cures so pleasantly recorded by Weir Mitchell.<sup>2</sup>

The peculiarity of the cases to which I refer, are undoubtedly so well known that it is unnecessary to here give their clinical characteristics; but if we will recall to mind the peculiar mental and physical traits of those who come under this form, or rather who, by virtue of necessity, are placed on this plan, all others it is assumed having by experience proved futile, we cannot but approve of the wisdom which determines the course, and which, when once undertaken, necessitates firmness and a rigid adherence to the principles involved. Yet, because of this necessity, their exhibition need not be greater than that demanded in the care and management of any fastidious person suffering from an acute disease. That is to say, that the same unbending will, associated with firmness and gentleness of manner, together with an ability to inspire

confidence as well as faith in ultimate recovery, the appetite, mark the management of both classes. a considerable

Because, therefore, determination is a milk what-so- Such patients dence inspired, and after a protracted and ideas and per- ke of it, with moral management, associated with the other, who are fond incident to the plan, recovery ensues, it is instances does to ascribe the success to other than the method.

In the majority of instances self-will, though they are and a long train of anomalous sensations, though the way perhaps by anæmia and perpetuated by food feeding for thy, which lead despairing friends in their pursuit a panacea through the long list of homœopaths, in how far latanism, and various other isms, even to the consists, of hands, and faith-cures through expectancy, or cure in enter in as concomitant and disturbing hindrances, that covey by ordinary means. These very sufficient ities have so far undermined the better of their tissues the mind, and inhibited the exercise of prophylaxis in them- control as to require as a legitimate moral measure, disturbing this so-called dominating will-power, to which we have a has been taken, and to which success we owe from its use, imputed. Rather, it may be said, that suggested article of a want of it are homes made by an overfeeding, it slavish despots, the peace and comfort administered when administered dermined, and the patients themselves, or inclination, a less misery and discontent. be able to fully

I am aware that a want of success can, to say, that this course of treatment, even when those who have judiciously carried out; but when it fails, those who have it can usually be found in either a misapplication of its details, or a misapprehension of its fitness for any particular case.

As, however, the views of medical men on any given topic vary within wide range, it is not to be supposed that even in the adaptability of any form of treatment, uniformity of opinion can exist. So here what in one case appears suitably fitted for success fails; in others a hundred successes, where failure would seem self-evident, unfold a tale as astonishingly great as they appear brilliant, and in consideration of their wide extent inevitably lead to the conclusion, that successful results are in direct ratio with a strict adherence to methods employed.

Among many practitioners I find it is customary, under a mistaken idea of the value of absolute rest, to combine a certain amount of rest with a limited amount of exercise, which is neither one nor the other, that is, it is not rest, neither is it exercise, and denominate it "rest treatment," and, as too often happens because of the ill success attending this half-way doing of things, denounce the whole plan as specious and unworthy of confidence.

To illustrate by a case what I mean, I would add that I have now under my care a lady, who for four years was confined to her room, with shutters closed, curtains drawn, and double woolen shawls pinned up to the only two windows her room contained, in order to exclude all light and sound; and who alternated her daily life between her bed, the chair, and receiving calls from interested and sympathetic neighbors, with an occasional drive, on which occasions she always wore dark-blue glasses, and from which she returned completely exhausted, though for the last eight months she had not been outside her room; and who, in consequence of shock, overwork, and prolonged emotional disturbances attendant upon the sickness and death of a member of her household became subject to inde-

<sup>1</sup> Read before the Boston Society for Medical Observation, March 20, 1882.

<sup>2</sup> Fat and Blood, and Nervous Diseases of Women.

cured in less than a week. The patient, however, was not cured of her nerve-tire, insomnia, and selfish caprices, a certain class of hysterical females, very remarkable for this condition through anaemia, is a useless remedy, conduces to a lack of self-control, and frequent arrhythmic phenomena, aided thereto by mal-nutrition associated with an imperfect dietary and injudicious management, into confirmed and helpless cases.

Person A. she and her family naturally resorted to the usual methods to obtain a relief which she finally she passed into the hands of a physician who placed her on a "rest treatment," or a plan which comprised rest in bed for a period of the day, conjoined with an attempt to secure a certain amount of exercise, and two lunches of milk in addition to her regular meals, no relatives being placed on her attentive friends, who found that this did her more harm than good, and no harm was done in the hygienic surroundings of her room. During the sequence failure to benefit the patient endured of her repeated trials of localized treatment, having the matter of fact passed far beyond the point of truth in her treatment as a means of cure was either even thenceforward, she was admitted to the Adams mansion, with more or less hysterical tremor ever increasing, and back, which interfered with easy distances, described hyperaesthesia of the cervical even such the regions of the spine, cold, clammy ex-

I had a degree of asthenopia, with enough of suppression of the pupils to induce her to shade her eyes constantly from the light, sleeplessness, loss of appetite, and many other trivial and imaginary sensations unworthy of enumeration. On absolute rest, seclusion from friends and excitement of all kinds, and overfeeding, with massage and general faradization, she has become ruddy and strong, and beyond a slight disposition to easily tire if pushed too far or crowded too fast, is rapidly gaining space.

This is a fair example, so far as my observation extends, of the thoroughness with which this method, so carefully laid down by Mitchell, is carried out in general practice, and which has led to unfavorable criticisms, and the unjust accusations of unreliability and instability of cure. It would, however, be unfair to intimate that this is the inevitable result attending all efforts at home treatment, provided certain conditions can be secured. Experience has proved its utility, even under adverse circumstances, though more difficult and harassing to the medical attendant. Its eminent success deserves its continued trial at home, if one is willing to make the best of its accompanying discouragements, and undergo greater discomfort and solitude; although there is no doubt that it will never attain that degree of success that absence from home, seclusion from friends and relatives, and better physical and hygienic surroundings necessarily ensures.

But in what does this treatment by rest consist, and is its permanent?

Defining any idea of originality in the plan, while recognizing the difficulty of applying to practice the views of another in all its nicety of detail, upon which success so much depends, I can only here briefly state the main point, that an experience of over a hundred cases has proved and opened, and from which only that variation is needed, that tact, common sense, and the individual peculiarities of the patient demand arise. These are, as indicated by Mitchell, rest, seclusion, over-feeding, massage, and electricity, or

or conjoined. As the application of these principles are based on physiological reasons deduced from accurate clinical observations, it is reasonable to infer that they offer greater inducements for the relief and cure of troublesome cases of nerve-tire and mimetic disease, than any other yet presented to the medical profession. Experience in this country, as evidenced by a number of competent observers, fully proves it, and results recently noted by Playfair, of London, fully confirms the evidence obtained here. Foremost and of great importance are rest and seclusion. By these agents an opportunity is afforded not only for absolute repose, so essential to these cases, until by means hereinafter described nutrition is restored, and new tissues built up; but by secluding patients from all forms of excitement, which easily tire, and from the false, foolish sympathy of friends and relatives, which engender and aggravate a tyrannous selfishness, they may be surrounded by a healthier moral atmosphere, and assisted in breaking up the pernicious habits of invalidism into which they have fallen. They are placed first in bed as a temporary resource, and judiciously fed. By so doing they speedily pass from a life of irregularity, "hurtful sympathy," "over zealous care," and from eating next to no food, into an air of comparative quiet, judicious care, "to order and control," and, above all, to a plain, "simple diet."

The period at which rest in bed is continued varies from four to six and eight weeks, the length of time depending greatly upon the character of the patient, and the ease and facility with which repose is accepted. Occasionally a patient is found in whom the disposition to accede to this condition of rest is so marked, the state of repose being so comfortable and refreshing, that when once initiated it is exceedingly difficult to overcome their aversion to getting up. To one possessed of a feeble will and laxity of purpose, the struggle to get these patients up again will be long and hard. Ordinarily but little difficulty is experienced, for with returning health and strength comes the disposition to move, and usually they promptly avail themselves of every opportunity for exercise, and gladly anticipate a change from the monotony and quiet of their rooms. Certain caution, however, in getting them up is requisite, owing to a tendency to vertigo and faintness many experience on assuming the erect position. Especially is care needed with those who have long been confined to their beds, but with patience, persistency, and determination to lift them out of their debased condition, they are soon enabled to master themselves, and over-ride their disagreeable sensations.

To overcome the ill effects of a prolonged rest, and give the weakened muscles an opportunity for judicious exercise that does not tire, as under ordinary circumstances, massage is employed. We employ massage with or without electricity. If either are deemed worthy of omission it is usually the latter. Notwithstanding the imputations cast upon massage, as being at this time especially fashionable, and of questionable value, except through its influence on the mind, there is no doubt that it possesses positive virtues as a remedial agent, and is a valuable adjuvant in all cases of nerve-tire and so-called nervous exhaustion. We appreciate its value in many joint affections, oftentimes witnessing surprising results from its use in the hysterical variety, and in cases of chronic thickening, whether resulting from inflammation or other inflammatory

conditions. It is, however, equally valuable in these cases, and assists in the production of equally surprising results. Under its daily use, it is remarkable to see how rapidly a weak, feeble, and anæmic woman will gain in strength and color, and how plump her thin, flabby muscles will become under its stimulating effect, especially when conjoined with excessive feeding. Whether by rubbing, shampooing, kneading, or gently percuting with the bulbs of the fingers, the effect is the same; it acts as a mechanical tonic. The capillaries are excited to increased activity, the circulation is accelerated, the skin becomes warmer, softer, and healthier, save in exceptional instances, the muscles firmer, the tender spots, which are so characteristic a feature, become less sensitive, and gradually fade away under its persistent use, and what at first was looked upon with distrust soon becomes a pleasant muscular exercise, which induces an agreeable sense of fatigue, not infrequently followed by refreshing sleep. Exceptionally a patient will be found, who is thoroughly annoyed, and made so rebellious by its application that it is wiser to omit this part of the treatment altogether, than to persist in its use. To do so will save one much time and trouble.

The next element, which is merely an auxiliary one, is electricity, the effect of which is to accomplish what can usually be done much better by manipulations and with less pain and discomfort. Whenever applied, the induction or faradic current is more frequently used, occasionally the galvanic; with the static variety I have had no experience. In faradism, by the muscular contractions it produces, we have at command a valuable means for exercise, and especially so in those who will not walk. If taken in turn nearly every muscle of the body from the head to the feet can be brought into play, and a sufficient amount of muscular energy displayed suitable for their requirements; yet it is not always gratifying or pleasing to the patient. It is a means of great power, and needs to be used with care and discrimination not to induce painful or disagreeable sensations. Of special value in hysterical paralyses and other functional motor disturbances, it is also of decided importance in overcoming the atrophy of muscles superinduced by their long disuse.

Many patients, however, complain of it, and it is not therefore always insisted on. When applied with a weak current and slow interruptions, it is usually agreeable; in many persons increasing the temperature from one fifth to one and one half degrees. It not infrequently reddens the skin, and gives a sense of warmth and comfort to those whose extremities are continuously cold and clammy. Besides its thermal effect it in some way, not yet explained, influences nutritive changes, a fact readily noticed in the growth and repair of wasted muscles.

The last and most important part of this characteristic method of cure is the matter of excessive feeding. By it patients who before were feeble, pallid, and thin, will become ruddy, strong, and fat; while those who were living on next to no food will develop a capacity for eating, only excelled by their ability to thoroughly digest it all. As the majority are placed on a gradually increased quantity of milk, so that when on a full diet the amount consumed will vary from three to four quarts per diem (I had one patient who took considerably more than a gallon a day) administered in divided doses, in addition to the three regular meals, which are varied from day to day to avoid a monotonous

diet that weakens and destroys the appetite, many will be found who will claim with considerable earnestness their inability to drink any milk whatever. This is commonly mere fancy. Such patients readily yield on ignoring their whimsical ideas and persisting in its use, and soon come to partake of it, with as little aversion and discomfort as any who are fond of it. Only in rare and exceptional instances does milk absolutely disagree; when it does, the different broths and soups can be substituted, although they are less advantageous and efficient in preparing the way for a larger and more expansive system of feeding for which milk is so admirably adapted.

It has often been a question in my mind in how far the watery element of milk, of which it largely consists, has an influence in laying a foundation for cure in these cases. If it be true, as Webber<sup>1</sup> assumes, that these nervous patients do not partake of sufficient amount of water, to either dilute and flood their tissues or carry off wasted and effete products, which in themselves act as toxic agents in profoundly disturbing the nervous system and its centres, then we have a ready explanation for the benefits accruing from its use, to say nothing of its value as an easily digested article of diet. Besides this, combined with overfeeding, it possesses a therapeutical value, even when administered above and beyond a patient's appetite or inclination, a fact, I hope at some future day to be able to fully demonstrate. It suffices here, however, to say, that it is evidenced in many ways, both in those who have gradually to be educated to the plan, and in those who take kindly to it. It is readily seen in the improved state of digestion and nutrition; in the rapid increase of both quantity and quality of the blood; in the growth of wasted muscles; in the development of healthy fat, and in the restoration of mental and physical power.

Fothergill,<sup>2</sup> in a recent work, offers the suggestion that a greater part of the nervous disturbances incident to this class is the result of nutritive defects, whereby the nervous system has lost its due proportion of lecithine, a complex nitrogenous fat found in the brain, nerves, and corpuscles of the blood<sup>3</sup>—the nature nor the influence of which on the nervous system, physiologists do not yet understand. If this be also true, though not yet proved, we have in this method through the nutritive functions, a ready and reliable means for its reparation. To one who has from day to day, watched the steady improvement of these cases, and witnessed new tissues built up, unstable and shattered nervous organizations quieted and re-established, and weak, listless, anæmic females recuperated with astonishing rapidity, the unavoidable conclusion will be that excessive feeding, under this form of treatment possesses a therapeutical value and power hitherto imperfectly realized.

As to the permanency of this plan, in consideration of what has already been stated, little need be said. In recoveries from it as from other methods and from other diseases dependent upon nutritive defects, the duration of cure so far as my observation extends, is as satisfactory and thorough as from any other. By it patients are lifted to a higher moral and physical plane. They have better blood; their anæmias are gone; their bulk increased; the chemical constituents of their

<sup>1</sup> S. G. Webber, Arch. Med. N. Y., 1880.

<sup>2</sup> Biliousness and Indigestion.

<sup>3</sup> Foster, Physiology.

fat more nearly normal; their nervous system stronger and healthier; and, generally speaking, they have learned to know and understand themselves in a way never before appreciated; a fact, which enables them to have a higher and more sensible regard for the hygienic laws of health. Much, doubtless, depends upon the temperament, mental characteristics, home surroundings, and social life with many, but with better digestion, and an improved mental and physical state, they are enabled to withstand the wear and tear of life, with as much fortitude and as little emotional disturbance as those more favorably situated; and if, perchance, again overtaken by disease are as little likely as they to be afflicted by nervous derangements, notwithstanding a law of the nervous centres, that when a series of nervous acts take place, they become stronger and stronger with each repetition.

With these observations I offer the following cases condensed from the records of the Adams Nervine Asylum, all of which I have recently seen, and all, with a single exception, are perfectly well; the patients themselves regarding their recoveries as permanent, and likely to continue indefinitely, so far as they could judge. The exception is one where six months after date of discharge an acute cellulitis supervened on taking a severe cold, and imprudently wetting the feet during a menstrual period. As, however, this patient is up and about her room, and had experienced none of her former nervous disturbances either before or during this acute attack, she may, I think, be included in the list as a permanent recovery with as much justice, as though the cellulitis had supervened six months after recovery from a fracture or a pneumonia. The length of time in the several cases enumerated, intervening between date of discharge and the present, is twenty-four, twenty-two, twenty-one, fourteen and nine months, respectively.

CASE I. A. B., aged thirty-nine, naturally a bright, vivacious, and energetic woman, after the decease of her invalid mother, whose sole charge she was, and to whom she devoted many years of tender care and solicitude, in consequence of strain from over-care, anxiety, and grief, became emotional, sleepless, and easily given to tire. Endeavors to keep up and overcome her sensations by attention to household duties proved unavailing, partly from the character of the case, and partly, without doubt, from having inherited a feeble organization; both of her parents having died of phthisis pulmonalis. All efforts at work aggravated her condition, and she soon became more emotional and irritable, had pain in her head and back, which was disseminated along the spinal column, and which also was more or less tender. She also stated she was unable to walk with ease or comfort. For two years succeeding this period she was a hopeless invalid, confined to her room and couch. During the third she sufficiently improved to admit of marriage, and was thereafter immediately taken to Europe in the hope that an entire change of scenes and surroundings might benefit her. After a protracted period she recovered, and remained perfectly well until six months ago, having in the mean time given birth to three healthy children, the labors of which were natural, rapid, and easy, and uncomplicated by any distressing sequelae.

About six months ago, "without obvious cause," she seemed to collapse, and on the slightest exertion experienced a sense of weariness and exhaustion, accom-

panied by palpitation, flushing of the face, and great pain in the back of her head and neck, and considerable bilateral numbness involving both feet and hands. This in itself alarmed and worried her, and intensified all her sensations. In consequence, she became full of morbid apprehensions, was overbearing, selfish, and wakeful, was also exacting in her demands on others, and indisposed to do what was required of her. Though plump in flesh, she was pallid and weak and easily given to tire. In this condition she was admitted to my care, with an inability to read or think, with many sensitive spots along the spine, and a smarting, burning pain over the sacrum. Appetite fair, bowels constipated, and menses regular. On rest, seclusion, and full feeding, which was attained in a few days, together with galvanism and massage to back, she made a rapid recovery and has since remained well.

CASE II. C. D., a bright, intelligent married woman, thirty-four years of age, with a constitutional tendency to an unstable, nervous organization, having passed through a severe affliction in the loss of her only child, and an acute nautical attack supervening four years later, upon a severe and prolonged flooding occasioned by a miscarriage, which was superinduced by overworking and neglect of proper medical attention while shopping in this city, endeavored by force of will to keep up and attend to her ordinary duties. The strain, however, was too much for her; her strength failed; she became pallid, listless, and dyspeptic, especially so after a severe attack of acute dyspepsia associated with persistent vomiting, recovery from which was troublesome and tardy. On admission she complained of an unending sense of tire, flatulency, inability to eat, think, or move, sleeplessness, ill-defined pain along the spine and back of her head; was anæmic; her muscles flabby, but not thin; bowels obstinately constipated, and in temper exceedingly capricious and exacting. Under firm management and treatment by rest, seclusion, etc., she rapidly gained flesh, color, and strength, as well as in moral tone, and has since continued well, a period of twenty-one months.

CASE III. L. C., an emaciated, sallow woman, fifty-two years of age, full of caprices and hypochondriacal ideas about her nervous system, stomach, and uterus. On four weeks' rest in bed with over feeding, etc., made an excellent recovery, with a gain of fifteen pounds, and has been in good health ever since, it now being twenty-two months since date of discharge.

CASE IV. E. F., an interesting but exceedingly pallid woman, forty-eight years of age, who has been an invalid for eighteen years past, or since a supposed attack of ovaritis at the age of twenty-five, the last seven of which has confined her to her room, although during the year and a half preceding her coming to the asylum she had had an occasional drive, was on admission noticed to be thin-blooded and weak, and unable to walk without fatigue or pain in the right inguinal region and a gasping respiration; a condition attributed to the combined influence of her peculiar nervous state and a medium-sized goitre. She was also emotional, sleepless, ate but little, and had a never-ending sense of weariness. She had been treated by a physician of repute for prolapsed uteri, and was wearing at time of admission a flexible ring pessary, without relief or gain in strength and endurance. On absolute rest in bed with over feeding, massage, malt, iron, and after a time cod liver oil, together with Swedish movements as she was commencing to get up, she became

ruddy and strong, and on discharge weighed thirty-five pounds more than at date of admission. After her discharge she spent the rest of the winter and spring in visiting friends in New York, and on her return home continued well until the accident to which I have already alluded.

CASE V. G. H., a highly educated and cultivated lady, soon after a sojourn in Europe and four years' residence with her sister's family in a Western city, where her time was mostly spent in aiding her in the devoted care of an insane husband, began to lose flesh, strength, and color, and feel wearied at trivial causes. Walking became tiresome; doing for others more so. She oscillated between her couch and slight exertions, among other things making occasional translations from the German for publication; grew dyspeptic, ate but little, and at times became emotional and morbid in her views of life. Failing to obtain material benefit from her own physician she came to the Adams Nervine Asylum. On treatment by rest, etc., a method so well adapted for these thin-blooded, feeble people, she gained in vigor and flesh, and went away well, weighing twenty-nine and a half pounds more than when she came. She has also continued to maintain a sound state of health.

It may be objected, that the number of cases cited is too small for satisfactory proof of the position assumed in this paper. But when such proofs are founded on personal examinations after one and two years' time, the duration of cure under these circumstances must possess some value in determining the permanency of results. Other examples of cure might be adduced, but they are purposely omitted, because the fact of permanency has not been obtained since date of discharge by other than hearsay evidence.

In conclusion, though not wholly germane to the subject, it may not be uninteresting to advert to the causes which produce the class of nervous invalids to which the cases enumerated belong. As, however, the five mentioned are insufficient for practical deductions, I offer the following statistics taken from the records of the same institution:—

Since date of opening when the first patient was received, to wit, April 1, 1880, 123 females have been admitted. Of these 45, or 36.5 per cent., were housewives; 39, or .317 per cent., had no occupation; 18, or 15+ per cent., were teachers; and 21, or 17+ per cent., with the exception of five, who were nurses, were quite evenly distributed among twelve different occupations or trades.

To analyze these statistics more closely, it is found that among housewives, overwork, care, and anxiety from domestic trouble and affliction were the assigned causes, and the same is essentially true of teachers, and those seventeen per cent. who were engaged in nearly as many occupations. Among teachers, however, overwork and care for others were expressed as the larger operative causes, though legitimate work in their profession was more frequently found to be associated with a distaste rather than from a love for it, and distasteful work of any kind is not apt to be healthy work. There is too much friction in it. As expressed by one teacher, who is a highly cultivated and intelligent woman, now under my care, "It was trouble and the care of an invalid at home that broke me down, not overwork in my profession, although more branches are now compressed into the same time where a less number was formerly thought sufficient.

Yet to one who is not fond of this work I can readily understand how a breakdown may occur, but not in one who really loves the work. It certainly did not break me down."

Of the 39, or .317 per cent., who did no work or had no occupation, it is a curious fact that but *one* attributed her present state of ill health to over study, and she is a Wellesley College graduate of comparatively recent date. The others broke down from underwork, or rather from leading aimless, listless, inactive lives. If these statistics afford any truthful indication of the causes which break females down and develop the peculiar nervous phenomena which are now so well known under the name of nerve tire, neuro-asthenia, or nervous exhaustion, they certainly point on one hand to the "tear of life" rather than its "wear," and on the other to the *enmity* of life, as prominent factors, and that after all, honest study and honest teaching, like all honest mental work, are absolutely conducive to sound health.

### TENOSYNOVITIS: <sup>1</sup>

ITS CAUSES, NATURE, SYMPTOMS, AND TREATMENT;  
BASED UPON AN ANALYSIS OF FIFTEEN CASES.

BY WILLIAM BARTON HOPKINS, M. D.,  
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TENOSYNOVITIS may be defined as an affection usually occurring in the forearm, and characterized by a peculiar creaking of the tendons as they move in their sheaths, depending upon a particular kind of strain to which the muscles belonging to these tendons have been subjected.

*Cause.*—The predisposing cause of the affection is the occupation of the individual, and in studying, therefore, fifteen cases, occurring in subjects of otherwise average health, the nature of their employment is worthy of special attention. In three of the fifteen the disease occurred in men employed in a dye-house, whose work consisted in wringing the goods, which had been soaked in dye; in two the patients were weavers, who threw the shuttle from side to side with the index finger of the right hand; one case occurred in a baker, from kneading bread; one in a boiler riveter, from hammering; one in a car driver, from using the brake; one in an iron moulder, from continued use of the shovel; one in a plaster worker, from stirring plaster with a hoe; one in a washerwoman, from using a clothes wringer; one in a laborer, who continued to work after receiving a severe contusion of the forearm from the fall of a heavy iron pipe; and one each in a rope twister, a marble rubber, and a painter.

In contrasting the above-named occupations with many others requiring far more muscular effort, and giving employment to many more workmen than these, the idea suggests itself that it is not the mere amount of strain to which the muscles and their tendons are put that predisposes to the disease, but rather the kind of effort, which is of a tedious, continuous, monotonous sort. On the other hand, trades which would appear likely to furnish subjects for the disease more frequently than those which have been already spoken of fail to do so. This, in some instances, can be explained. Gold beating, for example,

<sup>1</sup> Read before the College of Physicians, Philadelphia, June 7, 1882.

where an eight-pound hammer is used almost uninterruptedly for five hours, and is carried from above the shoulder down to the level of the waist, would seem to contradict this view, as the disease is unknown to one of the largest gold leaf manufacturers; a careful study of the movements of the operatives in performing this work, however, shows that the strain is not upon the muscles of the forearm, but rather upon those of the shoulder and arm; as the hammer descends simply by gravity and returns by recoil from the elastic block, composed of alternate sheets of gold and animal membrane, to a point where the biceps and deltoid muscles complete the elevation.

The exciting cause of the attack is usually the resumption of work to which the individual is thoroughly accustomed, after a shorter or longer interval, when he is out of practice, and when the parts involved in executing special movements have become less actively nourished; though in the case of the washerwoman the clothes wringer was used for the first time, and the rope twister was doing work that was new to him. In the laborer the attack was of traumatic origin.

**Pathology.**—The means of determining the exact lesion in this disease are necessarily to a certain extent conjectural, but as the pain and crepitation are coincident in their onset and subsidence, as there is no impairment of motion after recovery has occurred, and, as the parts under treatment regain their normal condition in a very short time, it seems highly probable that there is no true inflammatory process at all, certainly none extending beyond the stage of congestion, and that the creaking which exists is due to insufficient lubrication, with consequent dryness, not, as has been supposed, to exudation of lymph. Under rest and counter-irritation the congestion very soon disappears, the synovial surfaces pour out their proper fluid, and the tendons once more move smoothly and noiselessly in their sheaths.

**Symptoms.**—Soreness, amounting to positive pain upon motion or pressure along the course of the affected tendons, inability to use the part, and the presence of the peculiar creaking, which is communicated to the finger on palpation, are the symptoms which denote the existence of teno-synovitis.

**Diagnosis.**—From its common seat upon the dorsum of the forearm this affection may be mistaken for fracture of the radius. The history of the case, however, showing that there has been no blow or fall, as a rule; the quality of the crepitation, which is much softer and finer than that of fracture, and like that of cellular emphysema after fracture of the ribs, or that produced by rubbing two pieces of cloth between the fingers, and the way in which the crepitation may be elicited,—all leave little chance of error. The disease will not be mistaken for a strain of the muscle, if a careful physical examination is made.

**Treatment.**—From what has been already said, it will be seen that the disease is at once acute, painful, and disabling. It, however, yields, as a rule, readily to treatment; for the patient can seldom work more than a day after he is attacked, and finding that he exhausts the usual home embrocations, without relief, promptly seeks aid elsewhere; this enables the surgeon to institute treatment before an advanced stage is reached and permanent mischief done by a deposition of plastic matter. Absolute rest of all the parts concerned is the most important element in

the treatment; a palmar splint, therefore, from the elbow to the tips of the fingers is applied, when the forearm is the part affected. Counter-irritation is next indicated, and may be employed in one of two ways. If the skin is red, a band one inch broad of tincture of iodine should be painted in an oval form around the area over which creaking is felt; while a lotion of lead water and laudanum is applied within this band. In cases where there is but slight creaking, and no redness of the skin, tincture of iodine may be painted directly over the diseased part, without the employment of any lotion. The dressing is reapplied each day until all pain, tenderness, and creaking have disappeared, which generally occurs at the end of four or five days. After this a roller bandage alone is continued until the parts have regained their tone.

## RECENT PROGRESS IN DISEASES OF CHILDREN.

BY T. M. ROTCH, M. D.

### ICTERUS NEONATORUM.

In the *Lancet* for March 25, 1882, there is an abstract taken from *Virchow's Archiv*, which is interesting as showing the present state of our knowledge regarding that much vexed question, icterus of the newborn. The author says: "The mysterious jaundice which so often affects newly-born children has always given rise to much interest, and many hypotheses based for the most part on fancy rather than on fact. By some authorities its cause is referred to the liver, by others to the blood; modern theories render the former explanation the more probable, since the opinion that the elements of the bile are performed in the blood has been practically given up. Virchow believed that icterus neonatorum was merely a variety of the common catarrhal jaundice, and arose from duodenal catarrh, while Cohnheim has assumed that the bile formation of fetal life is small, and is so suddenly increased at birth, that the bile ducts are not at first competent to carry the secretion away; neither of these assumptions rests on evidence. Another group of theories ascribes the jaundice to the disturbance of the circulation in the liver which occurs at the change from intrauterine to separate life. Hewitt and Weber believe that the distended veins compress the bile ducts, while Frerichs has adopted an old theory of Morgagni, and suggests that the sudden diminution in the supply of blood to the organ leads to a passage of the secreted bile into the blood-vessels. The theory of Breschet, that the jaundice depends on changes in the coloring matter of the blood, and is thus hæmatogenic, has been recently revived by Epstein, but it rests on considerations which are, with one exception, presently to be mentioned, even more purely hypothetical, its chief support being the feeble argument that other causes have not yet been demonstrated. This lacuna in our knowledge has to some extent been filled up by the investigations of Birsch-Hirschfeld. This author says that it is difficult to avoid associating the jaundice in some way with disturbance of the hepatic circulation on the transfer of its chief blood supply from the umbilical vein, especially when regard is had to the conspicuous congestion and oedema of the liver, well described by Weber, which occurs in cases in which the circulation through the umbilical cord is interrupted

before the respiratory movements by their effect on the right heart afford an adequate compensation. It is to the connecting link between the two phenomena that Birsch-Hirschfeld's attention has been especially directed. He notes that the vessels in the hilus of the liver are surrounded by a dense layer of connective tissue, which is continued into the organ along the branches of the portal vein, and that in cases where there is venous obstruction in the liver in consequence of hindered birth this tissue is the seat of conspicuous œdema. A broad layer of gray pulpy tissue incloses the vessels, and is also seen around the umbilical vein in its diaphragmatic portion, extending also to the gall-bladder. The microscopic appearances of this tissue are those of œdema, with more or less abundant accumulation of round cells in the interstices of the tissue. That this swelling of the tissues must compress the bile ducts is sufficiently obvious, and Birsch-Hirschfeld has found that not only under these circumstances are the bile ducts distended, but there may be a positive difficulty in squeezing the bile out of the gall-bladder into the duodenum, while in the latter there is a manifest deficiency of bile. In cases where death occurs in the first day of life, beginning icterus may be distinctly detected, and the gradual increase of the jaundice in connection with this pathological condition may be observed in patients in whom life continues longer, as cases reported by Birsch-Hirschfeld demonstrate.

"A difficulty, however, in accepting this theory is presented by the fact, brought forward by the advocates of the hæmatogenic origin of the jaundice, that presence of bile pigment can rarely be demonstrated in the urine. The cause for this is not very clear; its significance, however, is lessened if not removed by an important fact ascertained by Birsch-Hirschfeld, that in fatal cases of this infantile jaundice the presence of bile acids may always be demonstrated in the pericardial fluid, whereas they cannot be found in other children who do not present jaundice. This may be taken as proof that the color depends on the presence of bile in the blood, and not on any mere destruction of blood corpuscles and transformation of blood pigment. It may also be regarded as proof of the hepatogenic origin of the jaundice. By the definite theory of Birsch-Hirschfeld all the characteristics, peculiarities, and time of development of this form of jaundice may be perfectly explained. In very rare cases, however, jaundice of a much graver type occurs in new-born children. One cause of this is a congenital atresia of the bile ducts; more frequently it is due to the compression of the ducts by syphilitic inflammation and growth, the syphilitic peripylephlebitis of Schäffel. Another form, which is extremely grave, seems to be developed by an infective process.

"The *materies morbi* enters by the navel wound, and is perhaps the same as causes puerperal fever in the mother, conveyed, it may be, by bacteria, since two forms of micro-organisms may be found in the blood of infants in this condition: spherical and small rod-shaped bacteria, probably identical with those found in septicæmia in the mouse. Further investigations are necessary to ascertain whether these correspond to two different forms of infection. Birsch-Hirschfeld's observations, however, tend to show that the rod-shaped bacteria occur especially in the form in which the disease develops rapidly as a virulent general infection, with a strong disposition to hemorrhage. In these cases an arteritis umbilicalis has generally been found,

and the conclusion has been drawn that this vessel is the channel of infection.

"In fifty cases, phlebitis umbilicalis was found in eleven, simple thrombus of the vein in four, arteritis alone in thirty-two, and inflammation of both vessels in three. Nevertheless, even when the artery alone is conspicuously diseased, the liver, as a rule, shows intense alterations, inflammatory changes in the peripheral and interacinose tissue and acute degeneration of the liver cells, which constitutes a strong reason for believing that the infection reaches the liver by the umbilical vein. After birth the varying pressure on the liver cells due to the cardiac and respiratory movements causes an alternate emptying and filling of the remnant of the umbilical vein, while the contraction of the artery arrests its own circulation; hence the conditions are most favorable in the artery for the local development of the morbid process, but in the vein for systemic infection, and the movement of the blood in the latter may explain why the local changes in it are less intense.

"Birsch-Hirschfeld describes three cases in which there was a central phlebitis of the umbilical vein and a pylophlebitis had developed at the opening of the umbilical into the portal vein, whereas the whole lower end of the former was free, a condition which can only be explained by assuming that the movement of blood in the vein carried the infectious material forward, so that its action was exerted chiefly on the portal vessels. This condition may easily escape notice in an ordinary examination. No relation is to be traced between the intensity of the vascular change and the degree of the jaundice which is so constantly associated with this infection, but the former is always intense when the changes in the substance of the liver are well marked; thus it seems likely that this jaundice is also of hepatogenic origin, and it is probably due, like the benign form, to the swelling of the peripheral connective tissue, compressing the bile ducts within the liver itself. We can thus understand that the degree of jaundice should lessen towards the close in cases of severe general infection. The conditions which favor the occurrence of the benign form of jaundice, premature birth, weak breathing, etc., also favor the development of the malignant variety, if there exists any cause for septic infection."

#### DIAGNOSIS OF VESICAL CALCULUS.

Volkmann's<sup>1</sup> investigations on the diagnosis of stone in the bladder in children is of importance to the general practitioner as well as to the surgeon especially interested in the treatment of these cases. He states that the rectal bimanual examination for stone is of great value. The patient is thoroughly placed under the influence of an anæsthetic until the abdominal muscles are completely relaxed. The bladder is to be empty or but slightly distended; two fingers of the left hand are to be carried as high up into the rectum as possible; the right hand presses upon the abdomen above the symphysis pubis and forces the bladder down towards the rectum until both hands meet. In this way even small calculi can be readily detected, but it needs considerable practice and experience to determine the size of the stone, Volkmann finding at first that the stone turned out to be larger on extraction than he had expected on examination, although distinctly feeling it between his fingers. The best way

<sup>1</sup> Centralblatt für Chirurgie, No. 11.

to determine the size is to lift it up on to the os pubis and hold it there; this Volkmann has done in his last four cases, the last stone which he palpated in this manner being as large as a chestnut.

#### HEMOPHILIA.

Dr. Hertzka,<sup>1</sup> of Vienna, reports a fatal case of hæmophilia in a boy thirteen months old; the infant was vaccinated without accident at six months; the father and an uncle were bleeders; there was no history of tuberculosis. At the age of twelve months the infant had an attack of variella, and then began to have hæmorrhages from the mouth and nose, which increased with intervals, causing death at the end of a month.

#### BELLADONNA.

Dr. Jules Simon<sup>2</sup> appears to have had a large experience in the use of belladonna in children at the Hôpital des Enfants-Malades, and his extensive use of this drug confirms the opinion that children have a great toleration for it. He found it of especial use in allaying the cough of pertussis, but his results have more significance as determining the dose which can be given at different ages than as showing definite results in the various diseases for which it was used. A boy of thirteen years with pertussis began with thirty drops of the tincture in twenty-four hours, increased to forty drops the next day, and sixty drops the following day; the latter dose was continued for ten days without any bad symptoms and with improvement in the cough. A girl thirteen years of age beginning with ten drops in the twenty-four hours, had the dose increased to one hundred and twenty drops without accident. Two boys, respectively three and four years old, took the drug in doses varying from fifty to sixty drops in twenty-four hours. Simon, however, advises giving not more than five drops in the twenty-four hours to infants of one year; between two and three years from five to ten drops; at three years ten to twenty drops, and above three years thirty to forty drops; he always divides the entire dose into at least two portions, and never begins with more than ten drops at any age.

#### SEED IN BRONCHUS.

Dr. Haviland,<sup>3</sup> of Danville, Vermont, reports the case of a boy, two years of age, who was healthy, and weighed thirty-three pounds; while playing on the afternoon of February 26th he suddenly threw up both hands, and came near choking to death before the mother could reach him. After being slapped on the back he breathed more easily, but the respiration never became normal. On the third day after the attack the symptoms were considered to be pneumonic. With remissions and exacerbations his condition remained about the same until the middle of April, when the expectoration began to be more profuse and very offensive. About the 5th of May he was having fever, night sweats, and hectic phenomena, leading to a diagnosis of phthisis by the attending physician. The temperature was 101° F., and the pulse 110. He had never been able to lie flat on his back since the beginning of the attack in February. He had not expectorated for several days, and the parents stated that when this occurred there was always high fever, which was relieved when expectoration returned. July 7th

Dr. Warren opened the three upper tracheal rings, and inserted a hard rubber tube. The external incision was made nearly to the sternal notch, revealing the trachea, which was seized by tenacula. Upon being opened a gush of pus followed, the first thrown off for three days.

Owing to extreme weakness respiration failed several times during the operation, and was re-established with some difficulty. The patient, however, finally came out from the anaesthesia very well. During the first twenty-four hours the muco-purulent discharge through the tube was very profuse, and was estimated at more than half a pint. After two or three days there was progressive diminution of the discharge, with improvement in all the symptoms, and increase of appetite.

July 27th, twenty days after the operation, the discharge having nearly ceased, and the breathing being normal, the tube was removed, and closely following came the cause of all the trouble, a "creeper" seed. This seed very closely resembles that of the water-melon in size and shape. In the next three weeks the patient gained three and a half pounds, and by December 9th was fat and ruddy, and weighed thirty-nine pounds.

#### CURDLED MILK IN BRONCHUS.

Dr. S. P. Warren<sup>4</sup> reports the case of a little girl, two years old, suffering from the subjective symptoms of membranous laryngitis; she was a healthy looking child, and had been playing about the house all day when a choking attack occurred. The respiration was stridulous, expiration being slightly more forcible than inspiration, the voice was husky, and the cough hoarse and brazen. Auscultation showed nothing unusual in the lungs excepting a few fine mucous râles at the left apex. The temperature was normal, the pulse was rapid. Turpeth mineral was administered at once, and vomiting of partly digested food quickly followed, but the dyspnea was not relieved. Two hours later the child sprang up, grasped its throat, was horribly convulsed for breath, and in a few seconds respiration was nearly suspended. Little by little it began to breathe very feebly again, but was moribund. Expiration was noticed to be more difficult than inspiration. A male catheter, passed through the mouth into the larynx, showed the trachea to be patent, and no obstruction could be felt about the epiglottis. Chloroform was procured to relieve a possible spasm of the larynx or bronchi, but at the second inhalation the child died.

At the autopsy the trachea was found to be free from membrane or inflammation. The left lung was greatly congested and just floated in water, the right was normal, though it contained little air. A lump of hard curdled milk, three quarters of an inch long and just large enough to slip up and down in the trachea, was found firmly lodged in the right bronchus; the smaller bronchi leading to the right upper lobe were also plugged with the same material. After the autopsy the parents remembered that the child had strangled and had had a severe coughing fit at supper three days before it died.

#### TETANUS NEONATORUM.

The following case, occurring under the care of Dr. Welch at the Birmingham and Midland Hospital, is interesting from the fact of recovery taking place in this

<sup>1</sup> Archiv für Kinderheilkunde, Bd. xvi.

<sup>2</sup> Gaz. des Hôp., January 5th and 11th.

<sup>3</sup> American Journal of Obstetrics, April, 1882.

<sup>4</sup> New York Medical Journal, May, 1882.



usually fatal disease. A boy twelve days old was brought to the out-patient department November 4th; the infant was reported to have been strong and healthy at birth; the cord separated at the end of the fourth day, and nothing unusual was noticed for four or five days, when it began to have difficulty in sucking, its mouth seemed stiff, and its hands drawn.

On examination it was found to be entirely unable to suck, and did not swallow anything given to it from a spoon; the hands were tightly clinched, the toes were extended, and the arms and legs stiff and flexed. The neck was not arched, but the muscles were rigid; there was some redness and hardness about the umbilicus. The little finger could with difficulty be passed between the gums. The child uttered a constant low wail. Half a grain of chloral hydrate was given, the child was placed in a warm bath for twenty minutes, and while in the bath was fed from the bottle; there was some difficulty in introducing the nipple between the gums, but this being once overcome the child sucked readily, and but little of the milk ran out of his mouth. The spasm of the muscles relaxed slightly while the child was in the bath, and it fell asleep when taken out. Three hours later it was again fed, but at least a quarter of the milk ran out of its mouth. Orders were given to keep it constantly under the effect of chloral, to feed it regularly, and to apply a water dressing to the umbilicus. The child slept fairly during the night, but the rigidity had not decreased, the lips were drawn over the gums, and the eyelids were closed and oedematous; the last time the child was fed in the night nearly all the milk ran out of the mouth. November 6th the spasm of the muscles appeared to be more painful, causing the child to cry out sharply at times. At night the child was worse. Chloral was given in one-grain doses, and a warm bath night and morning. There was rather less inflammation about the umbilicus, and on the following day there was some discharge from the umbilicus, which was softer, though still red and excoriated. The child was beginning to look pinched, and there was no improvement in the rigidity. November 8th the umbilicus was touched with nitrate of silver; during the day there was diarrhoea, for which an enema containing one minim of the tincture of opium was given in the night. On November 10th the umbilicus was looking better, and the diarrhoea was less, but watery mucus escaped from the rectum when the spasms occurred. It was found that three or four grains of chloral, in the twenty-four hours, kept the child constantly under the influence of the drug. The symptoms were worse during the night than during the day. November 12th it was decidedly easier to pass the finger between the gums, and less milk ran out of the mouth when it was fed. The arms were stiff and the hands clinched, but it cried out less frequently with spasm. The umbilicus was healed. There were double inguinal and an umbilical hernia due to the straining during the spasms. November 15th the toes were not extended; the hands were clinched, the left arm could be straightened with a little force, but the right arm and the muscles of the neck were still rigid; the mouth could be opened better, it took milk well, and slept most of the day and night. November 17th the child was more rigid, the toes were extended, and when it was lifted by its clothes it was perfectly rigid and stiff. Two to three grains of chloral were given daily from this date. From this time the child steadily improved, and on

November 19th it opened its mouth when it cried. November 21st the muscles generally were relaxed, though the hands were clinched. When discharged, December 9th, the thumbs and fingers were still flexed, but could be extended with a little force and without making the child cry.

The child was seen a month after its discharge; it then looked plump and healthy, and there was not the least muscular rigidity, though it still held its thumbs and fingers slightly flexed.

## Hospital Practice and Clinical Memoranda.

### BOSTON CITY HOSPITAL.

SERVICE OF DR. WILLIAM INGALLS.

REPORTED BY L. F. WOODWARD, M. D. AND H. A. WOOD.

#### FIVE CASES OF WOUNDS OF THE PALM FROM BLANK CARTRIDGES FOLLOWED BY TETANUS AND DEATH.

CASE I. Willie S., aged eleven, on June 13th, while playing with a cheap toy pistol, shot himself in the left hand with a blank cartridge. The wound was poulticed, and he had no symptoms until June 17th, when he woke up with pain in his back, and soon after found that he was unable to open his mouth, and that the flexors of the injured hand were beginning to assume a condition of tonic contraction. Towards night the rigidity extended to the muscles of the back and neck, and spasms of nearly all the voluntary muscles of trunk and arms occurred. Next morning the spasms became well marked, and he was removed to the hospital in the afternoon.

Examination showed a strong, well-developed boy of eleven, lying with head thrown back, legs extended, arms semi-flexed, and thumbs clinched between the first and second fingers; the left wrist was strongly flexed; there was marked rigidity of the whole trunk and neck, with spasms occurring about once every five minutes; the jaw could only be opened a small fraction of an inch; abdominal muscles were hard and board-like; there was slight opisthotonos. On his left hand on the palmar surface a little to the outer side of carpal extremity of the fifth metacarpal bone, was a circular wound about the size of a 22 cartridge, with contused, jagged edges; no redness or swelling; not tender. The probe passed downwards, inwards, and backwards for about an inch. The wound was freely incised and poulticed, and the patient put upon chloral and bromide. There was an increase in the severity and in the number of the spasms up to about the fourth or fifth day after entrance. After this they became slightly less severe each day, and traveled downwards towards the feet. Patient's strength continued good till about June 26th (eight days after entrance), when his pulse, temperature, and respirations rose together, the temperature reaching 107.2° F., and he finally died on the 29th from exhaustion, being almost entirely free from spasms for the last few hours.

CASE II. T. McG., a rugged boy of eleven years, shot himself in the palm of the left hand on July 4th. On July 5th the hand began to be inflamed, and the inflammation extended up the arm to the shoulder. On July 11th, the day of entrance to the hospital, there was a cellulitis of the whole arm, the redness extending on to the chest; the whole arm was

tense, edematous, and painful; the back of the hand was covered with blebs, the palm showed a small wound between middle and ring fingers, at metacarpophalangeal joint, filled with protruding granulations. July 12th a fluctuating spot on back of the hand was incised under ether, and very foul pus and pieces of wadding were let out. This abscess was found to connect with the palmar wound. The arm was also scarified, and the whole enveloped in a poultice. During the following days the arm did not improve, the back of the hand sloughed, exposing the interosseous muscles, and leaving the unopposed flexors to strongly flex the hand on the fore-arm. The skin assumed a purplish hue over the arm, and the chest, front and back, to the median line, was inflamed. On the 14th there first appeared a slight spasmodic contraction of the muscles of the affected arm, and prominence of the sterno-mastoids; there was no difficulty in opening the mouth or protruding the tongue; the number of muscles involved gradually increased until both arms, body, and neck were affected, though not severely; the patient did not cry out. On the 15th the muscles of mastication and face became affected; the head was thrown back on the body; teeth clinched, and body rigid. At the end the spasms became less severe and frequent, pulse rapid and feeble, and extremities cold, death taking place forty hours after first invasion of spasm.

CASE III. J. S., aged thirty-nine, shot himself in the hand on July 4th with blank cartridge from pistol. Entered hospital on July 11th. The wound did not present anything unusual, but on July 10th he could not open his jaws. Soon after there came on a spasmodic contraction affecting the muscles of the jaw and neck, so that the head was thrown back. There was severe pain in the back, neck, and jaw. Abdominal muscles were tense and board-like.

Examination of the hand showed a small, circular wound on palmar surface, at base of index finger; superficial; no discharge. During the night there were tetanic convulsions every fifteen to thirty minutes; patient bit his tongue, and cried out with pain; the spasms lasted one to two seconds. On the morning of the 12th the spasms were more frequent, thirty-five in an hour, with opisthotonos; spasms varied in intensity and frequency (from five to eighty-eight per hour) during the day; he dozed at times; complained of sore mouth, and was at times delirious. On the morning of the 13th the spasms were less severe and fewer in number, patient becoming unconscious and rapidly weaker; at ten A. M. he had a succession of spasms, became cyanosed, and respirations stopped. Artificial respiration was practiced, and patient breathed again for about thirty minutes, when he died exhausted, but without further spasms.

CASE IV. J. M., a delicate youth, aged thirteen, shot himself in the right hand with a toy pistol on July 1th. Suffered but little inconvenience from the injury until July 19th, when, on awaking early in the morning, was unable to open the mouth widely, could hardly speak, and felt great stiffness about the jaws, and pain in the neck and shoulders. On entrance, later in the day, the hand showed a small, circular, slightly inflamed wound, seated between the middle and ring fingers, its direction being vertical and nearly one half inch deep. No foreign material could be found in it.

The spasms were well marked, involving the mus-

cles of mastication, face, neck, and body; the head was violently thrown back on the body, and the patient cried out with the pain.

These spasms increased in frequency and severity during the day and night, opisthotonos being well marked. At the very last the spasms were very severe, almost continuous, the patient was literally stiff as a board, and very livid. He died during a spasm, thirty-three hours from first symptoms.

CASE V. J. J. M., aged sixteen, was shot in the left hand with a toy pistol on July 4th. All went well until the 12th, when he noticed at supper an inability to open the mouth widely, and a stiffness about the jaws. He passed a very restless night; spasms were not markedly developed until the morning of the 14th (the day of entrance to hospital), when neck and body began to be affected so severely that the patient cried out with pain, "Oh my back," and bit his tongue during the spasm. The wound was superficial, with very little discharge, located in the palm of left hand near the metacarpophalangeal joint of the ring finger.

Shortly after entrance the patient was put thoroughly under the influence of *eserine*, given subcutaneously, and in doses of one tenth to one twelfth of a grain every hour, until profuse salivation, universal tremor, involuntary defecation followed. Patient kept under the influence of *eserine* by one sixth of a grain every one and a half to three hours. Spasms, which on entrance were very frequent, diminished to five or ten per hour, but when the influence of the drug passed off, the spasms increased to fifty or seventy per hour. Patient lay in a quiet state, apparently dozing and comfortable, but conscious.

When this treatment had been kept up for nearly fifteen hours, patient's strength showed signs of failing, and it was omitted. The pulse was 180, and feeble; tincture of digitalis was given, after which it became a little stronger, but finally the vital forces seemed to give out, pulse became irregular, fluttering, pupils were dilated, and death occurred some two and a half days from onset.

During the course of the disease the respiration, pulse, and temperature gradually increased from 33, 120, 99.6° F. respectively on entrance to 60, 124, 104.6° F. at time of death.

## TRAUMATIC TETANUS.

BY CHARLES S. MILLET, M. D., ROCKLAND, MASS.

AN Irish boy, twelve years old, while playing with a toy pistol that explodes blank cartridges, shot himself in the palm of the left hand. The wound, a little more than an inch in length, was between the third and fourth metacarpal bones, and parallel to them. The third and fourth fingers were contracted upon the palm, especially the little finger. Upon digital examination I found that the wound extended into the palmar muscles, but that the bones were uninjured. The boy complained of pain in the little finger, especially when I attempted to extend it. I washed the wound out carefully and drew the edges together with adhesive plaster.

This happened Saturday, June 24th, and the next day I found him suffering a great deal of pain, which had been sufficient to keep him awake during the night. His pulse was natural, but he had no appetite. I left

an opiate, and called again Wednesday, June 28th. At this time I removed the plaster; the wound looked well, and seemed to be healing by second intention, though very little pus flowed from the wound. The hand had a puffy appearance, but there was no pus burrowing. The fingers were still markedly contracted. I left some permanganate of potash, with directions to apply it constantly to the wound. I did not see the boy again until Monday, July 3d, when the hand was found in about the same condition as when I last called. The wound had a pale blue appearance, and there seemed to be some exuberant granulations at one end of it. They told me that his appetite was very poor, and that he slept but little, so renewed the opium and prescribed a stomachic tonic containing some iron. The next day, July 4th, the boy ran away to a picnic, about two miles distant, and while there had some sort of a spasm which compelled him to return home immediately. I was not sent for, but another physician was called in for "an opinion," who said everything necessary was being done, and left him bromide of potash. The next day he was about the house, but while coming down-stairs had another paroxysm and fell, cutting a long gash in his chin, which wound, however, began to heal at once by first intention. Nothing more was done for the boy that day, but the next afternoon, Thursday, July 6th, I called according to agreement, not having heard that the patient was worse.

He was tetanoid, and opisthotonos was present to a marked degree. Temperature  $100^{\circ}$  F.; pulse 90, strong and full. The temperature was not taken again, because the spasms prevented. I got him to take in milk, by means of a glass tube, one gramme of bromide of potash and one half gramme chloral, and ordered it repeated every two hours. He could not open his mouth more than half way, and large drops of sweat were on his forehead. The paroxysms occurred every fifteen minutes and lasted two or three. In the evening the wound was washed out carefully, and a poultice applied. The wounded hand was in a peculiar state of tonic contraction, the hand being drawn back at right angles with the forearm, while the fingers were rigidly flexed upon the palm. In addition to the foregoing medicine I now ordered fifteen drops of the tincture of physostigma every two hours. He was now sleeping some between the paroxysms, which were no more frequent or severe. His mind was perfectly clear, and he told me that his mother had not obtained the medicine which I had prescribed the Monday previous. He had voided his urine during the evening; his pulse was between 80 and 90. I called at six A. M. Friday morning, when it seemed to me that the paroxysms were not so severe as they were the day before, though he continued to call upon his attendants to pry his mouth open with a spoon when he felt the spasm coming on, as he had done the day before. From about nine o'clock until between one and two P. M. of Friday the boy suffered from no spasmodic contractions, was wide awake, and could open his mouth quite wide; opisthotonos and pleurothotonos however were still present. After that time the spasms returned, but not quite so severe as they were the day before. I continued the same remedies, increasing the physostigma up to twenty drops. I was unable to get the boy to take any liquor, probably because he had seen the evil effects of it at home. His pulse was 80, regular, and not at all thready. In the evening the paroxysms were occurring oftener (about every five minutes), but he slept

between them. The wound was dressed for a third time that day, but I could not notice anything peculiar about it. Some pus could be caused to flow from it, and granulations were not exuberant. Saturday at six A. M. I saw him again. He was semi-comatose, and his face and neck became cyanotic during the paroxysms, which were longer than the intervals between them. His pulse was only 80, and his body showed but little emaciation (he was a fleshy boy), and that mainly in the countenance. At ten o'clock that forenoon he died in a paroxysm, asphyxiated.

It now seems to me highly probable that the superficial palmar branch of the ulnar nerve was injured, since the wound was in its immediate neighborhood, and because the third and little finger were clinically contracted from the first. There was nothing about the appearance of the wound, however, which would lead me to think so.

In another case with a similar wound I would see the case oftener, notwithstanding any scruples the parents might have. It is a question in my mind whether or not the cessation of the paroxysms during a part of Friday was due to the medicines given.

## Reports of Societies.

### PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL OBSERVATION.

BY M. H. RICHARDSON, M. D., SECRETARY.

#### TORTICOLLIS.

DECEMBER 19, 1881. DR. BRADFORD showed a patient with torticollis, operated on a week before by tenotomy of the sterno-mastoid. The patient was wearing an appliance for correction of the position, first described by Mr. Swan, of Dublin. This consisted of straps fastened to the head, and secured to buckles placed in a plaster jacket which held the trunk. A light plaster bandage was applied with the patient in a standing position, encasing the trunk and passing over the elevated shoulder. To prevent the bandage from being pulled upwards padded perineal straps were used, and the plaster "case" was sufficiently secured.

To prevent the head from slipping within the bandage intended to hold it rubber adhesive plaster was applied to the patient's forehead and cheek, and bandages sewn on to the end of these. The bandages were then wound about the head, passing under the chin, and sewn together. Strips of webbing were then sewn to the bandages at such points as it was found necessary in order to hold the head in any desired position. The number of straps as well as their position and that of the buckles varied in different cases. As a rule Dr. Bradford had found three straps needed in each case.

In these three cases in which the appliance had been used it had been found effective in two; in one, owing to imperfect application, it had not appeared thoroughly efficient, and a steel apparatus was used. The great merit is that it can be easily applied, and that the surgeon is entirely free from the instrument maker.

Dr. Bradford showed also a leather jacket worn by a patient with curies of the spine in the lower dorsal region.

DR. LANGMAD said that in these cases the simple home-made apparatus seems to be better than the more expensive and complicated appliances formerly

used. These things argue well for the perseverance and ingenuity of those who are working for the correction of these deformities.

DR. PARKS said that when he was resident physician of the Children's Hospital of Philadelphia, elastic apparatus was used for curvature of the spine. He settled down at last to taking stiff, thin board, which did much better than anything he had ever seen before.

DR. LAWRENCE read the regular paper on

#### PHONIC PARALYSIS WITH RAPID RESPIRATION.<sup>1</sup>

DR. LANGMAID said he was much interested in the rapid breathing, and inquired whether the reader had found any proper explanation for it. It seemed to him very extraordinary indeed. The persistence was the remarkable thing about it. He wondered whether there was any connection between the aphonia and the rapid respiration, and if there was whether there might not have been some nervous lesion impossible to discover in the respiratory centres.

DR. LAWRENCE said that he thought such an explanation possible. It certainly occurred to him that some lesion of the respiratory centres in the medulla might have occasioned this peculiar symptom.

DR. DEBLOIS said that he made several examinations of this case. There was one thing which he noticed with regard to the paralysis, and that was partial movements of phonation. The arytenoid cartilages moved, and the cords partially approached each other, then they were arrested, and the edges were considerably relaxed. He thought the whole case could be accounted for on the theory that there was a tumor or growth pressing on the trachea or veins supplying the larynx.

whose pulse has not reached 120 twenty-four or more hours before death. The treatment chiefly relied upon in cases with rapid pulse is stimulant, brandy being given in large amounts (in one case twenty-four ounces in twenty-four hours) with apparent benefit. The cold bath was employed, but not in a sufficient number of cases to afford decided results, and Dr. Stedman says, "If I were restricted to one remedy and one drug in the treatment of typhoid fever, I should choose the sponge bath and brandy for my pharmacopoeia." Our space does not allow us to allude to other points in this interesting article which may be read with profit by every medical practitioner.

A Synopsis of Fifty Medico-Legal Autopsies, by F. W. Draper, M. D., includes post-mortem examinations in fatal cases of abortion (criminal), drowning, strangulation, suffocation and smothering, asphyxiation, poisoning, cold, gunshot and other wounds, rupture of viscera by external violence, and sudden death from natural causes. The well-known ability of the reporter renders this series a valuable contribution to medico-legal science.

A Synopsis of Gynecological Cases, by Dr. G. H. Lyman, includes cases of most of the various diseases of the pelvis and its viscera common in women, which were in the hospital during the five years preceding January 1, 1881. The article will prove of much interest to those practicing this branch of medicine, and shows the vast amount of benefit which a large and well-offered hospital can confer upon women of the lower and middle class who are suffering from uterine and ovarian diseases so common among them, and often so disastrous in their results unless treated with skill. Among the various diseases treated we can only briefly state that there were sixteen cases of puerperal septicaemia, seventy-six of abortion, fifty-two of disorders incident to pregnancy, one hundred and one of endocervicitis, six of hematocele, one hundred and forty of pelvic effusions, and many others.

DR. R. T. EDES's article on High-Pressure Education; its Effects, is a suggestive essay upon one of the most discouraging class of maladies which medical men have to do with. The frequency with which "nervous prostration," or neurasthenia, as it is now often called, is met with among young women engaged in teaching, or who have recently graduated as scholars from our public schools, has suggested to Dr. Edes that excessive mental application is often the exciting cause of the disease. He gives brief outlines of thirteen cases, in which the patients, either as teachers or scholars, had been subjected to long-continued mental strain, sometimes, and probably very often, under unfavorable hygienic influences. We wish a copy of this article could be sent to every member of the Boston School Committee, and we hope that it may lead to the appointment of a Medical School Inspector as the first step in the reformation of the glaring neglect of hygiene which is the source of so much injury to the pupils in our schools.

Cases of Diphtheria, Winters of 1880 and 1881, under the care of Dr. Hall Curtis, give the details of thirty-nine out of forty cases, of which six died. Almost all of them came from houses on "made" land, where the soil is damp, and a majority of them from houses where other cases of diphtheria had occurred. The patients were placed in detached wards, each holding from one to four beds, with free ventilation and plenty of sunlight; the air was kept moist by carbolized steam; food and stimulants were regularly given.

### Recent Literature.

*Medical and Surgical Reports of the City Hospital of the City of Boston.* Third Series. Edited by DAVID W. CHEEVER, M. D., OLIVER F. WADSWORTH, M. D., and A. L. MASON, M. D. Boston: Published by the Trustees. 1882. Second Notice. Medical Papers.

DR. STEDMAN's article on Typhoid Fever is based on 1036 cases, admitted during the ten years between January 1, 1871, and January 1, 1881, with a percentage of mortality of 17.9. Adding to these 152 cases treated during the previous five years by Dr. Upham, with a mortality of 13.8 per cent., we have a total of 1188 cases, with 207 deaths, or 17.3 per cent. Deducting from the whole number of cases 32 which were admitted moribund, and dying within forty-eight hours, 1088 cases give a mortality of 16 per cent. When we remember that a large proportion of these patients did not come under hospital treatment until they had been sick several days, and that in many instances their mode of life and hygienic surroundings probably unfitted them for resisting the effects of a grave disease like typhoid fever, these results will compare favorably with those of other hospitals. The details of seventeen cases, with autopsies and temperature charts, are appended. Dr. Stedman's hospital experience leads him to the opinion that while the temperature is an invaluable guide in diagnosis, more certain indications are furnished by the pulse in respect to prognosis and treatment. He has seen no patient die

<sup>1</sup> See JOURNAL of July 22.

"Tincture of the muriate of iron and chlorate of potassa in glycerine and water as a vehicle, with salicylic acid, formed the treatment, while dry cold, in the shape of an icebag, was kept to the throat externally. Every two hours the pharynx was thoroughly painted with compound tincture of benzoin."

Notes of two Cases of Uterine Fibroid, by Dr. O. W. Doe. The first case was that of a large tumor which was removed by dilating and incising the os, dividing the mucous membrane covering the growth, and stimulating uterine contractions by administering fluid extract of ergot. In consequence of septicæmic symptoms the expulsion was finally completed by extraction with the vulsellum. The patient did well. The other case illustrates the great difficulty sometimes found in diagnosing uterine fibroid, some of the conditions resembling those of pregnancy, while in other respects it appeared like a fibrocystic tumor. The extremely prostrated condition of the patient seemed to render operative interference unjustifiable. She died from hæmorrhage, and the autopsy showed the disease to be an interstitial fibro-myoma.

In An Analysis of Two Hundred Cases of Primary Pleurisy, by Dr. A. L. Mason, (not including those which are consequent upon other forms of chest disease, nor those of empyema) several interesting facts are brought to light. In regard to ætiology it appears that the number of admissions in August was greater than in any other month except May; and while exposure to cold and wet, especially when coincident with drunkenness, was considered an exciting cause in about a quarter of the cases, still more than half remain without any assignable cause. It would have been more satisfactory if a report of the condition of the urine (density, daily amount, presence or absence of albumen and casts) had been added to each case, in order to ascertain, if possible, whether the pleuritic inflammation could have had any connection with renal disease.

Tapping was performed one hundred and twenty-two times in seventy of the whole number of cases, "with no unfavorable result which could be attributed to the operation in any instance, but usually with great and permanent relief." "The danger is not in the operation, but from the delay in performing it, or from some coincident malady on the part of the patient." In six cases effusions which were serous at the earlierappings later became purulent, and required incision and drainage.

Cases with Autop-y, by Dr. E. G. Cutler, pathologist, include two of ulcer of the duodenum. In one of them, fatal from hæmorrhage, there was congenital absence of the left kidney and ureter. The other was complicated with cancer of the œsophagus with perforation into a bronchus. A large cavity was found in the right lung filled with fluid similar to that contained in the stomach. It was evident that a portion of the contents of the stomach had been forced up through the œsophagus into the bronchus, and that the disorganization of the lung was the result of post-mortem digestion. The abdomen was distended by a large volume of gas in the peritoneal sac, the result of a perforation of the duodenal ulcer. Two cases of aneurism of the celiac axis, with rupture; one of aneurism of the aorta, bursting into the left auricle; one of chronic parenchymatous nephritis with hydronephrosis of the other kidney; and one of sporadic cerebro-spinal meningitis complete the list.

The Third Series of the City Hospital Reports compares well with its predecessors, and attests the industry, zeal, and skill of its compilers.

*A Manual of Ophthalmic Practice.* By HENRY S. SCHELL, M. D., etc. Philadelphia: D. G. Brinton. 1881. 263 pages.

The author's object, to state briefly the generally accepted principles of ophthalmology, and to describe those methods of treatment upon which he has become accustomed to rely, from personal experience of their value, has been accomplished in this manual with a good degree of success. Whether the multiplication of manuals, however, is of much advantage to the student or practitioner seems to us a question.

But there is one principle stated here to which we must take exception. On page 75 we are told, "To see into an ordinary eye we need the assistance of rays coming from some luminous point. But when the organ is lighted by a candle, the rays, proceeding outward again from the brilliant image on the retina, go back to the candle. This is in accordance with the law of conjugate foci, upon which is based the theory of the construction of the ophthalmoscope." Then follows an illustration showing conjugate foci.

This is at least misleading. The rays coming from the illuminated retina go back to a focus at the candle flame only if the eye be accommodated for the distance at which the flame stands. Now such accommodation is not only what does not ordinarily take place when the ophthalmoscope is used, but is precisely what, for more than one reason, it is desirable to avoid. In one limited sense only, and under certain conditions, may the construction of the ophthalmoscope be said to be based upon the law of conjugate foci. If lenses be employed, and they be considered as part of the instrument (as they properly may be), then the retina of the observed and that of the observing eye must be at the conjugate foci of the combined dioptric system; that is, the system made up of the refractive media of both eyes and of the lenses used. In this sense the construction of any optical instrument might be said to be based on the law of conjugate foci. But if no lens be employed, as with the direct method, both eyes being emmetropic, then the law of conjugate foci has absolutely nothing to do with the construction of the ophthalmoscope.

*Electricity in Surgery.* By JOHN BUTLER, M. D. New York: Boericke and Tafel. 1882. Pages 109.

The author gives very minute directions in regard to the use of electricity in surgery, and very properly insists upon its being used with some regard to the laws of electricity. The object he has in view "is to supply the deficiencies of our literature, aiming at the attainment of absolute precision in cases treated by electro-puncture, and as far as possible in those treated by external or surface applications, basing conclusions on the fundamental laws which govern electricity upon the effects which have been observed produced by certain quantities of current upon the living organism, upon organic material, and upon the chemical decomposition of inorganic matter, and upon clinical experience." The use of electricity in all the varied surgical operations in which it has been used is considered more or less briefly. In reading the book one is many times conscious of the author's estimate of himself.

# Medical and Surgical Journal.

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## TOY PISTOLS AND TETANUS.

THE present issue of the JOURNAL contains interesting accounts of several cases of the series of fatal results from toy pistol wounds. The number of fatalities in the country at large was very great last year, but this particular portion of it was free from the scourge. We took occasion at that time to call attention to a popular misstatement in regard to the matter, criticising the exaggeration, but sympathizing with the condemnation of the pistol. This year we can no longer boast of immunity. Since July 1st there have been reported at the office of the Board of Health up to July 25th eight cases of death from tetanus following toy pistol injuries. At the State Board of Health there have been reported from different parts of the State seven cases and seven cases of tetanus in which the nature of the original injury is not specified, but judging from newspaper accounts some of them at least are the result of toy pistol wounds.

Such wounds are not invariably followed by tetanus. At least two such cases have been seen this year at the Boston Dispensary in which no unusual result followed. No case is known to have recovered from the tetanus when once it has supervened; in one case now at the Massachusetts General Hospital the result is not yet declared.

The newspapers report more cases than are represented by the official returns. The actual number is by no means easy to get at with our imperfect machinery of registration, but the certainty is enough to mark the weapon as murderous. It is not so easy as one would imagine to describe the toy. It is for sale only in out-of-the-way localities, and clandestinely, and the victims of the weapon seem to be inspired by the same rapidity of action as the owners of dogs supposed to be mad. According to the best information obtainable it is a cheaply made affair, with a short barrel, and explodes a metallic cartridge, differing in nothing so far as appearance goes from an ordinary 22 cartridge, except in the absence of the ball. Of course there is nothing about it that makes the use of ball impossible. Being cheaply made—it is sold for twenty-five cents—the mechanism of its lock is not perfectly trustworthy. In one case the victim, according to his own description, was holding the pistol at half cock behind him in his right hand with his left hand also behind him, to give his attitude a more natural appearance, and in close proximity to the toy. He supposed that his pistol was as safe at half cock

as a shot-gun, but without his being conscious of any action on his part it exploded and wounded him. Another boy described it as having so short a barrel that in manipulating it the left hand naturally took a position in front of the muzzle, where his own was in the act of cocking when the hammer fell and exploded the cartridge. The cartridges, or at least some of them, are closed by a pasteboard disk which occupies the position of the ball, but which evidently has but a feeble penetrating power, as it is sometimes found just beneath the skin, and sometimes is not found at all. In none of the cases of which we have personal knowledge has the wound extended from palm to back through the hand. This little murderer is very different from the toy with an unbored semblance of a barrel which explodes a percussion wafer. That plaything, though it has been described as the cause of these numerous fatalities, is, we believe, so far falsely accused, whatever its possibilities may be.

Tetanus is a rare disease in this vicinity; probably many a practitioner of wide experience, whose hair is already gray, has never seen a case. Why it should follow this particular wound is, of course, a question asked many times by both physician and layman, to which no perfectly satisfactory answer can be given. It is possible that the cases of tetanus are comparatively few compared with the total number of wounds of this general character. Unless complicated the injury is not painful enough to enforce surgical assistance, there is no bullet to extract, and it may be that a large number are left without ever seeing a surgeon.

The atmospheric conditions, often supposed to stand in a causative relation to tetanus, can scarcely be said to be present. The wound is certainly of a class popularly thought to be most often followed by locked-jaw, namely, a penetrating wound of hand or foot.

The charge is received just at the muzzle of the piece, immediately on its exit from the barrel, before it has had time to spread. An examination of a recent wound demonstrated the shallow interior cavity to be larger than the wound, showing a tendency of the charge to spread after entering the hand. The slight residue of powder, which, even in the smallest charge, blackens and burns the object in close proximity, together with the wadding, is carried into the hand and left there. When a charge is imperfectly confined, as in these blank cartridges, combustion is less perfect, and the residue to be carried into the wound is greater than with ball cartridge. A pistol ball which actually perforated the hand would be much less dangerous.

These are common facts, known to every surgeon, and perhaps useless to print in a professional journal, but they seem to show that the wound is an unusual one, and suggest a more rational explanation than any inference drawn from the supposed character of the explosive or the relative humidity of the atmosphere.

—Mr. Thomson, of Dublin, has recently tied the innominate for aneurism. On the twentieth day after ligature the tumor was reduced in size by an inch in its long, and half an inch in its short, diameter.

## THE TENTS AT THE BOSTON CITY HOSPITAL.

Of the many lessons of the War of the Rebellion one of the most striking was in regard to the superiority of open buildings and tents for hospital purposes. A practical application of the lesson has been made for many years at the Boston City Hospital. An inspection of the tents in use during the present summer will convince the visitor of the practical benefits to be derived from such a temporary addition to the permanent structure. There are at present in use two large tents, each sixty by twenty feet, and several smaller ones which furnish separate quarters for patients in need of isolation, and which altogether accommodate about fifty beds. They are floored with a carefully matched and well made floor, raised from the surface to allow circulation beneath; furnished with a fly which forms a second roof with a layer of unconfined air between the two surfaces of canvas; water is brought close to hand by a connection with the city water works, and connection with the sewers is made in a temporary building perfectly separate but conveniently near, and gas furnishes at night the necessary illumination. All the appliances of the hospital proper are of course at the disposal of the staff on duty in these temporary structures. The service for the twenty-four hours is performed by a corps of nine ward tenders and nurses. Ventilators at either end allow the escape of the heated air of the upper stratum, both ends are left widely open, allowing free circulation of air, and, in fact, the patients may be said to be placed in the open air on a dry flooring, and sheltered from the sun and rain.

The advantages of such free access of the outer air has been abundantly demonstrated over and over again. No claims of miraculous results are made by the hospital authorities, but, as a rule, wounds do well, patients recover quickly, and there is an entire absence of hospital epidemics. One of the principal advantages, perhaps the greatest, of these additional wards, is the effect upon the ordinary wards of the pavilions; overcrowding is entirely done away with, and during the summer each ward can in turn be vacated and left entirely unused for an indefinite period, to be cleaned and aired without disturbance or haste to reoccupy it. Thus the effect of this out-door camp is not limited to the patients who actually sleep beneath the canvas, nor to the summer season, but the benefits are continued the whole year round, and are shared by each and every one of the inmates.

The entire cost of these large tents, fully equipped and ready for use, is a trifle more than three hundred and fifty dollars, a comparatively small sum when we remember that the tent itself is good for more than one year's occupancy.

One item not to be neglected in estimating the advantages of such an arrangement is the moral effect upon the patients themselves. The novelty of the situation, the easy approach to the green grass, and the general fascination of camping out, makes the tents very popular.

The use of tents in connection with civil hospitals is

by no means new. In Russia the employment of temporary barracks in summer is said to be a long-established custom made necessary by the extreme changes from winter to summer, and tents have been used, in time of peace, to a certain extent, by most of the military nations of Europe, while in other cities of this continent tents or temporary structures have been employed on various occasions, but we doubt if their use is anywhere carried to greater perfection or made more systematically beneficial. Whatever may be said about the originality of their use as an adjunct to permanent structures, there can be little doubt of their utility. We draw attention to it because it seems sometimes, when we watch the erection of costly permanent buildings, as if the lessons of the war were forgotten, and the application of tents to various civil uses was likely to be overlooked, and good works left undone which might be accomplished at small expense by their use.

## THE SPREAD OF INFECTION BY RAGS.

THE danger of the spread of infection by rags becomes interesting to the general public, and especially to the owners and operatives of paper mills after the active prevalence of such a disease as small-pox in those foreign and domestic centres from which the rag supply is drawn, small-pox being the disease which in the past has been most often and easily conveyed by rags, and which is most likely to be in the future, at the same time that it is the disease to which rags of late have been exposed.

A recent outbreak of small-pox among the rag-sorters in the paper mills at St. Mary Cray, in Kent, England, was the cause of careful inquiries into this subject by the medical officer of health for the district and by an officer of the local government board, Drs. Baylis and Parsons, the results of which as given in the latter gentleman's official report are published in the *Practitioner* (London) for June.

Dr. Bristowe's report, in the Eighth Report of the Medical Officer of the Privy Council, 1866, is freely quoted from, and the general literature of the subject carefully reviewed and compared. Dr. Bristowe, after visiting eighty-six paper mills in different parts of England, arrived at the conclusion that small-pox and other infectious diseases are very rarely introduced into paper mills by rags, but that their introduction was possible and occasionally did take place, and cited several instances of small-pox attacking operatives in paper mills, of which he related the particulars. In the annual reports of medical officers of health between the years 1875 and 1880 inclusive, eight instances of similar outbreaks of small-pox among paper mill workers, where the surrounding districts were free from the disease, and no communication with any previous case was discoverable, are recorded. In addition to these Dr. Parsons had brought to his own notice four or five other recent instances. In all these cases small-pox was the disease conveyed.

Among other reasons why infection is not more

frequently spread by rags Dr. Bristowe gives the following: Before the rags reach the paper mills they have been sorted two or three times and exposed to the atmosphere; the preliminary dusting which rags undergo in some mills tends to deprive them of any infection they may have retained, unless the dust shaken out of the rags be allowed to diffuse itself in the air of the work-room; it is only during the preliminary stages of paper making that danger can exist, the boiling and chemical treatment to which rags are subjected after cutting rendering them innocuous in the later stages of manufacture; rags are usually kept a considerable time in stock before use; only the paper mills engaged in the manufacture of the finer classes of paper incur much risk of infection; in any case the proportion of infected to uninfected rags is very small, and the majority of workers are more or less efficiently protected against small-pox by vaccination, and against measles and scarlet fever by previous attacks in childhood.

After a consideration of the various means proposed for protecting rag workers and disinfecting rags, Dr. Parsons recapitulates his conclusions as follows:—

"(1.) That cases of infection by means of rags do occasionally occur, although, comparatively speaking, not very frequently.

"(2.) That small-pox is the disease most likely to be thus conveyed.

"(3.) That all rag workers should be vaccinated and re-vaccinated.

"(4.) That dust should be avoided. The preliminary dusting of the rags before sorting is to be recommended, but the dust should not be allowed to contaminate the air of the work room.

"(5.) That certain measures of disinfection are available, among which exposure to air, fumigation with sulphurous acid, and exposure to hot air or high pressure steam may be mentioned, each of which has its advantages and drawbacks under certain circumstances.

"(6.) That in the absence of means by which it may be known whether or not rags have been infected, the cases in which disinfection would appear specially desirable are (a) rags from places where epidemics are known to exist; (b) rags in a filthy state; and perhaps (c) foreign rags, especially if coming within the two previous categories.

"(7.) That under existing circumstances it is not advisable that any obligation as to disinfection of rags, other than that already imposed by section 126 of the Public Health Act, 1875, should be imposed upon persons engaged in the rag trade."

The section of the Act referred to imposes a penalty on any person who gives, lends, sells, transmits or exposes without previous disinfection any bedding, clothing, rags, or other things which have been exposed to infection from any dangerous infectious disorder. The difficulty in the enforcement of a penalty under this law is, of course, to prove a knowledge of infection on the part of others than the original possessor.

The Health Department of the Massachusetts

Board of Health, Lunacy, and Charity called attention to this subject of the distribution of small-pox by rags in paper mills in a circular issued in January of the present year, from which we extract the following:—

Within the year 1881 small-pox in several towns of the State was evidently propagated from the rag-sorting rooms of paper mills. While it is probable that no very satisfactory method of disinfecting rags can be adopted at present, it is yet possible to give the operatives in these mills and their families the best protection known, and that is vaccination. It is, therefore, recommended that employment should not be given in paper mills to persons who cannot satisfactorily show that they themselves and their entire households have been thoroughly vaccinated.

The section of General Statutes above referred to is as follows:—

"SECT. 30. Incorporated manufacturing companies, superintendents of almshouses, State reform and industrial schools, lunatic hospitals, and other places where the poor and sick are received, masters of houses of correction, jailers, keepers of prisons, the warden of the State prison, and superintendents or officers of all other institutions supported or aided by the State, shall, at the expense of their respective establishments or institutions, cause all inmates thereof to be vaccinated immediately upon their entrance thereto, unless they produce sufficient evidence of previous successful vaccination within five years."

#### MEDICAL NOTES.

—A singular instance of *reinvention* is set forth in the *Philadelphia Medical News* of July 15th, wherein a distinguished Philadelphia surgeon describes and figures as his own invention, "entirely new" to him, "a cannulated needle for introducing wire sutures." Exactly the same instrument has been in the possession of surgeons here for a quarter of a century. Recently, June 17th last, one having two needles of different curves in one handle, obtained from Luer, Paris, 1860, was given by one of our fraternity to another as a curiosity and *souvenir*. The figure in the *News* might have been taken from this very instrument.

—A case has just been tried in Dublin against a medical student who had attempted to induce a gentleman, Dr. Morris, to personate him at a Dublin examination, offering him £150 to pass the examination in his (the student's) name.

—Professor Billroth has lately refused an invitation to succeed Professor Langenbeck in Berlin. The Vienna students thereupon resolved to thank him for determining to stay with them. In the morning of June 22d an address was presented to him in the hall of the Academy of Sciences, where most of the professors of the University and many men of science had assembled, while the body of the hall was filled with students in their academic costume. The address was signed by a large number of Billroth's pupils, the name of Duke Karl Theodor of Bavaria heading the list. Dr. Billroth, who was received with great applause, said he considered himself as belonging to Austria and the University of Vienna. In the evening a great torchlight serenade was held in his honor. Some thousands of students, with torches and colored lamps, marched with the old University flag and a band of music to the street where the professor lives. "Gandemonas igitur" was sung by thousands before the professor's house, and afterwards a hymn, specially



composed for the occasion. Dr. Billroth thanked the students, who, after more singing and cheering, dispersed.

#### NEW YORK.

—The State Board of Charities met at Saratoga on the 12th of July, and received several reports in regard to the recent investigation into the condition of the chronic insane in the county poor-houses, and the means taken to have all patients whose insanity is of a violent or dangerous character removed to the State asylums at Binghamton and Ovid, there now being ample room for all of that class in these institutions. The committee of the Board, in company with the State Commissioner in Lunacy, having made a thorough investigation into the killing of one insane patient by another in the Utica Asylum, the Board, after hearing and discussing the committee's report (which exonerated the officers of the asylum from any neglect in the case, but censured them for their failure to give full publicity to the occurrence), adopted a resolution to the effect that it is the duty of the boards of managers of such institutions to take measures to bring promptly before the public authenticated accounts of extraordinary events of this character, since it was believed that the welfare of the institutions would thereby be promoted, and the public confidence in them maintained. At this meeting the Board also authorized a representation in the National Conference of Charities to be held at Madison, Wis., August 11th.

—The National Association for Sanitary and Rural Improvement held a three days' convention at Greenwood Lake, New York, on the 7th, 8th, and 10th of July, and among those present at it were Prof. J. M. Watson, of the Elizabeth (N. J.) Board of Health, Dr. Elisha Harris and Hon. Erastus Brooks, of the New York State Board of Health, and Dr. E. M. Hunt, of the New Jersey State Board of Health. The convention was opened with an address by C. F. Wingate, of Brooklyn, secretary of the Association, on the need of sanitary associations, and in it was given a *résumé* of the history of such organizations in the United States and Great Britain, and the important results accomplished thereby. Among the other papers read at the first day's session were one on tree preservation by Franklin B. Hough, of Washington, chief of Forestry Section, Department of Agriculture, which advocated the planting of trees as a prevention of malaria and a security against drought, and one by Mrs. H. M. Plunkett, of Pittsburgh, giving the history of the first rural improvement society of Stockbridge, Mass. Addresses were also made by B. G. Northrop, secretary of the Connecticut Board of Education, on farmers' homes in relation to their adornment and sanitary surroundings; by William Rapp, of New York, in condemnation of wall-papers containing arsenic; and by Dr. J. H. Kidder, of Washington, on dust and the forms of disease resulting from its effects upon the human system. On the second day a number of papers on sewerage and the causes and remedies of malaria were read by Drs. Hunt, Elisha

Harris, and others. On the third day the first business was the discussion of a paper from Frederick Law Olmstead, of New York, on the economy of park organizations and the necessity of tree-planting, by Dr. A. M. Bell, of New York, Prof. J. Madison Watson, of New Jersey, and the chairman, Hon. Erastus Brooks, of New York. Mr. Brooks said that he thought it would be a good plan for a tree to be planted at the birth of every child. As there were hundreds of thousands of children born each year throughout the country, in this way the wanton waste of trees which had been going on would be replaced. At the conclusion of the discussion Mr. W. O. McDowell offered a resolution that the Association recommend, that April 10th in each year be set apart as a day for tree-planting, which was unanimously adopted. In proposing it he said that he thought it would in time come to be as generally observed as Decoration Day. Mr. George C. Booth read a paper on tenement-house reform, in which he gave some details of the work of the New York Society for Improving the Condition of the Poor, with which he was connected. In the city of New York, he said, there were twenty-two thousand tenement-houses containing from four to forty families each, and eight thousand more containing from two to three families each. On the complaint of the Society landlords were compelled to put the premises in repair where there was defective plumbing, damp cellars, or other unsanitary conditions present, and thus much good had already been accomplished, although a vast amount of work still remained to be done in connection with the New York tenement-houses. Dr. Rawson, of South Orange, New Jersey, read a paper on the necessity for the teaching of sanitary science in the public schools, and Dr. Bell spoke at length upon the imperfect ventilation of the New York and Brooklyn schools, and the general ignorance on the part of the teachers of the most rudimentary elements of hygiene. On motion of Dr. Alfred L. Carroll, of New Brighton, Staten Island, a resolution was passed to the effect that the Association regarded the proposed Congressional limitation of the means and functions of the National Board of Health as an ill-advised and retrograde measure, fraught with injury to the best interests of the people. The last paper read was one by ex-Governor Frank Fuller, of Utah, on unsanitary cooking, in the course of which he advocated the publication by the Association of a pamphlet giving directions for the proper preparation of the most common and simple articles of food, especially the various cereals. The committee on organization reported that the name of the Association should be The National Association of Sanitary and Rural Improvement, and that it should disseminate its principles by the formation of local organizations and the issuing of pamphlets and other publications. Among the officers elected were the following: President, Hon. Erastus Brooks; Vice-Presidents, Henry E. Pellew, Frederick Law Olmstead, Col. George E. Waring, Jr., Prof. Henry J. Morton, and Mrs. Isabella Beecher Hooker; Secretary, Charles F. Wingate, of Brooklyn.

— Since the 18th of July all vessels arriving at quarantine from Havana have been detained at the upper quarantine grounds, off Robbin's Reef, in order to be fumigated before coming up to the city.

— On the 9th ult. a negro woman died at Far Rockaway, Long Island, at the advanced age of one hundred and eight years. Up to near the time of her death her sight remained good, and she was quite active. On the 16th there died in Pearl Street, New York, from the infirmities incidental to extreme old age, a white woman reported to be one hundred and two years old. She was a native of Ireland, and came to the United States forty-three years ago.

### Miscellany.

#### MEDICINE ONE HUNDRED YEARS AGO.

The following letter gives an interesting glimpse at the practice of medicine one hundred years ago. Dr. William Hunter, the writer, was a Scotch physician settled in Newport, where he had an exceedingly lucrative practice. He delivered a series of anatomical lectures in Newport in 1751. In 1756 he was appointed surgeon to the Rhode Island regiment destined to act against the French in Canada. When the British occupied Rhode Island during the Revolution he gave strong evidence of attachment to his countrymen, and was appointed physician to their military hospital, "where he apparently caught a pestilential fever," which proved fatal in a few days.

These particulars are taken from a letter written by Dr. Benjamin Waterhouse, of Boston, to Dr. Caspar Wistar, of Philadelphia, in 1808.

The letter of Dr. Hunter was handed us by a descendant of the gentleman to whom it was addressed.

Newport, June 16th, 1774.

DEAR SIR, — As you find the musk agrees better with your son than the Bolusses, I have sent you six doses more, one of which you may give him in the strong Valerian Tea every six hours, as formerly.

The musk will now have a better effect upon him than it had been taking it all this time, a short interval from the use of it will make it more powerful, and the good effects of it will soon be more evident. I have now sent you nine more of the Fortid Bolusses, which you may give him, as formerly, in place of the musk. But you should be out of Valerian I have sent you more. You may let him drink plentifully of this strong Valerian Tea for his common drink with wine in it always. I cannot think he will require any more Bleeding, especially as his pulse is become more full. No symptom so favorable as when the momentum of his pulse becomes greater as the Velocity he comes to, and this symptom, I think, you observe. By the time he has taken the powders and bolusses now sent, I am sure he will be able to make use of the Bark in some form. If he cannot take it in powder, which I would prefer to every other way of giving it, you may let him take it in strong Decoction with wine added to it. An ounce of the bark boiled in three galls of water into a gill and a half, then strain it, and let one or third part more of good Madeira wine, two or three poundfulls of which you may give him every two hours except when asleep. If the powder or decoction should be thought too strong for him at

first, you may give him the Cold infusion of bark, which is found to be one of the most safe and effectual preparations to people very much reduced by sickness. Take an ounce of the very fine powdered bark, add to it half a pint of very good Spring or rain water, and as he uses it strain it, observing to give him two Table-spoonfulls of it every two hours. Nothing will recover his Strength and senses so fast as bark and a free use of good wine. The account you give of your son when he first awakes is common to all much reduced or exhausted with a fever such as his has been. That crying out when he first awakes is a sure symptom that he is yet in a degree of Idiotism, or that his Brain is not entirely freed. Be not uneasy about his senses, they will recover altho' it will be very slow, but they will return in proportion to his bodily strength, which will also be very slow, with the greatest care. The Bunches, like as if he had been stroked with Nettles, will be salutary if they are not brought on by keeping him too hot with bed Cloths, which I think has not been the case, as I early observed to you that keeping him too warm would be hurtful to him. I am, Dear Sir, yours sincerely, WM. HUNTER.

#### THE THERMOMETRIC BUREAU OF THE YALE COLLEGE OBSERVATORY.

ACCORDING to the annual report of the astronomer in charge of the Thermometric Bureau, there had been 3811 physicians' thermometers examined as compared with 1667 during the preceding year. The following extract contains the greater portion of his report in regard to clinical thermometers:—

"The improvement in the manufacture of clinical thermometers in this country continues, and the thermometers we receive which are most misleading in their indications are those which come in from private practice, and which have been in use for a year or more.

"We have been much encouraged in this department of the observatory work by the cordial indorsement given to it by the medical press. There have been some suggestions made by gentlemen eminent in the medical profession, both privately and in print, concerning some new facts we should give in the certificates accompanying thermometers sent from here. The most important is contained in Dr. E. R. Squibb's interesting paper on clinical thermometers, read at the New York State Medical Association's meeting at Albany, and refers to the testing of thermometers for sensitiveness. He notes the difference in time required for different thermometers to attain their maximum reading, owing to the varying thickness and shape of the glass in the bulb, and suggests some test be applied which shall give the observer the time required for each instrument to reach its maximum. We have considered this matter, but so far have not devised a simple test which sufficiently approximates the conditions met with in medical practice to be of service in this connection.

"About four hundred ungraduated thermometer tubes have been sent to the observatory to be sealed in boxes for proper ageing. With these thermometers, as they are subsequently issued, a special certificate is given, stating the age of the thermometers when examined. The Kew Observatory has followed our example in this matter, and now receives thermometers for sealing in a similar manner.

## REPORTED MORTALITY FOR THE WEEK ENDING JULY 15, 1882.

| Cities.                           | Population by Census of 1880. | Reported Deaths in each. | Deaths under Five Years. | Percentage of Deaths from         |                |                     |                       |                 |
|-----------------------------------|-------------------------------|--------------------------|--------------------------|-----------------------------------|----------------|---------------------|-----------------------|-----------------|
|                                   |                               |                          |                          | The Principal "Zymotic" Diseases. | Lung Diseases. | Diarrheal Diseases. | Diphtheria and Croup. | Whooping-Cough. |
| New York.....                     | 1,206,590                     | 1084                     | 690                      | 46.40                             | 9.68           | 35.59               | 3.27                  | 1.65            |
| Philadelphia.....                 | 846,984                       | 421                      | 189                      | 9.26                              | 2.14           | —                   | 4.27                  | .21             |
| Brooklyn.....                     | 566,689                       | 452                      | 320                      | 53.48                             | 5.30           | 42.65               | 2.87                  | 2.21            |
| Chicago.....                      | 505,304                       | 224                      | 113                      | 78.10                             | 7.58           | 21.06               | 4.11                  | 1.73            |
| Boston.....                       | 362,535                       | 136                      | 57                       | 23.72                             | 5.77           | 14.10               | 2.56                  | 1.23            |
| St. Louis.....                    | 350,522                       | —                        | —                        | —                                 | —              | —                   | —                     | —               |
| Baltimore.....                    | 332,190                       | 206                      | 118                      | 37.35                             | 1.94           | 26.68               | 1.94                  | .49             |
| Cincinnati.....                   | 255,708                       | 165                      | 87                       | 29.09                             | 6.66           | 4.85                | 1.82                  | .61             |
| New Orleans.....                  | 216,140                       | —                        | —                        | —                                 | —              | —                   | —                     | —               |
| District of Columbia.....         | 175,658                       | 123                      | 69                       | 40.65                             | 3.25           | 35.77               | —                     | —               |
| Pittsburgh.....                   | 156,381                       | 100                      | 58                       | 44.00                             | 5.00           | 32.00               | 1.00                  | .30             |
| Buffalo.....                      | 155,137                       | 62                       | 30                       | 20.62                             | 6.45           | 9.67                | 3.22                  | —               |
| Milwaukee.....                    | 115,578                       | 30                       | 19                       | 20.00                             | 13.33          | 6.66                | —                     | 3.33            |
| Providence.....                   | 104,857                       | 32                       | 14                       | 28.13                             | 12.50          | 12.50               | 9.37                  | 6.25            |
| New Haven.....                    | 62,882                        | 26                       | 7                        | 19.23                             | 7.69           | 3.84                | 3.84                  | —               |
| Charleston.....                   | 49,999                        | 46                       | 27                       | 36.95                             | 2.17           | 6.51                | 2.17                  | 21.74           |
| Nashville.....                    | 45,461                        | 17                       | 6                        | 23.52                             | —              | 17.64               | —                     | —               |
| Lowell.....                       | 50,485                        | 53                       | 12                       | 12.12                             | 6.06           | 12.12               | —                     | —               |
| Worcester.....                    | 58,295                        | 23                       | 11                       | 26.08                             | 4.35           | 21.75               | 4.35                  | —               |
| Cambridge.....                    | 52,740                        | 12                       | 6                        | 8.33                              | 16.66          | —                   | 8.33                  | —               |
| Fall River.....                   | 49,006                        | 25                       | 16                       | 16.00                             | 4.00           | 8.00                | —                     | —               |
| Lawrence.....                     | 39,178                        | 18                       | 8                        | 16.66                             | 5.55           | 11.11               | —                     | —               |
| Lynn.....                         | 38,284                        | 13                       | 3                        | —                                 | —              | —                   | —                     | —               |
| Springfield.....                  | 33,340                        | 8                        | 4                        | 25.00                             | —              | 25.00               | —                     | —               |
| Salem.....                        | 27,598                        | 12                       | 3                        | —                                 | —              | —                   | —                     | —               |
| New Bedford.....                  | 26,875                        | 12                       | 2                        | 8.33                              | —              | —                   | —                     | —               |
| Somerville.....                   | 24,985                        | 14                       | 4                        | 7.14                              | 7.14           | —                   | 7.14                  | —               |
| Holyoke.....                      | 21,851                        | 14                       | 12                       | 42.84                             | —              | 42.84               | —                     | —               |
| Chelsea.....                      | 21,785                        | 6                        | 4                        | —                                 | —              | —                   | —                     | —               |
| Taunton.....                      | 21,213                        | 6                        | 4                        | —                                 | —              | —                   | —                     | —               |
| Gloucester.....                   | 19,329                        | 6                        | 2                        | 50.00                             | —              | —                   | 20.00                 | —               |
| Haverhill.....                    | 18,475                        | 9                        | 0                        | 11.11                             | —              | 11.11               | —                     | —               |
| Newton.....                       | 16,995                        | —                        | —                        | —                                 | —              | —                   | —                     | —               |
| Brocton.....                      | 13,608                        | 1                        | 1                        | —                                 | —              | —                   | —                     | —               |
| Newburyport.....                  | 13,537                        | 4                        | 4                        | —                                 | 25.00          | —                   | —                     | —               |
| Fitchburg.....                    | 12,405                        | —                        | —                        | —                                 | —              | —                   | —                     | —               |
| Malden.....                       | 12,017                        | 5                        | 0                        | 60.00                             | —              | 40.00               | 20.00                 | —               |
| Nineteen Massachusetts towns..... | 140,252                       | 44                       | 5                        | 14.89                             | —              | 4.05                | —                     | 2.93            |

Deaths reported 3409 (no reports from St. Louis and New Orleans): 1809 under five years of age; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and fevers) 1205; consumption 348, lung diseases 179, diarrheal diseases 824, diphtheria and croup 100, whooping-cough 54, measles 46, scarlet fever 43, typhoid fever 39, small-pox 31, cerebro-spinal meningitis 22, malarial fevers 22, purpural fever 13, erysipelas 10, typhus fever one. From *measles*, New York 24, Brooklyn eight, Baltimore and Pittsburgh four each, Cincinnati and Buffalo two each, Philadelphia and Boston one each. From *scarlet fever*, New York 12, Brooklyn 11, Philadelphia seven, Cincinnati and Buffalo four each, New Haven two, Boston, District of Columbia, and Waltham one each. From *typhoid fever*, Philadelphia and Chicago nine each, New York and Cincinnati five each, Boston, District of Columbia, and Charleston two each, Baltimore, Pittsburgh, Buffalo, Gloucester, and Quincy one each. From *small-pox*, Cincinnati 22, Chicago three, New York and Baltimore two each, Philadelphia and Pittsburgh one each. From *cerebro-spinal meningitis*, New York and Baltimore six each, Buffalo and Milwaukee two each, Philadelphia, Chicago, Boston, Cincinnati, Fall River, and Lawrence one each. From *malarial fevers*, New York seven, Brooklyn five, Baltimore four, District of Columbia three, Buffalo, New Haven, and Nashville one each. From *purpural fever*, Boston and Pittsburgh two each, New York, Philadelphia, Brooklyn, Chicago, Milwaukee, Charleston, New Bedford, Northampton, and Waltham one each. From *erysipelas*, New York three, Boston and Cincinnati two each, Brooklyn, Buffalo, and Fall River one each. From *typhus fever*, New York one.

Sixty-one cases of small-pox were reported in Cincinnati, Baltimore 15, Brooklyn six, Buffalo four; diphtheria 13, scarlet fever six, typhoid fever three, in Boston; scarlet fever five, and diphtheria one, in Milwaukee.

In 38 cities and towns of Massachusetts, with a population of 1,054,387 (population of the State 1,783,086), the total death-rate for the week was 19.87 against 16.61 and 46.95 for the previous two weeks.

For the week ending June 24th, in 173 German cities and towns, with an estimated population of 8,426,161, the death-rate was 26.4. Deaths reported 4286; under five 2265; pulmonary consumption 555, acute diseases of the respiratory organs 440, diarrheal diseases 273, diphtheria and croup 178, scarlet fever 85, measles and rotchen 54, typhoid fever 31, purpural fever 20, typhus fever (Danzig and Posen each one) two. The death-rates ranged from 14.9 in Münster to 40.2 in Posen; Königsberg 31.2; Breslau 33.7; Munich 35.7; Dresden 25.2; Berlin 29.0; Leipzig 17.3; Hamburg 23.1; Cologne 28.7; Frankfurt a. M. 20.4; Strasburg 35.1.

In the 28 English towns, with an estimated population of 8,469,571, for the week ending July 1st, the death-rate was 18.1. Deaths reported 2336; acute diseases of the respiratory organs (London) 212, whooping-cough 135, diarrheal 96, measles 87, scarlet fever 74, fever 46, diphtheria 17, small-pox nine. The death-rates ranged from 9.5 in Wolverhampton to 25.1 in Preston; Sunderland 13.1; Leeds 15.1; Birmingham 16.1; London 17.5; Sheffield 18.1; Derby 19.1; Hull 20.7; Liverpool 22.3. In Edinburgh 19.5; Glasgow 23; Dublin 20.7.

For the week ending July 1st, in the Swiss towns, population 494,390, there were 34 deaths from consumption, acute diseases of the respiratory organs 17, diarrheal diseases 17, heart disease 12, diphtheria and croup 10, scarlet fever seven, typhoid fever five. The death rates were, at Geneva 11.4; Zurich 16.2; Basle 16.3; Berne 27.6.

The meteorological record for the week ending July 15th, in Boston, was as follows, according to observations furnished by Sergt. O. B. Cole, of the U. S. Signal Corps:—

| Date.            | Barom-eter. | Thermom-eter. |          |          |            | Relative Humidity. |             |       | Direction of Wind. |            |             | Velocity of Wind. |            |             | State of Weather. <sup>1</sup> |            |             | Rainfall.             |                   |
|------------------|-------------|---------------|----------|----------|------------|--------------------|-------------|-------|--------------------|------------|-------------|-------------------|------------|-------------|--------------------------------|------------|-------------|-----------------------|-------------------|
| July, 1882.      | Mean.       | Mean.         | Maximum. | Minimum. | 7.23 A. M. | 3.23 P. M.         | 11.23 P. M. | Mean. | 7.23 A. M.         | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.        | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.                     | 3.23 P. M. | 11.23 P. M. | Duration, Hrs. & Min. | Amount in inches. |
| Sun., 9          | 29.970      | 76            | 87       | 65       | 87         | 51                 | 71          | 70    | SW                 | W          | W           | 6                 | 12         | 3           | O                              | F          | C           | —                     | —                 |
| Mon., 10         | 29.883      | 80            | 92       | 69       | 70         | 41                 | 71          | 61    | Calm               | W          | SW          | 0                 | 12         | 10          | F                              | F          | C           | —                     | —                 |
| Tues., 11        | 29.756      | 82            | 93       | 72       | 71         | 50                 | 76          | 66    | SW                 | SW         | SW          | 7                 | 17         | 6           | F                              | F          | C           | —                     | —                 |
| Wed., 12         | 29.888      | 78            | 91       | 69       | 58         | 24                 | 61          | 48    | W                  | SW         | W           | 4                 | 10         | 6           | F                              | C          | C           | —                     | —                 |
| Thurs., 13       | 29.806      | 75            | 87       | 65       | 94         | 46                 | 66          | 69    | S                  | W          | W           | 11                | 17         | 4           | R                              | F          | C           | —                     | —                 |
| Fri., 14         | 30.017      | 75            | 89       | 64       | 76         | 33                 | 71          | 60    | W                  | SW         | SW          | 4                 | 6          | 7           | F                              | F          | C           | —                     | —                 |
| Sat., 15         | 30.208      | 68            | 78       | 66       | 72         | 37                 | 73          | 67    | N                  | E          | SW          | 5                 | 8          | 6           | O                              | C          | C           | —                     | —                 |
| Means, the week. | 29.933      | 76            | 93       | 64       |            |                    | 63          |       |                    |            |             |                   |            |             |                                |            |             | 3.30                  | .37               |

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; X., clearing.

# OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM JULY 15, 1882, TO JULY 21, 1882.

**BROOKS, JOHN**, captain and assistant surgeon. Having reported at these headquarters, is assigned to duty as post surgeon at Anzio Island, Cal. S. O. 126, Military Division of the Pacific and Department of California, July 7, 1882.

**CONROY, J. K.**, captain and assistant surgeon. Relieved from duty in Department of Arizona, to proceed to Philadelphia, Pa., and, on arrival, report by letter to the Surgeon-General. S. O. 164, A. G. O., July 17, 1882.

**CARVALLO, C.**, captain and assistant surgeon. Relieved from duty in Department of the Pacific, and to report by letter at the expiration of his present sick leave of absence to the Surgeon-General. S. O. 164, C. S. A. G. O.

**HOKINS, WILLIAM E.**, first lieutenant and assistant surgeon (re-appoint.). To report by letter to the commanding general, Department of the East, for assignment to temporary duty. S. O. 164, C. S. A. G. O.

**HARRISON, CHARLES C.**, first lieutenant and assistant surgeon (re-appoint.). To report in person to the commanding general, Department of Arizona, for assignment to duty. S. O. 164, C. S. A. G. O.

**MENDEL, BENJAMIN**, first lieutenant and assistant surgeon (re-appoint.). Assigned to temporary duty at Willet's Post, N. Y. S. O. 164, C. S. A. G. O.

**WILSON, GEORGE F.**, first lieutenant and assistant surgeon (re-appoint.). To report in person to the commanding general, Department of the Columbia, for assignment to duty. S. O. 164, C. S. A. G. O.

**OWEN, WILLIAM O. JR.**, first lieutenant and assistant surgeon (re-appoint.). To report in person to the commanding general, Department of the Columbia, for assignment to duty. S. O. 164, C. S. A. G. O.

**LEES, PHILIP R.**, first lieutenant and assistant surgeon (re-appoint.). Assigned to temporary duty at the recruiting depot at Anzio Island, N. Y. S. O. 164, C. S. A. G. O.

**WILKINSON, WILLIAM J.**, first lieutenant and assistant surgeon (re-appoint.). Assigned to temporary duty at Camp. S. O. 164, C. S. A. G. O.

**LEWIS, EDWARD C.**, first lieutenant and assistant surgeon (re-appoint.). To report in person to the commanding general, Department of the Columbia, for assignment to duty. S. O. 164, C. S. A. G. O.

**LEWIS, EDWARD C.**, first lieutenant and assistant surgeon (re-appoint.). To report in person to the commanding general, Department of the Columbia, for assignment to duty. S. O. 164, C. S. A. G. O.

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**LEWIS, EDWARD C.**, first lieutenant and assistant surgeon (re-appoint.). To report in person to the commanding general, Department of the Columbia, for assignment to duty. S. O. 164, C. S. A. G. O.

**LEWIS, EDWARD C.**, first lieutenant and assistant surgeon (re-appoint.). To report in person to the commanding general, Department of the Columbia, for assignment to duty. S. O. 164, C. S. A. G. O.

**BOOKS AND PAMPHLETS RECEIVED.** — The Asylum Superintendents on the Needs of the Insane, with Statistics of Insanity in the United States. By C. L. Dana, A. M., M. D., Professor of Physiology in the Women's Medical College of New York. Physician to the Class of Nervous Diseases, North-eastern Dispensary. (Reprint.)

Twenty-Fourth Annual Announcement of the Chicago Medical College.

Excerpts from Opinions of Distinguished Medical Men in this and other Countries justifying the Treatment of the late President Garfield, together with a Letter in reply to the Resolution of the Special Committee of the House of Representatives referring to the Expenses consequent upon his illness and Death. Washington, D. C.: Gibson Brothers, Printers.

A New Nervous Connection between Intercranial Disease and Clotched Dfs. By Edward C. Loring, M. D. (Reprint.)

Annual Address delivered before the Medical Society of the State of California. By Gerrard George Tyrrell, Member of the King and Queen's College of Physicians, etc. Sacramento, Cal.

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## Original Articles.

## THE SANITARY ASPECT OF NAHANT, MASS.

BY ERNEST W. BOWDITCH, ESQ.,  
Sanitary Engineer.

NAHANT proper, a peninsula of somewhat less than four hundred acres in area, during the season just passed, witnessed an outbreak of typhoid fever unusually severe in character (all things considered), and for the time, at least, threatening to injure the reputation of the place for healthfulness.

Probably no instance has occurred for years where an outbreak of a filth disease has appeared in a locality so singularly well situated for scientific study of cause and effect. The geographical position of the town is such that it seems hardly possible that outside territory could have the slightest direct effect upon the peninsula, and the character and intelligence of a majority of the citizens and visitors preclude the possibility of the intentional omission of any sanitary care that could be considered necessary, either on individual estates or in the town as a whole; and yet here in the midst of wealth and intelligence some of the grossest instances of carelessness, as regards the simplest sanitary matters, that can be conceived of, have come to light.

It is assumed that physicians and sanitarians agree in considering typhoid fever preëminently a filth disease, and, irrespective of individual premises where typhoid has appeared, the attention of a sanitary engineer is naturally called particularly to (1) drinking-water, milk, and ice; (2) drainage and general surroundings; (3) plumbing and ventilation, as being, possibly, those things that would be most apt to create trouble.

Impure drinking-water and ice from foul water may perhaps be the swiftest disseminators of an evil of this description, and though the writer does not for an instant assert as his belief that either impure water, ice, milk, defective drainage, filthy surroundings, or bad plumbing have individually or collectively been the cause of the typhoid at Nahant, yet it does appear as though the poor condition of the drinking-water, coupled perhaps with the injudicious disposal of the feces of the inhabitants, and especially of the first typhoid patients, caused exceeding filthiness of the soil and predisposed people to typhoid, or rendered them more susceptible to its effects. Defective drains and plumbing may have had something to do with it, though there is lack of evidence on this point. The extraordinary character of the season probably had its influence. What does seem to be clear, however, not only here but elsewhere, is the imperative necessity of some system of periodical sanitary inspection of health resorts, the simpler the better, that will show the actual and comparative healthfulness of localities. Examination of a dozen or more summer resorts on the Atlantic seaboard, made by myself during the past year, show that inspection of any kind is rarely even attempted, and, further, that this entire lack of knowledge concerning the sanitary condition of resorts is the cause of much sickness, largely of a preventable kind, creating, occasionally, wide-spread troubles that for a time seriously injure the value of localities as sanitaria.

So far as my limited knowledge extends, no definite

programme has yet been formulated for periodical inspection that appears to be suitable for universal adoption, though from the efforts now being made in this direction it is hoped this much-to-be-desired end may be reached.

A thorough chemical examination of drinking-waters naturally consumes much time, as also does inspection of premises. One chemist should analyze all waters of any certain locality, that any criticism made upon the results obtained may be given from one standpoint; for similar reasons one engineer or inspector should examine the premises.

Of the wells and cisterns on Nahant that were habitually or occasionally used during the past season as drinking waters, one hundred and ninety have been analyzed by Drs. Edward S. Wood, of Boston, and Charles Smart, of Washington, with the results classified as

|                             |     |
|-----------------------------|-----|
| Excellent.....              | 8   |
| Good.....                   | 37  |
| Fair.....                   | 18  |
| Permissible.....            | 16  |
|                             | 79  |
| Suspicious.....             | 58  |
| Very suspicious or bad..... | 53  |
|                             | 111 |

which may be classed as

|                                    |
|------------------------------------|
| Desirable waters, 79, or 41½ %.    |
| Undesirable waters, 111, or 58½ %. |

The actual number of analyses exceeds this by thirteen, but they are omitted, being only repetitions after a cleansing process. In this subdivision I have, except in seven instances, adopted the conclusions arrived at by Drs. Wood and Smart, who were unaware of the sources of the waters, save as Nahant Nos. 1, 2, 3, etc. The changes in the seven instances referred to were made after obtaining intimate knowledge of the surroundings.

I have here a plan showing the outline of Nahant (see Fig. 1), with black circles representing every case of typhoid fever known to have existed there last season. Doubtless there were others, but this completes the list, so far as I have been able to verify it with the means at my disposal. Forty households are represented (twenty per cent. of the total number of houses).

Certain of these cases, I have been informed by physicians, were "imported" from other towns. Certain other instances occur where the drinking-water is quite undesirable or bad; still others where the surroundings seem particularly favorable for the propagation of zymotic diseases; in fact, there is but one case out of nearly eighty that cannot be accounted for by filthy surroundings, bad drinking-water, or importation.

The second plan shows all the cases of fever, but those in full black only where the water was good or fair, those having supplies of impure water being in skeleton.

The third plan shows the same after removing the black centres from those cases that were "imported," or where the surroundings were bad.

There has been tabulated, for more convenient detail study, the results of chemical analyses of what are believed to have been the drinking-waters used at each and every one of the houses within town limits of Nahant where typhoid fever was known to exist last year. The general results of this study will be found incorporated in this paper.

<sup>1</sup> Read before the Section for Clinical Medicine and Pathology of the Suffolk District Medical Society, May 27, 1882.

Ten of the total of forty are cistern waters; the balance are from wells. The first sample was taken October 24, 1881, after most of the summer residents had left for the season, and the last was taken on March 30, 1882, six months after the summer residents

the field of inquiry was largely a new one, to be approached with great care, not only for examination, but, so far as possible, for purification before the summer season of 1882.

Recourse was had to circulars, which were sent to



FIG. 1.



FIG. 2.

had left, and at a season of the year when wells and cisterns should be purest; therefore many of these waters would have shown much greater impurity had they been tested during the summer.

It would obviously have been better to have had the analysis made as soon as possible after the cases of fever took place, but at the time the examination began there were very scant data from which to work; there was no complete list of cases, and many were unknown to the local Board of Health. Moreover,

every householder, — with rather meagre results. Fifteen families only reported typhoid fever. By dint of constant inquiry a list of forty has been made up, and though perhaps not absolutely accurate is the best I could obtain.

It is found that the total number of cases is about equally divided between the summer and permanent residents, though as a rule the drinking waters were appreciably purer among the permanent residents.

Of the wells and cisterns that are classed as "excel-

lent," "good," or "fair" (nine in number, 22.5 per cent.), but two are at the houses of permanent residents, and both of these are easily explained. At one the only case of typhoid fever was an imported one;

The immediate surroundings of the well at the present time are not particularly objectionable, but there seems ample room for supposing that the impurities enter on the top of, and through seams in, the ledge.

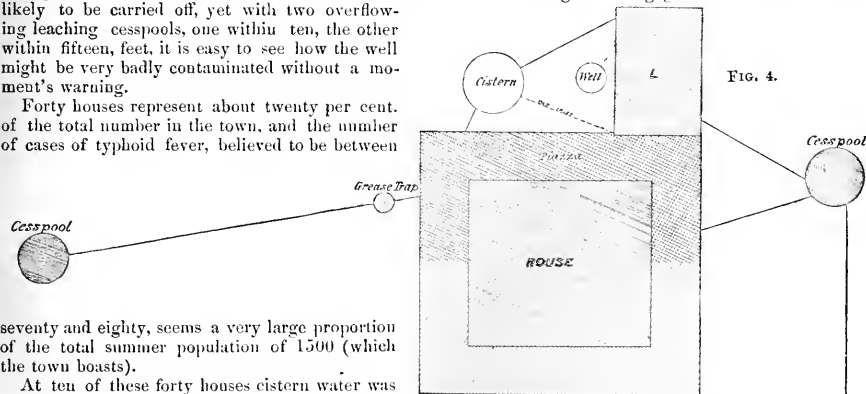


FIG. 3.

at the other the surroundings could scarcely be more unfortunate. For although the residence had a running spring in its well, whereby doubtless much filth would be likely to be carried off, yet with two overflowing leaching cesspools, one within ten, the other within fifteen, feet, it is easy to see how the well might be very badly contaminated without a moment's warning.

Forty houses represent about twenty per cent. of the total number in the town, and the number of cases of typhoid fever, believed to be between

The second case appeared in a family of summer residents on August 2d, at eastern end of the town, where the soil is a light running gravel or coarse sand. The



seventy and eighty, seems a very large proportion of the total summer population of 1500 (which the town boasts).

At ten of these forty houses cistern water was used for drinking purposes, of which eighty per cent. contained impure water, and it seems quite possible that had the other two been analyzed immediately after the first appearance of the disease, they, too, would have been of questionable purity.

The first case appeared in the family of a permanent resident, some time during June; well water was used exclusively for drinking. Analysis of it on November 10, 1881, showed the quality to be bad and the source of impurity to be still active. Inspection of the premises show a shallow well, sixteen feet deep, excavated through clay and ledge, and the lower five feet and bottom being ledge exclusively.

well water was used for drinking purposes, and there seems reason for believing the sources of contamination to have been four old cess-pools and a leaky drain on the same premises, none of which were known to exist or had been forgotten. One cesspool had been used every summer for thirteen years without ever having been cleaned out, and contained several feet of a black cheese-like material.

The third case appeared in a household of permanent residents living at the west end of the village, near Jacob's well. The well water is bad, and the





believed that sufficient has been obtained to render possible a reasonably clear *exposé* of the present condition of things on a majority of the estates, and point out the changes desirable.

#### REMEDIES PROPOSED.

Taking into account all the various known conditions it was decided:—

First. To advise a system of pipe sewers sufficient for the present use and future growth of the town.

Second. So far as possible to cleanse the wells and cisterns and put them in better condition than they were in the summer of 1881.

Third. To obtain a purer supply of ice.

Fourth. To be certain that the cans of milkmen are rinsed with pure water.

Fifth. As it is possible the typhoid germs (if there be such things) of last year may many of them remain in the ground and prove of great trouble this season, it is proposed that the Board of Health, of Nahant, deliver drinking water, known to be good, to every house at Nahant throughout the season, where they express a willingness to use it to the exclusion of other supplies, and, at least at those houses where typhoid existed last season, to insist on its use so far as possible.

The sewers are now practically finished. Wells and cisterns are being cleansed rapidly, and in many cases house plumbing is being largely rearranged and ventilated.

No definite steps have as yet been taken about obtaining a better supply of ice, nor has anything yet been done about the milkmen.

### THE PRESENCE OF THE MICROCOCCUS IN THE BLOOD OF MALIGNANT MEASLES; ITS IMPORTANCE IN TREATMENT.<sup>1</sup>

BY JOHN M. KEATING, M. D.,

*Lecturer on Diseases of Children in the University of Pennsylvania, Visiting Obstetrician to the Philadelphia Hospital.*

I PROPOSE to present for your consideration this evening the report of a recent epidemic in the Children's Asylum of the Philadelphia Hospital. The ward in which the disease first showed itself contained children between the ages of two and three years; some of them had been deserted by their mothers, and others had been placed there temporarily whilst the mothers were employed in duties about the establishment. For the most part, these children presented a fair appearance of health; they were seemingly well nourished, of good development, though probably they would have been classed as "strumous" if their large features and tendency to glandular enlargements and eczematous eruptions had received careful attention. Together with all children of this class living in asylums, they certainly presented an open field for the production of those complications that are usually such fatal attendants upon measles.

In order to save time, I shall in this paper simply narrate the history of the cases. The little patients were zealously cared for by Dr. H. E. Campbell, Resident Physician, to whom I am indebted for the record of the notes taken at each of my visits.

I shall also embody in this report the investigation undertaken by Dr. Henry F. Formad, now well known as the patient and thorough investigator of the microscopic appearance of the blood in diphtheria, associated with Dr. H. C. Wood, under the auspices of the National Board of Health. Dr. Formad examined almost daily the blood of each little patient, and together we noted the presence of micrococci in the malignant cases, and their absence in those of mild type; a record of these examinations was kept by Dr. W. A. Edwards, assistant pathologist, as also the records of the post-mortem examinations, and to him I am indebted for them. We entered this study with no pre-conceived views; the rapidity with which this exceedingly fatal epidemic came upon us necessitated careful study in order to attempt, if possible, to discover its cause. Photographs were presented, which showed the appearance of the field in these cases.

CASE I. J. F., aged two years and three months, was taken sick April 12, 1882. There had been no cases of well-defined measles in the house at that time, although it was epidemic in the city. The child had a sore throat, some cough, with fever. The throat eruption was punctated and well marked. The child died in convulsions April 15, 1882.

*Autopsy.* An ante-mortem (chicken-fat) clot was found in the right heart, extending into the pulmonary artery. There was great systemic venous engorgement. A decided staining was noticed upon the cadaver, especially about the temple, which caused the remark that the disease was probably one of the exanthemata. This child had been placed upon carbonate of ammonia, quinia, and digitalis; had had bromide of potassium, hot baths, and stimulants in small quantities.

CASE II. M. J., aged three years and five months, was taken sick April 9, 1882. A slight eruption on the face was noted April 11, 1882; the next day the eruption was complete over the entire body. In this case the eruption was irregular, was decidedly that of measles, but of malignant type. Still she did well until April 17, 1882, when suddenly the breathing became harsh, and pulse was rapid. At 4.30 p. m. had an attack of suffocation, with rapid, feeble pulse. There was general venous engorgement; the face and lips were purple; pulse growing more rapid. Hot baths, with mustard and frictions, were used, and carbonate of ammonia and digitalis given. It was suggested to bleed in this case, but the evidences of heart clot were so marked, and the child had exhibited so many evidences of malignancy at the onset, that baths were used instead. April 11, 1882, at three a. m., she was still growing worse despite treatment, and shortly after had a violent convulsion and died.

There was no autopsy permitted.

CASE III. A. G., aged sixteen months. Took sick April 15, 1882. April 16th had prodromes of measles. The temperature and pulse ran as follows: April 16th, p. m. 102° F. 17th, a. m. 101° F.; p. m. 103° F.; pulse 180. 18th, a. m. 102° F.; p. m. 103° F.; pulse 180. 19th, a. m. 101° F.; p. m. 102° F.; pulse 160. 20th, a. m. 101° F.; p. m. 102° F.; pulse 148. 21st, a. m. 100° F.; p. m. 100° F.; pulse 180.

In this case no defined eruption appeared on the body, although there was a decided papular eruption on the uvula and anterior half arches of the throat. Whilst showing this case to the class we noted streaks of grayish membrane in the fauces. The child had de-

<sup>1</sup> Read before the College of Physicians, Philadelphia, June 7, 1882.

cided bronchitis, and the voice showed that the laryngeal mucous membrane was also affected. This child was not at that time very ill. There was no question in our minds at the time that it was affected severely by the measles poison, that it was, in fact, another malignant case. It was carefully watched, the nourishment regularly given, with quinia and iron daily, as was customary in all the cases.

On the 21st the breathing was noted as peculiar (I shall describe it hereafter). An emetic was ordered of ipecac, fearing an accumulation of mucus from the bronchitis present, and also carbonate of ammonia and digitalis and hot foot-baths were given. The child's intelligence seemed good, and it will be noted that the temperature was but 100° F., while the pulse was 180.

At eight P. M. a second attack of suffocation occurred, and the child died in violent convulsions. The venous engorgement was very marked. *Autopsy.* A. G. baby, aged one year. Post-mortem examination held ten hours after death. *Heart.* Left side and valves all normal. *Right side.* A large ante-mortem clot filling the cavity of the right ventricle, and extending into the auricle; a clot was also seen in the pulmonary artery. *Lungs.* Left, normal. *Right lung.* At the base of this lung the lesions of pulmonary congestion were seen, especially where the lung approximates the diaphragm. *Intestines.* Slightly congested and hyperæmic. *Mesenteric glands.* Enlarged and infiltrated by simple congestion. *Kidneys.* Normal. *Blood.* Taken from the heart cavity as soon as it was opened and examined showed micrococci in the liquor sanguinis and in the white blood corpuscles.

CASE IV. J. F. McH., aged twenty-three months. This child had a typical attack of measles. The case was shown to my ward class several times throughout its course, the eruption was studied carefully in all of its details, and my friend, Dr. John M. Taylor, obtained for me an excellent representation of the measles eruption in water colors from this case. I refer especially to the points as evidence that the epidemic was one of measles, the cases heretofore were so irregular as to leave room for doubt to those hearing the recital of the history. The eruption was rapidly disappearing and desquamation had set in. April 21st the bronchitis seemed to be aggravated, the respirations were 60, and expiration seemed unusually prolonged.

The breathing was noisy; the heart's action was rapid, pulse 147. Suddenly, in the evening, an attack of suffocation came on, which was relieved by an inhalation of ether of amyl. On the morning of April 22d the heart was beating 168; the venous engorgement was very marked, the jugular veins standing out like whip cords, the respiration was from 36 to 40, but the temperature was 99.4. I saw the child at this time, and noted the grunting he made, the feeble pulse, and the respiration as noted by a watch. There seemed to be a spasmodic interruption of the grunting breath, the child looking while the child gave to all its attention, and we at once resorted to inhalation of nitrite of amyl. A few moments passed and relieved. The inhalation of carbolic acid, in a container, digitalis, but no effect was readily observed. The child was then given a grain of ipecac, but when it had another attack of suffocation, which he was in duration, and the respiration was from 36 to 40, it was observed, as yet no effect was observed. It was observed, as yet no effect was observed, that the condition was not relieved by the previous treatment.

*Autopsy.* J. F. McH., post mortem made twenty hours after death. Eruption not well marked. *Heart.* Right ventricle contained a small ante-mortem clot. This clot was in the cavity of the ventricle, and did not involve the valves, either tricuspid or pulmonary. The left side of the heart was normal in every respect; contained no clot. *Lungs.* Normal, with the exception of hypostatic congestion at both bases. The pulmonary and costal pleura of the left side were inflamed and adherent in some places. *Trachea.* Inflamed, and containing a tenacious mucous secretion. *Larynx.* Inflamed and hyperæmic. *Liver.* Normal. *Intestines.* Peyer's patches and the solitary and agminated glands infiltrated and hyperæmic. *Mesenteric glands.* Enlarged and infiltrated, they were about the size of a grain of corn. *Kidneys.* Normal. *Spleen.* Amyloid bodies enlarged until they presented almost the appearance seen in a tubercular spleen. *Blood.* Taken from heart as soon as punctured. Micrococci were found in the liquor sanguinis and in the white blood corpuscles, and they were mobile. In the corpuscles they were seen in great numbers in active movement of a vibratory or whirling character, and they appeared to have devoured the white cells. No bacilli were seen.

CASE V. J. McH., aged twenty-six months. Ordinary case of measles. The eruption had disappeared on or before April 15th.

April 22d. Child restless; marked bronchitis; cough paroxysmal upon waking, especially after excitement; mucous râles coarse, and fine throughout lungs posteriorly; throat congested, and saliva at times tinged with blood. At this date the breathing was noted as noisy. Pulse 114, respirations 32, temperature 100° F.

April 23d. Mucous râles becoming general, and not limited to areas as heretofore; pulse 152; respirations 34; temperature 101° F. In addition to the tonic and stimulating treatment, mustard poultices were applied to thorax and hot baths frequently given. Carbonate of ammonia was given now, two grains every hour, and bisulphate of quinia by suppository, two grains every three hours. In addition to this the child was given, as were all the others, milk and lime-water, beef tea, etc., at frequent intervals. We also used in this case the frequent administration of small doses of syr. ipecac to relieve the secretion, which was abundant and tenacious.

April 23d. Evening. Pulse was rapid, 160 to 170; temperature 102.5° F.; breathing becoming labored and gasping (fish-like); venous stasis was becoming more marked. Increased the whiskey to about one ounce a day. The attacks of suffocation continued paroxysmally, the jugular veins stood out like cords at times. Nitrite of amyl gave immediate relief, but relapse soon followed; it was always followed by free emesis, which seemed to be in itself beneficial. About midnight a severe paroxysm came on, and with it a convulsion in which the child died. After death the venous engorgement was more marked, and heart-clot had been suspected for some time before. This little patient was the first case whose blood Dr. Formal examined during life. The view of the thud was photographed; micrococci were found in great abundance, acting especially on the white corpuscles. The blood was examined very shortly before the child's death, when the symptom of heart-clot had been fairly established, and the case declared hopeless. Unfortunately no autopsy was permitted in this case.

CASE VI. F. M., aged two and a half years. This case ran a course as did the others, and I will only occupy time with a description of the post-mortem appearances.

*Autopsy.* F. M., aged two and a half years. Eruption well marked on mucous membrane of buccal cavity, not so on cutaneous surface.

Upon laying thorax open, lungs found to be anemic, as far as arterial circulation was concerned, but dammed up with venous blood.

*Heart.* Normal in size and weight. *Right side* contained a clot extending along the pulmonary artery for some distance, it was chicken fat in consistence. *Left side.* Normal. *Spleen.* Congested; weight four ounces. *Intestines.* Along the small intestine could be seen a few Peyer's patches inflamed, and well outlined against the comparatively normal gut. The mesenteric glands presented a very good example of enlargement and infiltration; they looked like so many peas scattered throughout the mesentery. *Liver.* Normal. *Kidneys.* Normal. *Brain.* Not examined. *Blood.* Taken from heart cavity as soon as it was open showed micrococci in the liquor sanguinis and in the white blood corpuscles, in abundance; they were not mobile. A number of zoöglæa masses were seen.

CASE VII. C. M., aged two and one half years. The eruption in the throat of this child was very well marked. A few crescentic points appeared in the temples, and the case rapidly developed malignant symptoms.

April 21st. Slight grayish, suspicious patches of membrane are seated in the throat. The child is hoarse, and there is much bronchitis.

April 22d. Pulse rapid; respiration 28; breathing irregular; there is great general venous stasis; the skin dark and mottled.

Dr. Formad examined the blood microscopically, and found it full of micrococci. He took a specimen sample for photography. Prognosis very unfavorable, as the child has fluttering heart and gasping breathing. Hot baths had been used freely with no success, so also salicylic acid, which had been suggested early in the disease.

After consultation with Dr. Formad, the account of which I incorporate in the summary, it was concluded to give at once two drachms of whiskey, and repeat it every hour; milk was continued as the only other food.

April 24th. Pulse 144; temperature 101° F.; respiration 48; circulation much improved; venous engorgement relieved; breathing greatly improved. The child continued to improve during the day. At the end of the twenty-four hours it had taken six ounces of whiskey, and yet it showed no effects of alcoholism. At noon the pulse was 140; respiration 36. Six p. m., pulse 132; respiration 32. Eleven p. m., pulse 132; respiration 26, and regular, breathing easy, though somewhat noisy, but not harsh. April 25th., A. M., temperature 98° F.; pulse 128; respiration 26. P. M., temperature 98° F.; pulse 108; respiration 24. April 26th., A. M., temperature 98° F.; pulse 96; respiration 22. P. M., temperature 98° F.; pulse 101; respiration 24.

The respirations remained regular, and the child continued to improve.

After the examination of the blood on April 30th, owing to the relative increase of the white corpuscles, it was decided to give Fowler's solution of arsenic,

two drops, three times daily. The large doses of whiskey were kept up for three or four days, and gradually diminished.

I give Dr. Formad's reports, which he kindly wrote out for me:—

"Microscopic examination of the blood in the above case. (Examination made with a one-sixteenth immersion lens.)

"Examination April 22, 1882. Blood full of micrococci (sphero-bacteria), affecting many of the white blood corpuscles; also a large quantity of these fungi free and in various forms of grouping, mostly in zoöglæa masses. White blood corpuscles are in increased quantity; precipitation of fibrine excessively marked under the glass. April 24th. (Same case.) Micrococci present, but in diminished quantity; white blood corpuscles less affected; precipitation of fibrine less marked. April 26th. (Same case.) Micrococci very marked, yet principally in zoöglæa masses, and free in serum, but not affecting the white corpuscles, although the latter are in increased quantity; fibrine not noticeable. April 30th. (Same case.) Micrococci present; white blood corpuscles still in excess, but not affected by micrococci; red blood corpuscles not readily forming rouleaux, having lost partly their bi-concavity. May 3d. (Same case.) Micrococci present in diminished quantity. White blood corpuscles diminishing in quantity. May 7th. (Same case.) Same as last. May 18th. (Same case.) Still some few micrococci present; blood otherwise appears normal."

CASE VIII. J. W., aged eight months. May 13th. P. M. Eruption appeared on fifth day.

The temperature ran as follows: May 13th, P. M., 100 $\frac{1}{2}$ ° F. May 14th, A. M., 101 $\frac{3}{4}$ ° F.; P. M., 102 $\frac{3}{4}$ ° F. May 15th, A. M., 101° F.; P. M., 103 $\frac{3}{4}$ ° F. May 16th, A. M., 101 $\frac{1}{2}$ ° F.; P. M., 104° F. May 17th, A. M., 101° F.; P. M., 102 $\frac{3}{4}$ ° F. May 18th, A. M., 102° F.; P. M., 103 $\frac{3}{4}$ ° F. May 19th, A. M., 100° F.; P. M., 103° F. May 20th, A. M., 103 $\frac{3}{4}$ ° F.; P. M., 102 $\frac{3}{4}$ ° F. May 21st, A. M., 105° F.; death.

May 13th. A fever mixture was given during the day. Quinæ et ferri citratis, two grains, every three hours.

May 18th. The eruption fading, but leaving a purple stain and mottled appearance of skin. Catarrhal pneumonia or collapse probably exists, as the bronchitis is very extensive, the râles numerous and subcrepitant. The blood examined under the microscope shows micrococci in the blood corpuscles, but none free in the field. They are seen in great numbers.

May 19th, P. M. For the past two hours the child has been very restless, the breathing rapid and labored, and also spasmodic; no membrane on tonsils or fauces; heart's action very rapid; venous stasis marked, especially in the jugular veins. Gave hot baths (says Dr. Campbell's notes), and covered him with blankets, with some relief. Increased the whiskey to two drachms every hour.

In the evening gave an emetic. The child at night was breathing easier; friction sounds heard.

May 20th. At times the strangulation would seem imminent. The venous engorgement increased, and the child died in convulsions on the morning of the 21st.

The post-mortem examination showed pneumonia and pleurisy with effusion.

The following eight cases were all taken sick at once, and I shall simply give a general statement of

them for the purpose of especially calling attention to the case of W. L.

J. J., aged four years, W. L., aged five years, E. C., aged three years, catarrhal bronchitis; W. W., aged three years, C. B., aged two years, catarrhal bronchitis; J. W., aged five years, J. D., aged five years, L. K., aged five years.

Of these eight seven presented severe but nevertheless typical examples of measles, and their blood was carefully examined by Dr. Formad, and found normal. The case of W. L., who was taken ill at the same time as the others, showed from the onset a malignant tendency, giving a record such as I have already described. Dr. Formad gave me the following as the result of the examination of the blood in this case, and I had frequent occasion of examining it with him myself. Let me say that as soon as the presence of micrococci was established the child was placed upon two-drachm doses of whiskey every hour. Quinine et ferri citratis in citric acid, two grains every three hours, friction to the extremities, and warm baths, with milk and beef tea. April 22d. A few micrococci seen in the field. April 26th. Again noted. April 30th. Micrococci still present, white corpuscles increased, and marked precipitation of fibrine. *None were noted as having penetrated the corpuscles*; those that were found were simply in the serum. This child recovered, though every indication gave a very unfavorable prognosis.

In presenting this detailed report I desire to call especial attention to the following points, namely, the microscopic examination of the blood and the constant association of micrococci with the general manifestations of malignancy (a condition already well known), and the gradual but positive amelioration of all bad symptoms by treatment, which was directed to the micrococci as the *focus et origin* of trouble (this, I believe, for the first time exhibited).

It will be noted that the post-mortem examinations of these cases showed more or less simple pulmonary congestion, and at times simple enlargement of the glands, but usually so circumscribed as to preclude the possibility of its being the immediate or even remote cause of death. Again, the mode of death was peculiar: the fatal signs came on suddenly and with frightful intensity, the gasping breathing, the frantic efforts to obtain air (or really to aerate the blood), the imploring look, with consciousness not impaired, seemingly mildly acute, until the final convulsion or gradual cyanosis brought the end. The turgid veins, the occasional venous engorgement, the feeble pulse, and the fluttering heart pointed unmistakably to but one cause, the gradually forming right-sided heart clot; and the post-mortem appearance, as these notes show, gave us a large, tough, chicken-fat clot, obstructing the venous circulation, firmly planted in the right heart and its tributaries, which was too often exhibited to raise a question. One of the earliest symptoms of this impending danger was undue rapidity of respiration. The child seemed to be doing well, its eruption irregular, probably incomplete, or dark and mottled, and in *hæc*, when attention would be called to the great rapidity of respiration with a peculiar gasping inspiration, like *hæc* in character. The other fatal symptoms would follow rapidly, and within twelve hours the child's pre-existence of ammonia, warm bath, digests, etc., would do for heart clot. What can of this?

A short paper which appeared in the *American*

*Journal of Medical Sciences* for January, 1882, I gave the experience of a number of cases of diphtheria, scarlet fever, and measles, and then attributed the condition to an increase of fibrine due to the rapid tissue changes and the malignancy of the type of disease, and urged the importance of pushing an alkaline treatment from the start.

The microscope has shown here that something more is associated with this condition.

The moment that symptoms of malignancy appeared, namely, dark eruptions, ill-defined crescents, delayed and imperfect appearance of the eruption, with feeble circulation, high temperature, and pharyngeal false membrane, the examination of the blood showed micrococci in abundance in the field. They do not simply lie as impediments to the free passage of blood, though they most undoubtedly do this, and obstruct its passage in capillaries, but they surround the corpuscles, they enter the white corpuscles and there develop with surprising rapidity, and finally cause some of them to rupture, and their contents will cover the field. Still, if they alone clogged the circulation in the capillaries, caused stasis in the lung, and thereby provoked an accumulation in the already enfeebled right heart, with blood having a tendency to coagulate, the cause of heart-clot alone would seem explained.

We find that they develop with activity when the blood current is retarded, hence we find them spread throughout the heart-clot itself, possibly at times having been here arrested by the obstruction to the flow caused by the lung congestion, known as a frequent complication of these cases, and finally aiding, by a mechanical cause alone, the deposition of fibrine that forms the clot. They do more. They act upon the white blood corpuscle, destroy it in all probability, or, at least, as one of the cases proves conclusively, prevents its change to red corpuscles, and thus the oxygen carriers being either destroyed or reduced in numbers with none to replace them, the tissues retain their detritus for want of carriers to relieve them, and another factor is added to increase mortality.

Granted, then, that the appearance of micrococci is coincident with symptoms of malignancy, we must assert that, whether their association be *post hoc* or *propter hoc*, they must have common cause; our treatment receives an impetus in a new direction.

I asked Dr. Formad what, in his experience, most readily checked the development of *micrococci* in his culture solutions obtained from erysipelas, diphtheria, etc.; he answered alcohol. Dr. Campbell at once withdrew carbonate of ammonia and digitalis from the treatment for the future, and gave whiskey. Five children had already died with the symptoms I have just described, and the sixth was exhibiting all the malignant symptoms, together with those which experience had taught us came from commencing heart-clot. The child had rapid gasping breathing, was becoming cyanosed, its heart was tumultuous, and the rapid pulse was growing weaker. The instructions would be to give *three ounces of whiskey within the next twelve hours*, in frequent and small doses. The treatment was carefully carried out, and the child was saved. In this child micrococci were found in abundance in the blood, but none had penetrated the corpuscles, and for a long time the preponderance of white blood corpuscles was noted, which continued until gradually the blood became normal under the use of arsenic.

Again, let me illustrate another point. In one ward

there were six cases at the height of eruption. I carefully examined, with Drs. Campbell and Markoe, each case. One case was found to be of a malignant type. The child's right cheek was hardened and inflamed, and the mucous membrane showed that glistening surface so manifest in cancrum oris. The breath was fetid, there were cerebral symptoms, and a grayish exudation lined the fauces. We wished to test the microscope, so, without reference to any particular case, we requested Dr. Formad to examine the blood of all. In five the blood showed no micrococci, in one a large mass appeared in the field upon the first examination, and this one was the malignant case. This child was placed at once upon large doses of whiskey, and it was also given, in tonic doses, quinine et ferri citratis and citric acid.

The vegetable acids have also this remarkable effect of checking the development of micrococci in culture solutions, especially acetic acid, but the mineral acids, also carbolic acid, it is said, have no such action.

The bichloride of mercury also possesses this quality to a very marked degree.

Now let me, for a moment, review this subject in the light of treatment, which to us is certainly of greatest importance. We may look at present upon the micrococcus as associated with the malignant symptoms of all complications known as "blood-poisoning." It is found in erysipelas, in puerperal septicæmia, in diphtheria, and in malignant measles. Experience has already taught us that alcohol, the vegetable acids, calomel, or corrosive sublimate, are the drugs *per se* in septicæmia.

The action of alcohol and calomel is too well authenticated in puerperal septicæmia to doubt their efficacy.

We know of late how surprising a result will often attend the use of alcohol and corrosive sublimate in malignant diphtheria, and also the value of vegetable acids, especially lemon-juice and claret, in this dreaded disease.

My cases simply illustrate one part of the subject. In this recital I do not allude to the other death-producing complications which are so universal. Children with measles will die of cerebral complications, of pneumonia, of enteritis, and entero-colitis — with these we have nothing to do at present. Their treatment will of course depend upon the lesions — quinine, opium, hot baths, poultices will all take part.

I have simply brought forward the subject of "blood-poisoning" for your consideration, and as these remarks are based upon the careful study of but one epidemic, they cannot be submitted as conclusive, but simply as illustrative of what may, at some future time, be accomplished by studying not merely the bacteria anatomically and physiologically, but by experimentation with bactericides as antidotal in their action in diseases they may cause or complicate.

The conclusions which seem warranted by the statements of this paper, and by observations made in other cases in the hospital, are as follows: —

The micrococcus is found in the contents of pustules and vesicles, and also in the blood taken from the measles papule in ordinarily mild cases, without its being present in the blood taken from the punctured finger. In severe cases, called malignant in this paper, owing to the rapid appearance of morbid symptoms, the blood shows early in the attack numerous patches of micrococcus in the field.

In cases of rapid sthenic disease with high tempera-

ture and great tissue change, the evidences of large quantities of fibrine with a tendency to coagulation are manifest. The rapid production of micrococci soon gives the mechanical impediment, and if stasis takes place from any other obstruction to the circulation, clots rapidly form.

The non-appearance of clots in malignant fevers attended with fluid blood, such as low forms of typhus, diphtheria, etc., is simply due to the fact that rapid tissue changes have resulted in decomposition, instead of into fibrine forming substances — no fibrine is formed, hence no clots, — but the micrococci are present all the same. These cases are held by some to be the malignant ones, but I think the *foudroyante* character of the others just mentioned entitle them to be placed in the same category.

But the micrococcus, if left unheeded, may attack the white corpuscle, as distinctly seen under the microscope, and destroy its contents. The red cells also change in appearance, and finally probably become, to all intents and purposes, useless in the economy. When such a condition is seen by the microscope and found extensive, a fatal prognosis can be given, despite the most active treatment.

In cases where the white blood cells are as yet unaffected, treatment, when active, will be followed by good results, provided the other complications, as visceral inflammation, etc., are not in themselves excessive.

*Alcohol* (whiskey in our cases) seems in some way, when given in large amounts, to check the progress of the marauders, to arrest the process of destruction, and, if needful, can be associated with quinine and iron in small repeated doses, digitalis perhaps, and frictions, baths, and poultices, etc. As we have seen, the symptoms presented are contemporary with the changes going on within the blood: they may, in lieu of a careful microscopic examination of the blood, be taken as a gauge for treatment; knowing what can and will take place, early active treatment will give the patient some chance for the future.

## A STUDY OF THE ACTION OF IRON.

BY FRANCIS H. WILLIAMS, M. D.

ABOUT two hundred and fifty years ago Lemery noticed that the ashes of animal tissues contained iron, and fifty years later Menghini showed that this iron was not in the flesh or bones but in the blood, and in one portion of the blood only, namely, the blood corpuscles; we now know that the three grammes or about forty-five grains of iron which are in the red blood corpuscles is about all the iron there is in the human system.

That iron had specific poisonous properties was not believed, and nearly all writers, both old and modern, have insisted that no toxic action was connected with this metal, especially as workers in iron were not affected by it.

At one time I supposed myself to be the first to have proved that iron was capable of acting in a manner resembling the poisonous metals, since in a full and carefully written essay on the literature of iron, published while my experiments were going on, the author states that iron is the only one of the heavy metals which has no unkind action on the system; but this was an error, two experimenters at least having observed the toxic action of iron.

As regards experiments with this metal, it should be said that the manifestations of its action are not as marked and its study is less interesting than that of many other drugs, particularly those which act on the nervous system.

As a very large number of experiments were made, in a paper of this length it will be possible to give you only an outline of a few of them.

We will first consider the effect of introducing iron into the system, then the symptoms which it causes, and the post-mortem appearances. After this we will endeavor to explain the cause of death, and compare the action of iron with that of arsenic and platinum, and finally we will discuss briefly two theories regarding the tonic effects of this drug, together with some clinical facts and precautions.

In making the experiments, in order to be sure that the iron got into the system, it seemed best to introduce it directly into the veins, but this had to be done without causing coagulation of the blood, and a number of trials were made to find a suitable solution; of several salts of iron a freshly-made, clear solution of the tartrate of iron, neutralized with caustic soda, was found very convenient, as it did not cause any inflammation at the point of injection, and did not in any way obstruct the circulation by causing thrombosis. A small quantity of such a solution would kill a frog in from twenty-four to forty-eight hours, and in experiments on a number of rabbits it was found that the fatal dose of iron per kilogramme of the animal varied from ten to twenty milligrammes, or one fifteenth to one seventh of a grain per pound weight of the rabbit; that is, the fatal dose for a rabbit of average size was about one third of a grain of iron. Death followed in from six to twelve hours after the injection. There were no signs of thrombosis, especially in the lungs, where one would expect to find emboli if they were to be found at all.

It will be asked, How do you know that the iron was the cause of death? may it not have been due to some other constituent of the tartrate of iron? In order to answer this question, a solution of the tartrate of soda was made, and eight to ten times as much of this as had been used of the iron salt was injected in the same manner into each of several rabbits without causing any unpleasant symptoms whatsoever. Shortly after receiving the iron the animals seemed well, and the appetite was good until within a few hours of death, when a disposition to keep quiet, and an apparent weakness accompanied by frequent liquid stools, was observed. In the few cases where death was witnessed there were three or four short convulsions, accompanied by opisthotonos, lasting, with intermission, about ten minutes, and suggesting death from asphyxia. The muscles and nerves responded to electric stimuli both immediately before and after death.

Post-mortem examination showed the small intestine to be pale and freely contracted, the upper part for a distance of forty centimetres, about sixteen inches, from the pylorus was distinctly reddish in color; the bile vessels of the no entry were dilated; the liver and kidneys very much congested, especially the liver. Bladder and lungs normal, heart sometimes in distressful condition as usual. In the brain and its meninges no abnormal appearances were detected. The few thin both arteries and veins were of a dirty, earthy venous color. Arterial blood also showed the

same peculiar color during life, which changed to nearly normal arterial color after being exposed some time to the air.

The rabbits were all weighed; the amount of fluid and the quantity of iron injected, and the various symptoms which followed, were all carefully noted, but for the sake of brevity most of this is here omitted.

The fatal dose for cats seemed to be somewhat larger per kilogramme than for rabbits. The symptoms, which began from one to three days after the injection, were loss of appetite, vomiting, which took place as a rule directly after eating, diarrhoea, the stools being rather frequent and liquid, and loss in weight, about twenty per cent. in five days. In one case the above symptoms continued for six days, after which both milk and meat were taken most eagerly, and recovery seemed to follow immediately. About eighty to one hundred milligrammes, or one and a half to two grains, of the iron was a fatal dose for a cat. Further experiments showed that about the same proportion, or rather less, is true of dogs. The dogs died in periods varying from twelve hours to six days after the injection.

From these facts it is evident that we have in iron probably not a dangerous agent, but at least a drug of more toxic qualities than is generally imagined.

Let me endeavor to give in outline something of the symptoms which follow the injection of a fatal dose of iron in dogs; as an example let us take a large dog which weighed fifteen kilogrammes, or about thirty-seven pounds. Into the vein of the leg enough of the tartrate of iron solution was injected to represent one half a gramme, or about seven grains,<sup>1</sup> of metallic iron. The injection took place at four o'clock in the afternoon; nothing out of the way was noticed on this day. Next morning the animal ate his food as usual, but later it was vomited; from this time on he took nothing more to eat, but was very thirsty, the water which was taken being vomited immediately. On the third day whenever water was taken it was vomited directly, and in the evening he became very weak, sleepy, apathetic, collapsed, and died.

In some cases the vomitus was at times tinged with fresh blood, and sometimes there were a number of dark, bloody, liquid discharges from the bowels. In other cases a ravenous appetite came on on the fifth day, and the animal recovered within a day or two later. The vomiting seemed to come on only to empty the stomach; it ceased as soon as this was accomplished, and returned only when something was taken into that organ; in short, its character suggested that the stomach was intolerant of, and sensitive to, the irritation caused by the presence of any substance, even a liquid. The symptoms directed attention chiefly to the intestines and stomach. Post-mortem examinations were made in all cases; the lungs, liver, and kidneys were found congested, but most striking were the appearances in the stomach and intestine. The blood, both before and after death, had a very dark venous color, and was the same in both arteries and veins. In detail the appearances found in the intestine in one of the cases was as follows: on opening the abdomen the intestine was found contracted and seemingly empty. The intestines and stomach were removed from the body; they were then opened longitudinally and spread out on a table. The stomach contained about fifty c.c. (about two ounces) of a thick mucus,

<sup>1</sup> Less than average dose.

dark brown in color, and containing blood-coloring matter; the same liquid was found smeared over the mucous membrane of the upper two thirds of the small intestine. After washing off the inner surface of the stomach it was found to be of a nearly uniform dark-brown color, somewhat darker at the pyloric end. In the small intestine the mucous surface of the duodenum was of a bright blood color; on close inspection it could be seen that this appearance was made up of red points scattered thickly over the inner surface of the intestine. These appearances were confined to the mucous coat, and were found to some extent over the whole length of the small intestine, but of much less intensity in the lower portions. The lining of the large intestine was somewhat hyperemic.

From the hardened specimens a number of sections were made for examination under the microscope. In the sections from the duodenum the villi were found much congested in many places, thus explaining the fine red points described above. Sections taken from the lung showed marked engorgement of that organ, and those from the kidneys and liver also showed congestion, though not to the degree observed in the villi and lungs.

It is not only when iron is introduced into the veins of animals,<sup>1</sup> but also when given by the stomach in large doses, that death has followed, and appearances have been found similar to those already described. But more than this, it has been observed in healthy men that very large doses of iron caused weakness, a disposition to sleep, colicky pains in the region of the stomach, and vomiting. The blood was also darker than normal.

It has lately been suggested by Beranger-Ferand<sup>2</sup> that death may be caused under certain conditions by a solution of perchloride of iron; he found that in cats and dogs death followed the ingestion of comparatively small doses of perchloride of iron if taken on an empty stomach and with a small quantity of alcohol, as these conditions seemed to favor the rapid absorption of the drug. He cites three instances where he thought death had been caused in men by the perchloride of iron, which was taken in punch, and he thinks that one or two teaspoonfuls of liquid perchloride of iron, if given on an empty stomach and with a small quantity of alcohol, would be sufficient to cause death in a man.

From our own experiments we may infer that an iron salt introduced into the system in a certain amount will cause death; this is due to the iron, and not to any other constituent of the salt, since a similar salt of another element, although given in much larger amount, causes no symptoms. Further, we have seen how the alimentary canal is conspicuously disturbed and the blood changed in color.

It will be asked of what do the animals die? Is it in any way connected with the alimentary canal, where the appearances are so marked? Probably not, as we have in some cases all the symptoms indicating irritation of the stomach and intestine without a fatal result; also, this seems only to prevent the animal from taking food, and death from starvation will not occur in four or five days, as animals can live a much longer time without any nourishment. It is probable that

death is brought about in other ways. You remember that the blood, both arterial and venous, had a peculiar color; this suggested an examination of it. Under the microscope no changes were detected, at least not with certainty, although a change in the form of the blood corpuscles was for a time imagined; but thinking from the venous color of the arterial blood to find an unusually large amount of carbonic acid gas in it, Dr. Meyer and myself made some gas analyses of the blood, and to our surprise found the carbonic acid present in much less than normal quantity instead of being increased. In some cases only one fifth the normal amount of carbonic acid was found. Preliminary to these experiments, as no analyses of the gases in normal dog's blood could be found, it was necessary to make some, in order to ascertain the amount of carbonic acid and of oxygen normally present. It was found that in one hundred parts of blood there were twenty-five parts by volume of carbonic acid gas and about fifteen parts of oxygen; that is to say, about twenty-five per cent. of  $\text{CO}_2$  and fifteen per cent. of oxygen. After injecting iron the oxygen was found in normal amount, but of the carbonic acid only ten to twelve per cent., one half the normal amount, and sometimes only five per cent., was present. The carbonic acid was not held in combination in the blood, as a carbonate, since no more gas could be obtained by treating the blood with acid to decompose the carbonate.

From this we may infer either that the iron in some way hinders the blood from taking up the products of decomposition from the tissues, or that the process of oxidation is incomplete.

It is not improbable that the collapse and paralysis of the central nervous system which accompany death may be a consequence of diminished oxidation; this view gains color from the fact that the amount of carbonic acid in the blood was found to be less and less the nearer the time of death. Arsenic and platinum, both of which metals give rise to diarrhoea, vomiting, and other symptoms similar to those following iron, were found to cause a similar diminution in the carbonic acid in the blood. It may also be mentioned, in passing, that these metals, as well as iron, seemed to have a similar effect on the arterial blood pressure, causing it to be less than normal. All this suggests that these metals may have an action on the economy similar to that exercised by iron.

To recapitulate: we have seen that iron has without doubt poisonous qualities; that the symptoms which it causes come chiefly from the alimentary canal, and that in fatal doses it diminishes the amount of carbonic acid gas in the blood; that the action of iron on the economy probably resembles that of arsenic and platinum, and that we are justified in believing that the action of iron on man in excessive doses would be similar to that observed in animals.

Let us now turn from our experiments and consider the tonic action of iron as observed clinically. For many years the good effects following the administration of this drug have been recognized, and in general two theories have been advanced to explain them: the first, that its good effects are produced by its action on the red blood corpuscle; the second, that it exerts a special influence on the digestive system. Regarding the first of these, we know that iron is a constituent of the red blood corpuscle; that in anaemia the number of red blood corpuscles is less than normal, and after

<sup>1</sup> Arch. f. Experiment. Pathologie u. Pharmacologie, xiii. Bd. 74. u. 75. Frank. Mag. f. Physiol. u. klin. Argument u. Toxikol., 1849, ii. 369 u. iv. 173.

<sup>2</sup> Annales d'Hygiène Publique, 1879, 508.





sel itself was atheromatous; the pulmonary cusps were also thickened. The tongue weighed forty-six grammes; the kidneys were healthy, and the muscles were of normal appearance. One of the most striking features of the disease is the coincidence of arrest in the development of the brain. M. Bresson has met this deformity in anencephalous monsters. Cretins also, whose cerebral deficiency is undoubted, are characterized by a thick, pendent lower lip, large, swollen tongue, big lower jaw, and their teeth are carious and wide apart, the permanent ones seldom replacing the temporary set. Whether one and the same cause has brought about the cerebral atrophy and lingual hypertrophy, or whether the tongue has grown at the expense of the deficient brain, or to what extent the imperfectly developed heart may lead to this condition, are questions as yet unanswered.

Dr. Clemens Paster<sup>1</sup> has also written a careful article on this subject, and given especial attention to its literature from the earliest times. He notices a slight predisposition of females for the disease. The author then reports the case of a male infant six months old and otherwise well and apparently strong, who was brought to Professor Ranke's clinic with a decided enlargement of the tongue. The root and back of the tongue had a doughy, almost fluctuating feeling, not sharply defined. The mucous membrane showed signs of acute inflammation. There were swollen glands under the chin, and the upper lip and lower part of the cheeks were slightly intumescent. These appearances were evident soon after birth. In the next two months there was a great increase in the size of the organ, causing difficulty in breathing and general atrophy, from which the child finally died at the age of eleven months. At the post mortem, the above mentioned almost fluctuating tumor was found to be composed on its surface of several cysts, the walls of which were in parts so thin that their contents were easily seen, in other parts they consisted of thick connective tissue. The cysts contained a clear white or yellowish fluid. On section small cavities were found lying closely together, and at times only separated by a thin wall. The thyroid gland was drawn upwards, but showed no changes. The submaxillary glands were dislocated downwards. The tongue was enlarged in all directions, but its mucous membrane showed very little change. On section a peculiar cavernous tissue was found resembling the common cavernous blood tumors, excepting that the contents of the cavities were the same serous fluid, partly fluid and partly coagulated. A more extended macroscopic examination showed that the abnormal changes depended on the lymph vessels, and this was corroborated by the microscopic appearances, a minute description of which is given in the article.

Similar appearances were found in the subcutaneous tissue of the neck, lips, and cheeks. Paster then speaks of the researches of Billroth, which prove that there are two different forms of "makroglossie;" first, a "makroglossa fibrosa," where the connective tissue is pathologically increased between the muscular fibres and remains in this condition, and second, a cavernous-cystoid degeneration of the interstitial connective tissue, by which the resulting spaces come into connection with the lymph vessels, forming a "makroglossa cavernosa," which has a close resemblance to the cavern-

ous angioma, and from this receives its name of lymphangioma cavernosum. Billroth thinks also that both forms may be found combined.

Paster concludes that (1) the cavernous makroglossie and makrochilie is to be sharply defined from the fibroid form, which has the same external appearance. (2) Cavernous makroglossie and makrochilie is to be considered a true new formation. (3) This new formation has from its connection with the lymphatic system a decided relation to elephantiasis arabum and pachydermia lymphangiectatica, yet it cannot be identified with these processes, and is not to be considered a partial elephantiasis. (4) In conformity with its development, and from its macroscopic and microscopic relations, it belongs to the cavernous angioma, and is analogous to the cavernous vein tumors. (5) Its origin is partly from an increase of previously formed lymph vessels, and partly from a new formation of them. (6) Its aetiology is not explained.

#### INFLUENCE OF DRUGS ON THE SECRETION OF MILK.<sup>2</sup>

Dr. Max Stumpf has lately written a most interesting and exhaustive article on the influence of drugs on milk, and he precedes his own investigations on this subject by a detailed account of what has been done by former experimenters, and also by certain historical facts bearing upon the production of milk. A valuable addition to the article consists of an extensive table of references to the literature of the subject, carried back to the earliest observations made both on animals and human beings. The author states that up to the present time the various theories concerning the action of drugs on the milk have been empirical. The condition which determines the quantity and quality of the milk depends on the development of the organ which produces it. It is known that animals of the same breed, with exactly the same surroundings and nourishment, show great differences in the production of milk, and that it is not the case that the largest and strongest animals always give the richest milk. Those species of animals which have for over a thousand years been used for the production of milk, probably did not in the beginning give such an over-production as is actually the case now. In fact, in Egypt, where, formerly, there was either no trade in milk or very little, we find represented on the monuments cows with only slightly developed udders, and goats and sheep without any, while the generative organs of the male animals are clearly depicted, a fact of some significance when we remember the well-known tendency of the Egyptians to realistic representations. It is, then, by breeding that animals have been made to produce so much more milk than is necessary for the support of their young. Not only quantitative but also qualitative differences exist, partly from the influence of race, and partly from differences in development of the mammary glands, as Martiny<sup>3</sup> has shown in his collection of statistics on this subject, and it is interesting to note in his results that the fat, albumen, and sugar do not correspond to the total amount of the milk production, but that, on the contrary, an increase in the total amount is accompanied by a decrease in the relative amount of the solid constituents. As to the relation of the single constituents to each other, researches show that there is no constant relation for

<sup>2</sup> Deutsches Archiv für klinische Medizin, January 18, 1882.

<sup>1</sup> Paster, Ueber Makroglossie und Makrochilie. Jahrb. für Kinderh., xviii. Band, 2 und 3 Hft.

<sup>3</sup> B. Martiny, Die Milch: ihr Wesen und ihre Verwertung. Pnzig, 1872.

the different races. Vernois and Becquerel<sup>1</sup> found in women almost no qualitative differences between badly and well developed glands, while there were great differences resulting from investigations on extremely poorly developed glands in comparison with those which were greatly developed, the former producing milk which was poorer in water and richer in fat. Age has less influence than development on the quantity and quality of the milk. The author then states that the investigations which have so far been made on the quality of cows' milk at different ages are not very reliable, and quotes in support of this view the different results obtained by such observers as Vernois and Becquerel, Boussingault,<sup>2</sup> Müller,<sup>3</sup> Heineman,<sup>4</sup> Kuhn,<sup>5</sup> and others.

The influence of acute and chronic disease upon the milk has not yet been much studied, but in nineteen cases of various kinds, such as typhoid, pleuritis, and pneumonitis, observed by Vernois and Becquerel, there was a striking similarity in that the whole amount produced was decreased, and without exception there was a lessening of the sugar. In two of the cases there was a decided increase of the solid constituents; there was no definite change in the amount of the fat. Stumpf then reviews the various views held as to the physiological production of milk by Pettenkofer, Von Voit, Stricker,<sup>6</sup> Partsch,<sup>7</sup> and others,<sup>8</sup> showing that milk is not a simple transmutation from the blood, but that it is made by the cells of the milk glands, and that in the process these cells are not entirely destroyed, but that their function is to give up their contents, and to then begin again anew. He next speaks of the experiments made on the nerves supplying the mamma, and of the results obtained by Eckhardt,<sup>9</sup> who, by direct irritation of the nerves, found that it was the vaso-motors which, by their action on the blood pressure, influenced the secretion of the milk, and those of Röhrig,<sup>10</sup> who, by using drugs which increased or decreased the blood pressure, produced a greater or less flow of milk, the deductions from these two sets of experiments being that the elaboration of the milk corresponds to the speed of the blood current. An examination of the slighter changes in the composition of the milk is the more difficult, as spontaneous changes, that is, without definite causes, take place in the milk from day to day. Drugs which accelerate the destruction of albumen in the body generally increase the fat, and perhaps also the milk sugar. On the contrary, those drugs which delay the decomposition of albumen have an opposite effect, and no change in the quantity of the milk results from giving these drugs.

The investigations made to determine whether drugs can be eliminated by the milk in sufficient quantity to prove poisonous are not exact, and the quantitative analysis is especially at fault. It is well known, how-

ever, that drugs can pass into the milk, and produce a medicinal effect, and Deyeux<sup>11</sup> and Fuchs<sup>12</sup> have made careful chemical studies on different animals with reference to detecting coloring matters and various oils, as linseed, camphor, and turpentine oil. Ether was found in the milk after it had been administered for two hours, and Scanzoni<sup>13</sup> found chloroform. Well known instances of infants being poisoned by animals which have fed on conium and colchicum, and also where the mother has taken scammonium and opium, are recorded. The first scientific investigations in this direction were, however, made by Chevallier and Henry; their experiments were qualitative, and proved that it was possible to detect in the milk, as foreign bodies, chloride of sodium, carbonate of soda, sulphate of soda, iodine, iron, zinc, and bismuth. They failed to find nitrate of potash, quinine, and mercury.

Lewald<sup>14</sup> made the next extensive series of investigations with about the same results, though his experiments with alcohol and narcotics were negative. In the history of these investigations we find great differences of opinion regarding the elimination of mercury by the milk, a number of observers denying that it could be obtained chemically. Lewald, however, by means of improved methods of analysis, claimed to have found it, and later undoubted results were obtained by Klinik,<sup>15</sup> Vajda, Paschiks,<sup>16</sup> and others.

Other investigators, however, using the same methods, have so often failed to find it that it is probable that, as Richelot<sup>17</sup> suggested, its elimination by the milk depends on individual peculiarities. As to the drugs which affect the quantity of the milk, the recent investigations of Prockownik<sup>18</sup> with belladonna and atropine show that these drugs are at least not reliable for treating galactorrhœa. Stumpf then says that most of the numerous observations which we meet with in the history of this subject, and of which he has cited the most important, are rendered less valuable by the slight regard which they pay to the quantitative analysis. The fact that foreign matter can pass into the milk is well known, the question is in what quantity it enters, in what combinations it appears in the milk, and, most important of all, whether through changes in the chemical composition of the milk, changes of relation between its various constituents will be caused. The fact that traces of one or the other drug were found in the milk is not nearly so interesting as the question whether these traces influence the amount of the secretion or change its quality, in other words, whether they can alter the activity of the glands. The author's investigations on goats were made at the Central Veterinary School at Munich, and the chemical analyses were performed in the Clinical Institute of the University. Similar experiments on women were made in the Lying-In Institute at Dresden, the chemical analyses being made in the laboratory of the Dresden Polytechnic, all the investigations being rendered more valuable by the advice of such men as Ziemssen, Bauer, and Winckel.

<sup>1</sup> Recherches sur le Lait. *Année d'Hygiène Publique et de Médecine Légale*, t. I, p. 1, 1854.

<sup>2</sup> Boussingault, Die Milchdrüsen, ihren Beziehungen zur Chem. *Deutsch. Chem. Ges.*, Halle, 1856, Bd. II.

<sup>3</sup> Müller, Chem. Untersuch. über den Gehalt der Milchdrüsen. *Landwirthschaftl. Versuchsstation*, vi, 1864.

<sup>4</sup> Heinemann, Die Milchdrüsen. *Landw. w. Med.*, des Land- u. Forstw. Hochschule, Bonn, 1866.

<sup>5</sup> Kuhn, Landwirth. Versuchsstation, t. 1, 1864.

<sup>6</sup> Pettenkofer und Voit, *Annales der Chemie Pharmacie* II, No. 1, 1869.

<sup>7</sup> Stricker, *Lehrbuch der Contrah. K.*, 1867, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

<sup>8</sup> Partsch, *Lehrbuch der Contrah. K.*, 1867, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

<sup>11</sup> Deyeux, *Recherches d'Exper. et d'Observat. sur les différents Espèces de Lait*, 1809.

<sup>12</sup> Fuchs, *Magazin für die gesammte Thierheilk.*, Bd. 7.

<sup>13</sup> Scanzoni, *Beitrag zur Geburtsh.*, Bd. II.

<sup>14</sup> Lewald, *Beitrag zur Lehre von der Uebergang von Arzneimit in die Milch*, Habilitationssch., Breslau, 1857.

<sup>15</sup> Klinik, *Vierteljahrss. für Dermatologie und Syphilis*, Bd. 1.

<sup>16</sup> Vajda und Paschiks, *Über den Einfluss des Quecksilbers auf den Syphilis Process*, Wien, 1880.

<sup>17</sup> Richelot, *Schmidt's Jahrb.*, Bd. 133.

<sup>18</sup> Prockownik, *Zwei Fälle von Galactorrhœa*, *Centralbl. für Gynäk.*, 1878, No. 1.

The chemical analyses are carefully described and tabulated, and are important so far as they are exact for individual cases, but more observations are needed to eliminate the errors which may arise from experimenting on a few cases. He arranges his results as follows:—

I. Changes in the quantity of the milk.

(1.) Iodide of potash causes a decided lessening of the milk secretion.

(2.) Alcohol, morphia, and lead did not change the quantity.

(3.) Salicylic acid seemed to somewhat increase the quantity.

(4.) Pilocarpine did not increase the quantity.

II. Changes in the quality of the milk.

(1.) Iodide of potash causes a disturbance of the glandular function, and thus the quantity of the different ingredients fluctuates.

(2.) Alcohol and alcoholic drinks only relatively affect the fatty ingredients of the milk, and are not to be depended upon as a dietetic means of increasing the milk secretion.

(3.) Lead, morphia, and pilocarpine do not change the quality of the milk.

(4.) Salicylic acid appears to cause an increase of sugar.

III. Appearance of drugs in the milk.

(1.) Iodine appears quickly in the milk, and in human beings disappears immediately at the conclusion of the administration of the drug. In herbivora the iodine remains longer in the milk. The quantity of iodine entering the milk is not a definite fractional part of the amount of the drug administered, but varies with the individual. A therapeutic use of iodized milk is therefore not advisable. The iodine in the milk is not eliminated as iodide of potash, but is combined with the casein.

(2.) Alcohol does not appear in the milk of herbivora.

(3.) Lead is only found in traces where small quantities are given, and evidence of its presence outlasts for some time the administration of the drug.

(4.) Salicylic acid is found in small quantities when large doses have been given, and in somewhat larger quantity in human beings than in herbivora.

ACUTE DILATATION OF HEART.

Steffen<sup>1</sup> states that according to his experience the causes of acute dilatation of the heart in children may be classed under three divisions: (1) Endocarditis. (2) Increased blood pressure. (3) Infectious diseases. The first cause is not of such very rare occurrence; the left ventricle is usually the part affected where endocarditis is the cause, and the development of the endocarditis is always attended by high fever. The symptoms differ according as the inflammatory condition has begun in the valves or in the cardiac walls. In the former case the signs of dilatation accompany those of valvular disturbance, while in the latter the symptoms of dilatation come first and are followed later by the mechanical results of valvular insufficiency. Death may take place at the height of the attack, or after days and weeks there may be a retrogression of the morbid process. If it was the walls of the heart that were affected, the heart may regain its normal size and position, and likewise the accompanying valvular symptoms may disappear. If the valves

alone or with the walls were affected, recovery can still take place. If the valvular deficiency remains, still in spite of the acute dilatation having taken place, secondary dilatation and hypertrophy may arise. Entire recovery is more frequent when the endocarditis has been caused by chorea than by articular rheumatism. Processes which suddenly cause great increase of the blood pressure in the lungs may lead to acute dilatation of the right ventricle; this is especially liable to take place where there is diffuse extravasation into the alveoli and bronchioles, and in the intercurrent emphysema occurring in the course of pertussis. Acute dilatation of the left ventricle may occur in diffuse renal inflammation, and where contraction of the renal substance takes place the dilatation is followed by hypertrophy. As an illustration of this last cause the following case is of interest: A boy twelve years old was admitted to the Children's Hospital with rheumatism, nephritis, and a weak dilated heart, September 1, 1881. On September 3d the urine was much lessened in quantity, and the dilatation of the heart increased, with headache, vomiting, and convulsions; by September 11th the urine had increased in amount above the normal, with a corresponding increase in the strength of the heart, which returned to the same size as it was on entrance: the albumen was also reduced to a trace; this state of affairs with occasional fluctuations continued until September 25th, when percussion and auscultation showed the heart to be normal. The amount of urine was now above the normal, and the specific gravity low; the albumen and casts were much lessened, and the child was discharged comparatively well on November 14th, with symptoms pointing towards contracted kidney and hypertrophy of the heart, the latter having gradually developed from September 25th. Steffen reports the case of a boy eleven years old, who was seized with symptoms of acute dilatation following carbolic acid poisoning resulting from the use of this antiseptic for amputation at the right knee-joint; the dilatation disappeared in a month, leaving the heart apparently normal.

It is possible that with each onset of infection a slight weakening and dilatation of the heart takes place, followed or not by pronounced symptoms according to the severity of the poison.

Acute dilatation may also follow typhoid and scarlatina; an instance of the latter was the case of a boy six years old, who was admitted to the hospital November 20th, with general anasarca following scarlet fever; the heart was normal; the temperature was slightly raised; the pulse and respirations were quickened. November 23d there was dyspnea, cyanosis, vomiting, albuminuria and increase of cardiac dullness, with great weakness of the heart's action; this state of affairs increased, and then the symptoms gradually lessened in severity until December 13th, when the heart was found to be normal and the child entirely well.

The author concludes by saying that we should not omit examining the heart in all acute diseases.

HEART TUBERCLE.

Hirschsprung<sup>2</sup> reports an interesting case of a girl eight years old, who was a healthy looking child, but on admission to the hospital had serious symptoms pointing to the cardiac region, and represented by a tumultuous action of the heart, diffuse pulsation, increased cardiac dullness, slight cough, heightened tem-

<sup>1</sup> Steffen, *Jahrb. für Kinderh.*, xviii. Bd., 2 und 3 Heft.

<sup>2</sup> *Jahrb. für Kinderh.*, xviii. Bd., 2 und 3 Heft.

perature, and increased respiration. Dyspnoea and cyanosis set in and the child died seven days after entering the hospital. A tubercle as large as a walnut was found in the internal wall of the left ventricle; a few miliary tubercles in the anterior part of the left upper lobe, and nowhere else in the lung; the bronchial glands, especially on the left side, were found in a state of cheesy degeneration, as were also the mesenteric glands; there were tubercles in the spleen and pericardium. The liver and spleen were enlarged, and the intestinal glands swollen but not ulcerated.

#### SALICYLATE OF SODA.

Pinsker<sup>1</sup> concludes from a large number of observations on the use of this drug in children, that its ill effects, such as loss of appetite, nausea, vomiting, ringing in the ears, giddiness, deafness, at times appearances of collapse, albuminuria, erythema, and urticaria, are oftenest seen when the drug is impure. While finding it almost a specific in acute rheumatism, it exerted very little effect on diphtheria, pertussis, and typhoid, and was useless in intermittent fever.

#### WEIGHTS OF INFANTS IN THEIR FIRST YEAR.

Dr. Camerer<sup>2</sup> contributes a valuable set of tables showing the weights of twenty-one infants during their first year; the ages of the parents are given, also the changes in the food in the different weeks and the diseases which occurred.

### Recent Literature.

#### *On Cancer of the Breast.* With Colored Illustrations.

By THOMAS WILLIAM NUNN, F. R. C. S. Eng., Consulting Surgeon to the Middlesex Hospital. London: J. and A. Churchill, New Burlington Street. Quarto, 250 pages, 1882.

Mr. Nunn has here furnished a superb work. He has divided it into two parts: the first Clinical and Practical; the second, Pathological and Speculative.

The one is based on some thirteen hundred cases in the ward- and out-patient departments of the Middlesex Hospital, and also on one hundred and twenty-three autopsies. The other embraces the views of most of the German and French, and many English, authors, together with numerous microscopical sections, and discusses the causation, course, and nature of the disease. To this is added a Discussion on Cancer at the Pathological Society of London in 1874, being chiefly an abstract of the opinions of various members.

"With the theorist," says Mr. Nunn, "everything is either an epithelial cell, or a connective-tissue cell, or a specific cancer cell."

The cancer cell of Lebert does not exist. "There is no such thing as a specific cancer cell in respect of form." The organ in cases not produced, even in disease, elements which are foreign to its physiological condition. The cells to which cancer owes its origin are only derivatives of pre-existent cells existing in a state of nature. Whatever the enormities of morbid growth and combination, they are still only the development and outgrowth of some originally healthy cell.

All the German authorities quoted derive cancer from the epithelial cell.

The epithelial cell and embryonic tissue constitute cancer. It may be defined as a cell growth of low vitality, and short lived, ending either in atrophy, or in a vascular hypertrophy and gangrene.

In examining with the microscope a section of scirrhous of the breast, we see masses of grouped cells; beyond their area are smaller cells, called "lymphoid," and surrounding the grouped cells a fibrillar "stroma." The same arrangement of grouped cells, stroma, and lymphoid cells, is found in the lymphatic glands of the axilla, which have become cancerous, and also in cancers of other parts. This appearance is not due, then, to the acinous structure of the breast. The small cell element, the lymphoid, or wandering cells, appear to take the most active share in secondary invasions.

The epithelioid cell of cancer is short lived; soon degenerates and atrophies; it is marked by its non-coherence: it sloughs, decays, discharges, and hence infects vessels and lymphatics. Whenever cancer provokes great vascularity of surrounding tissues, it does so by inflammatory effusions, suppuration, and mortification. Cancer does not have the rapid and unlimited growth of sarcoma. Neither does it attain so large a size. It grows and dies; peaceably by atrophy and shrinking, as in slow forms of scirrhous of the breast, or violently by sloughing, ulceration, and absorption. Its growth sometimes kills the patient by pressure or constriction of vital parts, as the oesophagus; its death is fatal to the sufferer by poisoning the blood by absorption.

And here it must be carefully borne in mind that the cancerous cachexia, the sinking of the general health, does not take place in the growing stage, but not until foul, ulcerative absorption has taken place. It is a matter of common observation that the patient with a well-developed, but growing, cancer frequently is florid, well nourished, and apparently healthy.

"Cancer," says Nussbaum, "is an epithelial overgrowth. It is *not* infectious; no nurse ever caught it from a patient; no surgeon ever infected himself with cancer by cutting his hand during an operation." "In examining," says Nunn, "a range of cancer tumors, in one we may identify the cells as epithelial cells, but there are too many of them. Their development outstrips functional necessity. They embarrass the action of what is adjacent to them, and, in time, they stop mechanically their own supply of nutriment. They soften, decay, and slough; that is, they die. If all died at once the disease would be at an end, self-cured. But, unfortunately, the death of part gives liberty and the occasion of growth [to the rest], and the mischief goes on by repetitions and extensions of its area. Tissues and neighboring glands become involved; the capillary channels participate in the change of form, distribution, and size, and the result is the confused medley of sprouting epithelioma."

In the one hundred and twenty-three autopsies of cases of cancer of the breast the secondary invasion of lymphatic glands, and of the pleura and lungs, are proved to be very frequent. Seventy-three out of 123 had the lymphatics secondarily affected; and in 52 out of 123 the lungs or pleura, or both, showed extensive cancerous infiltration. Effusion into the pleural cavity was a frequent cause of death.

As to the relative frequency of cancer of the breast compared with its affecting other organs, of 268 cases of cancer in the out-patient department of the Middlesex Hospital 157 were of the breast, and 47 of the

<sup>1</sup> *Lancet*, 1882, 1, p. 426, 2nd and 3rd.   
 <sup>2</sup> *Lancet*, 1882, 1, p. 426, 2nd and 3rd.

uterus. But in 1000 cases of cancer in the wards of the same hospital 260 were of the breast, and 389 of the uterus. In Dr. J. Mason Warren's table of operations for cancer 59 out of 154 were of the breast.

In Mr. Sibley's table of 520 cases, 192 were of the breast, and 156 of the uterus.

From notes of Paget's cases Mr. Baker found in 500 cases of cancer 276 of the breast.

In the statistics of cases of cancer in England the breast and the uterus were much the most frequent localities affected. On the Continent (Germany) the stomach.

In France the order of relative frequency is placed as follows : stomach, uterus, liver, breast, rectum, mouth, male genitals.

As to period of life, cancer of the breast occurs most frequently from forty to fifty years. Mr. Nunn's 160 cases average fifty years. Mr. Sibley's 153 cases average 48.6 years. Of the Middlesex Hospital cases of the breast, 260 cases average 49.8 years.

In the female breast, then, there seems to be a direct connection as to the time when cancer is most liable to occur and the passing of the menstrual climacteric. It is also noteworthy that cancer of the breast never runs so rapid a course as it does when it develops during lactation. These cases are rare, but we have seen several in this community terminate fatally in one year.

Heredity, or the transmission of a tendency to cancer in families, is moderate in its influence. Mr. Nunn makes careful estimate of family histories in 1160 cases in the Middlesex Hospital. Heredity ranged from .16 to .29 per centum.

However tempting it may be to generalize from statistics, yet there are sources of error so numerous as to render the conclusions frequently worthless. These causes of error in statistics we attempted to point out in 1860.<sup>1</sup> On pages 164, 165, and 166 we fear Mr. Nunn has fallen into these errors. Such fallacious results are his statements about "regional transmission," that is, the chance of the child or descendant of a woman dying of cancer of the breast having not only cancer by heredity, but cancer of the breast, as distinguished from cancer of the uterus, for example. Again, a point is attempted to be made of the frequency of fibroid tumors of the uterus in patients with cancer, whereas it is well known that fibroid tumors of the uterus are among the most common things found in all autopsies of middle-aged women, no matter what the cause of death. So, too, the attempt to determine the geographical distribution of cancer seems a narrow and unsound generalization. Our author, after rehearsing his own cases, quotes Mr. Haviland as assuming that high and dry sites are relatively free from cancer; damp and alluvial regions by the water courses are prone to cancer. Says Mr. Haviland: "The Thames runs through a vast cancer field," and "there does not exist an important river in England or Wales, subject to seasonable floodings, that does not flow through high mortality districts" [from cancer, we presume].

Mr. Nunn furnishes a handsome map of England and Wales, dotted with cancer foci, prevailing largely in the southern end of the island. What infinite sources of fallacy are here,—the crossing of stock, the fluctuation of population, the migration of cancer-

bearing families, the influence of occupation and sex, the chances of traumatism, the effect of habits of life, and above all the attempt to generalize a law among a population of millions from an observation of 1030 cases of cancer. We will venture to say that another one thousand cases could be found in that population where cancer existed, but was concealed in some hundreds and was falsely diagnosticated in many others.

The border lines between cancer and sarcoma, for example, would have to be much more sharply defined than they are now to the average medical observer to render the test of any value.

We pass next to an admirable digest of the protean opinions which prevail among the profession as to the constitutional or the local origin of cancer. Here is the vital point, to determine the value or folly of any operative interference. It is admitted by all observers that we know of no cure for cancer. No drug has frequently, much more uniformly, checked this dread disease. The surgeon's knife is but too often only a temporary, not to say temporizing, expedient. It is even questioned by some whether its use lengthens life. Brodie refused operation; but he was, according to his autobiography, not fond of operative surgery. For exactly the opposite views the reader is referred to Dr. Gross's monograph on Cancer of the Breast.

It is a curious fact that Benjamin Bell, so far back as 1782, advocated the local origin of cancer. Mr. Moore, in England, revived this theory in 1872. And the famous discussion in the Pathological Society of London, in 1874, was mainly on the local or constitutional origin of this disease.

The views of a very large number of surgeons and pathologists are given by Mr. Nunn. We are told that De Salle, Velpeau, Virchow, Erichsen, De Morgan, are localists.

Paget takes his usual broad view of the field, and asserts himself as partially believing both the constitutional and the local theories, with certain modifications.

Broca, ("on Tumors," 1876) sums up his belief as follows: "Besides the local diathesis proper to each tissue there is a general diathesis or condition of the organism preceding the first appearance especially of cancerous tumors. The diathesis produces the primary cancer; the primary cancer produces the general infection; the general infection produces secondary multiple tumors, cachexia and death. The primary cancer invades the organism by absorption of the blastema, or by direct inoculation through ulcerated veins." For the word blastema substitute absorption of the small lymphoid and wandering cells by the lymphatics; and for the words "direct inoculation," etc., enlarge the statement to include the septic absorption of all broken down, disintegrated, and dying epithelial cells.

This, in our judgment, is as near the facts of the origin and course of cancer as our present knowledge will carry us.

One thing is certain, the pure localist must abandon all belief in heredity, for that is a constitutional tendency, or diathesis.

Many cases of cancer are traceable to a blow, or a wound. They are so frequent that such an influence cannot be overlooked. A delicate woman, predisposed, receives a blow on the breast, and scirrhus follows. On the other hand, thousands of strong women, among the lower classes of the English and Irish, are pounded

<sup>1</sup> The Value and Fallacy of Statistics in the Observation of Disease. Boylston Prize Essay.

and kicked in the breast by their husbands, and no cancer follows. We conceive that a diathesis exists comparable to that which predisposes some to joint disease in childhood. The feeble child, predisposed, falls on the hip, and morbus coxae follows. The strong child rolls down-stairs and dislocates its hip, but no disease of the joint results.

As regards the vexed question of operating or not, we commend the calm and moderate statement of Mr. Birkett: "I cannot conclude without urging the expediency of removing the first growth of cancer, in select cases. I do so upon the firm conviction, based upon experience, that by so acting life may be prolonged; a certain amount of immunity from bodily suffering and mental stress may be ensured: the chance of freedom from all local suffering is given; and that when, unhappily, the recurrence of the disease gives rise to ulceration, the duration of that distressing state is shortened."

Mr. Nunn develops some curious and interesting facts. That the mobility or adhesion of the tumor does not influence the prognosis after operation. He, however, strongly advocates saving the *fa-cia* over the pectoralis major muscle intact, when the disease is confined to the mammary gland.

Again, in nineteen per cent. of his cases, the other breast became affected in recurrent disease. He notices, at some length, the very important fact that chronic and obstinate eczema of the nipple results in epithelial cancer, and requires removal of the breast.

"The employment of caustics (in removal of cancer) has been unduly extolled, and as unduly neglected, . . . but to expect a longer immunity from return of the disease, which it is alleged is secured by these means, is to entertain a delusive hope."

He advocates the knife, and lays much stress on a cross cut down through the axillary flap, to ensure drainage. Carbolic antiseptics are moderately praised. Sulphuric acid he thinks highly of as a dressing. Chloride of zinc wash on the wound has not proved certain to destroy the germs of recurrence. Iodoform for ulcerated sores is commended.

The execution of this work is very fine, the type large and elegant, and the paper of excellent quality. Twenty-one colored plates with microscopic sections conclude the book. They are of a superior character. Altogether this monograph is interesting, complete, luxurious. Those who can afford it will be well repaid by purchasing it. It should be included in all public medical libraries. D. W. C.

— "Professor Worth," while feeding his performing snakes at a museum on the Bowery, was recently bitten by a rattlesnake. He soon became unconscious, and was sent to the Chambers Street branch of the New York Hospital, but was discharged cured in a day or two.

— "St. Jacob's Oil" appears to be a feeble and badly made acetate liniment, and it consists mainly of water, ether, alcohol, turpentine, and a small proportion of acetate with red coloring matter. Its whole function is to make money for the enterprising merchants who own it, and in this it is by no means a delusion on a scale. — *Squibb's Ephemeris of Materia Medica, Pharmacy, etc.*

## Medical and Surgical Journal.

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No. 4 PARK STREET, BOSTON, MASS.

### TENTH ANNUAL REPORT OF THE BOARD OF HEALTH OF THE CITY OF BOSTON.

THIS document which, though presented to the city government some time since, has just been circulated, contains much valuable and interesting information both for the local inhabitant and the general sanitarian. The pamphlet is composed, as usual, of the report of the Board as a body, of the individual reports of the city and port physicians, and of the superintendent of health. The report gives ample evidence that the Board and the individual officers are doing a useful work, and discharging their several functions with credit to the city and to themselves.

The report is for the year ending April 30, 1882, and indicates that the sanitary condition of the city has been, all things considered, satisfactory, and satisfactory also, if we content ourselves with a comparison with other large cities, though this we are assured is not the ultimate standard to which the Board would limit itself. There are one or two evils, and among them notably the continued discharge of sewage upon saturated flats and bad drinking water, which militate against the attainment by this city of a higher sanitary condition, but it is no fault of the Board of Health that these evils continue to threaten us.

The vital statistics, presented in tables, from which we make extracts, would, we do not doubt, be more trustworthy, more accurate, and present more reliable data from which to draw conclusions were they under the sole and exclusive charge of the Board. As now existing the sources from which these tables are compiled might certainly be improved, though there are also much less good returns elsewhere.

There has been nothing approaching an epidemic in the city during the past year, and there was a marked falling off in the percentage of deaths arising from preventable causes. The average percentage of deaths from preventable causes for ten years, from 1872 to 1881 inclusive, was 28.40, the percentage of deaths from such causes in 1881 was 26.87. The average death-rate from all causes for the past seventeen years was 23.88, the death-rate for the year 1881 was 22.67. The average percentage of deaths of children under five years of age for the past ten years was 40.75; for 1881 it was 36.75; in 1872 it was 42.47, and the diminution has been gradual and steady. Among the principal causes of the 9016 reported deaths come in the order of their importance, consumption with 1564 victims [17.3 per cent.]; pneumo-

nia, 634 [7.6 per cent.]; diphtheria (?), 691 [6.7 per cent.]; heart disease, 463 [5.1 per cent.]; cholera infantum, 444 [4.9 per cent.].

The number of descendants of American parentage was 2416, and their average age, 30.96; the number of those of foreign parentage was 5100, and their average age 27.82. The greatest number of deaths occurred, as usual, during the third quarter of the year, that is, during the summer months, and the next greatest number during the fourth quarter, than which the first quarter is usually more fatal.

Small-pox has been successfully kept at bay. The experience of the Board in regard to this disease, and the immunity of the city from anything approaching an epidemic are instructive and creditable. The report says:—

"It is now nine years since the subsidence of the epidemic of small-pox which prevailed in this city in the winter of 1872-73. Scattering cases occurred following the epidemic, three or four cases per month, until August, 1873, and from that date to October, 1881, a period of over eight years, only twenty-seven cases and two deaths occurred from this disease in this city. This is the longest period of such exemption from small-pox that the city has ever experienced.

"Early in October last a case, which was contracted in another city, occurred at the South End. It was unrecognized and unreported by the attending physician until many persons had contracted the disease, and they in turn had extended the disease to others. As soon, however, as the cases were discovered effectual measures were taken, and the spread of the disease checked.

"Other cases were from time to time imported from different places, and between October 8th and January 1st thirty-three cases and five deaths occurred.

"In January there were seven cases and two deaths; in February seven cases and two deaths; in March six cases and one death; and in April three cases and one death. The whole number of cases for the financial year, ending April 30th, was sixty-five. Of the sixty-five cases reported thirty-six were males and twenty-nine were females; thirteen were children and fifty-two were adults. There were twelve unvaccinated persons among the number. Five were revaccinated at the time of exposure. In regard to the revaccination of the other cases there was no evidence that they had been successfully revaccinated at any time. Those who were revaccinated at the time of exposure had very mild attacks of the disease. Nine out of the twelve unvaccinated persons died, while only four died out of the fifty-three vaccinated.

"Thus the proportion of deaths is seventy-five per cent. in the unvaccinated, and seven and one half per cent. in the vaccinated."

An excellent photograph, taken by the head nurse of the Small-Pox Hospital, giving the legs of a patient with a severe discrete small-pox, and showing remarkably well the typical umbilicated pustules, accompanies the report. Among the eccentricities of the disease Dr. McCollom, the city physician, mentions a case of variola equina, occurring in a man who had

the care of sick horses, and a curious instance of a nursing child, who, about two weeks after the vaccination of the mother with bovine virus, developed a general eruption presenting the characteristic appearances of cow-pox, the conditions and circumstances leaving no other explanation than the contraction of the disease through the medium of the mother's milk.

Between October 1st and March 1st 25,340 persons were vaccinated or revaccinated, at a cost of twenty-four and three fourths cents each.

"Of those revaccinated—that is, of those who had been inoculated at least once before,—records were kept in over twenty-eight hundred cases, showing the number of scars in each case. Analyzing them we have the following result:—

"Judging from the number of scars, only five hundred and twenty-seven in every thousand of those applying for revaccination were well protected, including even in this class, those with two scars; while four hundred and seventy-two in every thousand, or nearly one half, were poorly protected.

"Judging from the character of the scars, and admitting two good ones to be sufficient protection, it appears that 36.6 in every thousand were well protected, and 633.4 in every thousand poorly protected.

"Again, looking at this question from the point of time, and assuming that within fifteen years the protective power has diminished sufficiently to require revaccination, we find that four hundred and fifty-four in every thousand had not been vaccinated within this period.

"Allowance, however, must be made for the fact that since the introduction of dried animal virus, and the use of the scarifier instead of the lancet, a scar of large size is often produced, representing a group of vesicles, or so-called compound vesicles. One or two such scars must certainly be equivalent to four or five of the ordinary size, resulting from a single vesicle.

"Examining again our statistics, we find that out of three thousand six hundred and sixty-six cases only one hundred and nineteen had been revaccinated before, or only thirty-two per thousand. One reason for this is, that nearly all applying for public vaccination belong to the laboring class, and, naturally, those of adult age are unwilling to run the risk of losing several days' work, to which they are liable, if the vaccination is successful. Consequently it has been found difficult, for this reason, to induce laboring people, of both sexes, to submit to vaccination, even after being exposed to small-pox."

The Board thinks that, notwithstanding the large number vaccinated during the past winter, it represents only a comparatively small proportion of those still remaining who are in need of vaccination, and suggests whether it would not be for the public good to have every child of fifteen years of age revaccinated on graduation from school; the practical objection to this course it thinks could be overcome, and in this way the rush for vaccination whenever the city is threatened with an epidemic would be avoided with all the ill consequences liable to follow hasty and careless vaccination.

Some interesting details are given as to the sanitary surroundings found where inspections were ordered on account of cases of diphtheria. Of 1706 cases of reported diphtheria 601 were fatal, giving a mortality of thirty-five per cent. Of the houses in which these cases occurred eighty-two per cent. were found to be in a defective sanitary condition.

Upon the all important question of sewerage the report rightly lays much stress and says:—

"The sewage of the whole city still continues to be discharged at the eighty-two sewer outlets, settling on the shoals, and polluting the air of not only the entire margin of the city, but to a great distance interior. The Board of Health began eight years ago asking for the relief from this great nuisance, which could be found only in the use of an intercepting sewer.

"This sewer was begun in October, 1877, and has been completed as far as the pumping-station, a point in Dorchester Bay, at a cost of nearly \$3,000,000. It will require at least two years more to complete the tunnel under the bay and finish the reservoir at Moon Island, when the entire system can be put in use. Meanwhile immediate and increasing relief could be obtained by pumping a portion of the sewage at once into Dorchester Bay.

"Those portions of the city which would be most relieved by the change are the West End, Back Bay, South End, Roxbury, and South Boston.

"It was ascertained that connections could be made in a few weeks by which four and three quarter million gallons of sewage daily from South Bay, and two and three quarter million gallons daily from Charles River could be taken into the new sewer and pumped into Dorchester Bay. This amount could, in a few months, be increased to 10,000,000 gallons, one half of which now goes into Charles River and the other half into South Bay."

The order of the Aldermen of last March requesting the Board to consider the propriety of discharging sewage into Dorchester Bay, and its report on this question with the names of the authorities consulted during the preparation of the report are given, regret is expressed that the Legislature should have passed a restraining act, and a belief is affirmed that the city, and especially South Boston, will unnecessarily suffer during the next two years in consequence. In all which we heartily concur with the Board of Health.

One hundred and sixty-three school buildings were inspected and forty-five defects in drainage were detected, about twenty-eight per cent. This work should not fall upon the Board of Health; there should be a Sanitary Inspector of Schools.

The report refers to the proposed metropolitan system of sewerage for the Charles and Mystic River Valleys, and endorses the scheme warmly. The Board again expresses its disappointment at the action of the Legislature on this question, and states that the great need which exists to-day will be seriously felt long before it is possible to complete such a piece of work as building the required sewers. Here, again, we are glad to be able to warmly endorse the words of the report.

If space permitted we should be glad to reproduce what is said about the water supply of the city, but for this and some other important subjects we must refer the reader to the pages of the report itself. We should like much to see the Board of Health grapple officially with this vital problem of water supply, in dealing with which the City's Water Board seems helpless.

### BAD DRINKING WATER AND POLITICS.

WHEREVER stored water is exposed to such intense heat as must result in shallow reservoirs of surface water, in climates like that of most of the cities of the United States and many parts of Europe, it is liable from time to time to contain the sponge, the decay of which gives rise to the peculiar "cucumber," "oily," or "fishy" taste now and then complained of in Boston. This does not occur in the temperature of London or in such deep, gravelly-bottomed ponds supplied by underground springs as Lake Wenham, for instance, where the heat never rises to the height requisite for the development of that particular form of growth. Naturally, therefore, the liability to the disgusting taste and smell would be increased, as was the case, by damming Lake Cochituate and flowing many acres of meadow land. It does not appear that vegetable or animal filth increases this liability, although there are other objections to the town of Natick using Lake Cochituate as its cess-pool. Professor Farlow's careful researches, which cleared the way for Professor Reussen's lucky hit in finding the real *causa causans* of this curious taste and smell, have apparently satisfied the Water Board and many of the public, to judge from the sententious advice: "If you don't like the water, drink whiskey," and from the readiness of our citizens to accept what seems to them the inevitable, and purchase their drinking water. It is a fact that we do not yet know how to avoid this nauseous taste; but it is also a fact that it comes only at intervals of several years, lasts only a few days, disappears upon boiling, and is probably not prejudicial to health.

The chief trouble in the Boston water supply at present was predicted by the eminent city engineer whom the politicians drove from Boston, to the great loss of that city, and had already been clearly illustrated in the flooding of the Lake Cochituate meadows years ago. It consists in the simple fact that the Sudbury River reservoirs were built contrary to all principles of science and common sense, that many acres of very shallow water cover turf rotting away slowly, that the conditions for the growth of low forms of aquatic life are produced, that a bottom covered with a nasty mass of filth takes the place of gravel, and, finally, that the citizens are drinking bog water, which is sometimes pretty good and often very bad, just in proportion as it is mixed with greater or less proportions of decent water. It is probable, too, that these conditions of varying heat and nastiness may be something of a factor in the production of the *clathrocephalis* and *echosphaerium* and *ambigua*, which every few years rouse the wrath of the citizens, to b6



appeared by the Water Board's perennial habit of taking a few chemical analyses, and by the natural disappearance of the plants.

Another clear source of the dirty water observed in our bath-tubs lies in the fact that many of the water mains were laid before the practice of coating the insides with tar was in vogue, and that the roughnesses of the surfaces caused vegetable *débris* to collect and to be unevenly distributed.

It needs no elaborate argument from us to prove that the public health is not sufficiently attended to in that city where only the rich can have pure water to drink, and where the temptation to the poor to drink bad rum is increased. Nor shall we endeavor to show that the public morality is low where important public trusts such as the management of water supplies are made subservient to politics.

Beyond this question as applied to Boston, and partly in connection with it, comes the difficult problem of water and sewerage for the State, which can be properly treated only by general laws. Let us hope that such legislation will not be like that of the Butler-fearing Solons, who allowed the shoemakers of Natick, by special enactment, to bathe in Lake Cochituate rather than lose a few votes.

If we are to become so extravagant in the use of water as to require one hundred gallons daily to each individual, there must be either separate supplies, as in every farm house, for drinking and for other purposes, or else water metres must be introduced, as has already been done in other cities.

#### MEDICAL NOTES.

—The burning of the Ring Theatre, at Vienna gave rise to many important medico-legal investigations respecting the sex and identity of charred corpses, of which Ed. Hofmann and Schultze give a description (*Wiener Med. Blätter*, 1881, No. 50, page 1538). In determining the sex in cases where the external genitals were completely destroyed, the chief point relied upon was the absence or presence of the uterus and ovaries. In ascertaining the approximate age, external appearances were quite unreliable. The union of the epiphysis with the diaphysis of the humerus, which first takes place at twenty-four years of age; the ossification of the ribs, and more especially the ossification of the larynx, which generally begins between the thirtieth and thirty-fifth year, and is completed in the fortieth year, were found to be the best and most easily ascertained data. In women, the state of the ovaries was important; these being smooth in girls and young women, cicatrized in older women. The hair of the head and beard was generally black, and had to be washed before its natural color could be ascertained. The cornea was generally milky and turbid, as if boiled. Often the obsolescence of the cornea gave to the iris a deceptive blue appearance. The teeth, though calcined and crumbled, were, nevertheless, serviceable in determining the age. The nails, too, in some cases, served for identification. In a large num-

ber of cases the blood was of a florid color; and this may have been due to the inhalation of carbonic oxide gas. — *London Med. Record*.

—Martin P. Avery, who for some time past has been exhibited as a "living skeleton" at Bunnell's Museum on Broadway, died on the 16th of July. He was forty-six years of age, and was born in Chenango County, New York, where he was engaged in the grocery business until eight years ago, when his health failed him. He was a man of small stature, being little more than five feet high, and weighed only about one hundred and fifteen pounds when in good health. He complained of dyspeptic symptoms, and the small amount of food he could retain did not seem to be properly assimilated, so that he rapidly lost flesh, and being unable to attend to his usual avocations he finally set up as a "curiosity" in order to gain a livelihood. From the account of the medical man who was called in to attend him, it would seem not to have been a case of true progressive muscular atrophy, but rather of exhaustion from want of nourishment. There was no intestinal digestion whatever, and his physician attributed this to failure of the pancreatic secretion or an entire obliteration of the thoracic duct, or both. No fatty matter was absorbed into the system, and the result was slow starvation. Unfortunately no autopsy was held in the case.

—A valued contributor sends us the following transcription from a tombstone in the Charter Street burying-ground, Salem:—

HERE LYETH BYRIED  
 y BODY OF  
 EDWARD MOULD  
 CHYRURGIAN AGED  
 D  
 58 YEARS DECEASE  
 y 5 OF NOVEMBER  
 1688.

#### Dissection.

#### A CASE OF TRAUMATIC TETANUS.

BY F. B. FULLER, M. D., PAWTUCKET, R. I.

R. M., a somewhat delicate boy, nearly eleven years of age, received a wound in the hand from the explosion of a blank cartridge in a toy pistol, July 5th. The wound seemed insignificant, but after two or three days some swelling and pain occurred in it, and poultices were applied for two or three days.

On the sixth day the wound bled moderately but was not tender or painful.

On the seventh day the boy complained of stiffness of the neck and jaws, which made it somewhat difficult for him to eat his dinner. These symptoms increased, and at seven P. M. I saw him for the first time; no physician had attended the wound.

The boy was found sitting in a noticeably erect position. He could bend his neck and back, but at once resumed the rigidly erect position. His jaws could be separated one inch. Liquids could be swallowed easily, but mastication was difficult. His pulse was 90; temperature normal.

The wound, situated in the palm, at the junction of the second and third fingers, was small. It had an unhealthy appearance, edges ragged, granulations gray and flabby, and a bloody serum escaped on a slight manipulation. It was not tender or painful. The tissues around it were somewhat oedematous. There was no sinus to be found.

Large doses of bromide of potash were given. The boy slept well until four A. M. of the next day, when he awoke with a spasm, in which the tongue was slightly bitten. Opisthotonos was considerable, and the jaws could be separated but one half of an inch.

At seven A. M. his pulse was 120; temperature 98° F.; respiration 22. During the day he steadily grew worse. The jaws remained separable only one half inch. The opisthotonos increased. Pain was complained of in the back. The spasms increased in frequency, and toward the last occurred every few minutes. He remained in a doze between them, but the least disturbance would bring them on.

The pulse increased in frequency and grew feeble. At five P. M. it was 160, and after that it could not be accurately counted. The pupils dilated only during the spasms. There was profuse sweating.

His temperature began to increase at about two P. M., and when he died, at eight P. M., it was 108.1° F. Death seemed to be from exhaustion. He could swallow until a short time before death, and no froth appeared in the mouth.

Wine and chloral hydrate were given in moderately large doses during the earlier part of the day, and at four P. M., at the suggestion of Dr. L. Morton, who saw the patient in consultation, physostigma was administered.

The fluid extract of physostigma, made by H. T. Thayer, Cambridgeport, was the only form in which the drug could be obtained, and that was given subcutaneously three times, at intervals of half an hour, in doses of five minims, ten minims, and twenty minims. No effect was obtained, and its administration was stopped on account of the evident hopelessness of the case.

#### DEATH UNDER ETHER.

The following account of a case of death under ether, administered by Ormsby's inhaler, was written by Mr. Lawson Tait, of Birmingham, to the *British Medical Journal*:—

"A patient, aged forty-five, was sent to me from Liverpool with a large abdominal tumor, for which she was very anxious to have an operation performed. She was extremely anæmic and feeble, and at first sight it appeared to me perfectly hopeless to attempt anything. Rest and care in the hospital so far improved her that I agreed to her urgent request to attempt either the removal of the tumor, which was clearly uterine, or of the uterine appendages. At nine A. M., on June 26th, she was put under the influence of ether by my assistant, Mr. Ralles Harmer. The ether used was supplied by May and Baker, of London, and is described as 'absolutely anhydrous methylated sulphuric ether, 7417.' Less than half an ounce was put on the sponge of the inhaler, and the instrument was placed over the patient's face, with the air-valve open. It is difficult, under such circumstances, to give an accurate statement of time and the sequence of events, but I think the air-valve was kept open

about three minutes, and was certainly not closed more than two minutes before I noticed that the pulse of the right wrist, which I was observing, was gone. Dr. Burnie, of Nottingham, was observing the pulse of the left wrist, and, in answer to my remark, stated that the pulse could be felt in the wrist on his side. The breathing was perfectly regular and deep. I lifted an eyelid, and saw the peculiarly dilated pupil which I have seen once before, and which meant death. Dr. Burnie now said the pulse was gone, yet breathing was still going on. The inhaler was immediately removed, and the breathing was assisted. It rapidly failed, however, and in spite of the inversion of the patient and the continuation of artificial respiration, we got nothing more from the patient than one groan. Death took place at the heart at least one minute before respiration was interfered with. No incision had been made. Dr. Saundby made a careful post-mortem examination, and reports that the tumor was uterine, and that the chief feature was the remarkably small size of the heart. It weighed only four ounces, and Dr. Saundby says: 'I have never seen so small a heart in an adult.' The right side was filled with clot, and the left side was empty. The muscular tissue of the organ was somewhat granular, but this may have been due, Dr. Saundby thinks, to post-mortem change. The right kidney had some cysts, and there was some puckering of the left. The capsules were a little adherent, and the surfaces smooth, rather pale, and the cortices narrow. Nothing else of note was observed. At the time of the death I regarded it as one of asphyxia, due to the inhaler, and the condition of the heart confirms, it seems to me, this view. Until three weeks before this death I had for years used ether dropped outside a single layer of a towel, spread over the patient's face. I had a strong prejudice against the use of an inhaler, by which the patient breathed over and over again the same volume of ether and air. That such a plan may be safe in the great majority of cases may be true, that it saves both time and ether cannot be denied, but that it will prove unsafe in such an exceptional case as this was, I think, is quite evident. My conclusion is that as no economy of time or ether will compensate for such a disaster, I shall revert to the use of the towel, and certainly shall never again employ any inhaler in which the same fluid is rebreathed."

#### CORRECTION.

MR. EDITOR.—Will you please make the following correction. In the transactions of the Boston Society for Medical Observation, published in the *JOURNAL* of July 13th, I am reported as relating a case of menstruation, occurring at the age of eighty. What I did say was that the woman died at eighty, at which time her youngest child was fifteen years old. This would make her sixty-five at her last pregnancy, up to which event she was known to have menstruated regularly.

Yours truly, FRANK WELLS.

Boston, July 29, 1882.

#### SCIATICA.

In a clinical lecture on sciatica, Mr. Jonathan Hutchinson says, "In nineteen cases out of twenty in which the diagnosis of 'sciatica' is suggested, there is no af-

*Medical Times and Gazette.*

fection of the sciatic nerve whatever. They are simply cases of arthritic disease of the hip in one or other of its various forms, acute gout, chronic gout, rheumatic gout, subacute rheumatism, or chronic senile rheumatism. Both by the public and the profession these cases are constantly called 'sciatica.' Our work-house infirmaries are full of chronic cases under that name, and I speak adversely when I say I feel sure that they are almost all examples of *morbus coxae senilis*. Of the cases of 'sciatica' which are not hip-joint rheumatism some are probably affections of the fascia or peri-

osteum near to the hip; a minority are possibly affections of the sciatic nerve itself. In these latter it is the sheath of the nerve which becomes painful. The pain may be darting or may radiate, but it does not pass down the nerve-tubules or in any way make the patient conscious of their course. The diagnosis of true sciatica is to be based upon the discovery of tenderness restricted to the trunk of the nerve, and involving a considerable part of its course. Examples of this are decidedly rare, and their recognition without risk of error is a matter of great difficulty.

## REPORTED MORTALITY FOR THE WEEK ENDING JULY 22, 1882.

| Cities.                             | Population by Census of 1880. | Reported Deaths in each. | Deaths under Five Years. | Percentage of Deaths from       |                |                      |                       |                 |
|-------------------------------------|-------------------------------|--------------------------|--------------------------|---------------------------------|----------------|----------------------|-----------------------|-----------------|
|                                     |                               |                          |                          | The Principal Zymotic Diseases. | Lung Diseases. | Diarrhoeal Diseases. | Diphtheria and Croup. | Whooping-Cough. |
| New York.....                       | 1,266,590                     | 1016                     | 638                      | 47.04                           | 5.12           | 36.49                | 1.97                  | 2.26            |
| Philadelphia.....                   | 846,984                       | 495                      | 274                      | 7.67                            | —              | —                    | 3.64                  | —               |
| Brooklyn.....                       | 566,689                       | —                        | —                        | —                               | —              | —                    | —                     | —               |
| Chicago.....                        | 503,304                       | 281                      | 178                      | 45.57                           | 4.98           | 30.97                | 3.21                  | 1.42            |
| Boston.....                         | 362,535                       | 174                      | 83                       | 31.05                           | 5.75           | 27.03                | .57                   | 1.15            |
| St. Louis.....                      | 350,522                       | —                        | —                        | —                               | —              | —                    | —                     | —               |
| Baltimore.....                      | 332,190                       | 216                      | 112                      | 41.21                           | 2.32           | 29.17                | 4.17                  | 1.85            |
| Cincinnati.....                     | 255,708                       | —                        | —                        | —                               | —              | —                    | —                     | —               |
| New Orleans.....                    | 216,140                       | —                        | —                        | —                               | —              | —                    | —                     | —               |
| District of Columbia.....           | 177,638                       | 80                       | 42                       | 40.00                           | 3.75           | 34.00                | —                     | —               |
| Pittsburgh.....                     | 156,381                       | 115                      | 73                       | 49.56                           | 3.47           | 41.74                | .87                   | 2.58            |
| Buffalo.....                        | 155,137                       | 74                       | 50                       | 46.45                           | 4.05           | 17.55                | 4.05                  | 2.70            |
| Milwaukee.....                      | 115,578                       | 32                       | 16                       | 12.50                           | 9.38           | —                    | 6.25                  | —               |
| Providence.....                     | 104,857                       | 30                       | 25                       | 32.00                           | 4.00           | 30.00                | —                     | 2.00            |
| New Haven.....                      | 62,882                        | 39                       | 25                       | 12.82                           | 2.56           | 5.26                 | 4.13                  | —               |
| Charleston.....                     | 49,999                        | 38                       | 18                       | 15.79                           | 2.63           | 5.26                 | 5.26                  | 2.63            |
| Nashville.....                      | 43,461                        | 26                       | 13                       | 26.95                           | 3.85           | 11.55                | —                     | —               |
| Lowell.....                         | 59,485                        | 26                       | 17                       | 34.65                           | —              | 30.80                | —                     | 7.68            |
| Worcester.....                      | 58,295                        | 32                       | 24                       | 71.88                           | 6.25           | 59.38                | —                     | 6.25            |
| Cambridge.....                      | 52,740                        | 16                       | 8                        | 12.50                           | 18.75          | 6.25                 | 6.25                  | —               |
| Fall River.....                     | 49,006                        | 31                       | 19                       | 38.70                           | —              | 25.80                | 6.45                  | —               |
| Lawrence.....                       | 39,178                        | 14                       | 7                        | 35.70                           | 7.14           | 28.56                | —                     | —               |
| Lynn.....                           | 38,284                        | 13                       | 4                        | 22.07                           | 7.69           | 7.69                 | —                     | —               |
| Springfield.....                    | 33,340                        | 10                       | 3                        | 30.60                           | —              | 20.00                | —                     | —               |
| Salem.....                          | 27,598                        | 6                        | 4                        | 33.33                           | —              | 16.66                | —                     | 16.66           |
| New Bedford.....                    | 26,875                        | 7                        | 2                        | 14.28                           | —              | —                    | —                     | —               |
| Somerville.....                     | 24,985                        | 7                        | 3                        | —                               | —              | —                    | —                     | —               |
| Holyoke.....                        | 21,851                        | 22                       | 17                       | 77.27                           | —              | 77.27                | —                     | —               |
| Chelsea.....                        | 21,785                        | 14                       | 8                        | 7.14                            | —              | —                    | —                     | —               |
| Taunton.....                        | 21,213                        | 3                        | 1                        | —                               | —              | —                    | —                     | —               |
| Gloucester.....                     | 19,329                        | 5                        | 2                        | —                               | —              | —                    | —                     | —               |
| Haverhill.....                      | 18,475                        | 6                        | 1                        | —                               | —              | —                    | —                     | —               |
| Newton.....                         | 16,993                        | —                        | —                        | —                               | —              | —                    | —                     | —               |
| Brookton.....                       | 13,608                        | 3                        | 1                        | 3.33                            | —              | —                    | 3.33                  | —               |
| Newburyport.....                    | 13,537                        | 1                        | 0                        | —                               | —              | —                    | —                     | —               |
| Fitchburg.....                      | 12,405                        | —                        | —                        | —                               | —              | —                    | —                     | —               |
| Malden.....                         | 12,017                        | 6                        | 4                        | 16.66                           | —              | 16.66                | —                     | —               |
| Twenty-one Massachusetts towns..... | 158,765                       | 37                       | 11                       | 18.91                           | 8.40           | 2.70                 | 8.40                  | —               |

Deaths reported 2895 (no reports from Brooklyn, St. Louis, Cincinnati, and New Orleans); 1683 under five years of age: principal 'zymotic' diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 1028, consumption 303, lung diseases 108, diarrhoeal diseases 741, diphtheria and croup 72, whooping-cough 44, scarlet fever 38, measles 33, typhoid fever 32, cerebro-spinal meningitis 24, malarial fevers 20, small-pox 14, puerperal fever 10. From *scarlet fever*, New York 16, Philadelphia six, Chicago five, Buffalo three, Lynn two, Boston, Baltimore, District of Columbia, New Haven, Worcester, and Springfield one each. From *measles*, New York 19, Chicago five, Baltimore four, Pittsburgh two, Philadelphia, Buffalo, and Worcester one each. From *typhoid fever*, New York and Philadelphia seven each, Chicago, District of Columbia, and Pittsburgh three each, Boston and Baltimore two each, Nashville, Fall River, Lawrence, Springfield, and Chelsea one each. From *cerebro-spinal meningitis*, New York eight, Chicago three, Buffalo and Milwaukee two each, Phila-

delphia, Baltimore, Lowell, Worcester, Fall River, New Bedford, and Chicago each one. From *malarial fever*, New York 14, Baltimore two, Chicago, New Haven, Charleston, and Nashville one each. From *small-pox*, Chicago six, Philadelphia four, Baltimore three, Buffalo one. From *puerperal fever*, Chicago five, Buffalo two, Philadelphia, Boston, and Chicago one each.

Thirty-three cases of small-pox were reported in Baltimore, Buffalo two, Pittsburgh one; typhoid fever 10, scarlet fever five, diphtheria six, in Boston; diphtheria five and scarlet fever five, in Milwaukee.

In 40 cities and towns of Massachusetts, with a population of 1,072,901 (population of the State 1,783,056), the total death rate for the week was 21,—against 19.87 and 16.61 for the previous two weeks.

For the week ending July 1st, in 173 German cities and towns, with an estimated population of 8,509,188, the death-rate was 25.5. Deaths reported 4167; under five 2233; pul-

monary consumption 511, acute diseases of the respiratory organs 381, diarrhoeal diseases 259, diphtheria and croup 160, scarlet fever 76, measles and rubella 51, typhoid fever 46, puerperal fever 20, smallpox (Königsberg, Sargard, Mand, Eischen, and Essen one each) five, typhus fever (Posen two) two. The death-rates ranged from 8.1 in Kiel to 39.5 in Chemnitz; Königsberg 33.7; Breslau 33.7; Munich 23.1; Dresden 29.1; Berlin 28.6; Leipzig 24.7; Hamburg 20.1; Cologne 29.4; Frankfurt a. M. 20.1.

In the 28 English towns, with an estimated population of 8,469,571, for the week ending July 8th, the death-rate was 18.4. Deaths reported 2984: acute diseases of the respiratory organs (London) 173, diarrhoea 140, whooping-cough 125, measles 69, scarlet fever 63, fever 39, diphtheria 20, small-pox

(London six) 14. The death-rates ranged from 13.5 in Norwich to 24.8 in Nottingham; Bristol 15.1; London 17.3; Portsmouth 18.1; Wolverhampton 19. —; Leicester 20.2; Liverpool 21.5; Manchester 23.2. In Edinburgh 20.2; Glasgow 22.3; Dublin 23.5.

For the week ending July 8th, in the Swiss towns, population 494,390, there were 24 deaths from consumption, acute diseases of the respiratory organs 16, diarrhoeal diseases 18, diphtheria and croup nine, scarlet fever six, whooping-cough two, puerperal fever one. The death-rates were, at Geneva 10.3; Zurich 12.2; Basle 23; Berne 23.

The meteorological record for the week ending July 22d, in Boston, was as follows, according to observations furnished by Sergt. O. B. Cole, of the U. S. Signal Corps: —

| Date.            | Barom-eter. |       | Thermom-eter. |          | Relative Humidity. |            |             |       | Direction of Wind. |            |             | Velocity of Wind. |            |             | State of Weather. <sup>1</sup> |            |             | Rainfall.             |                   |
|------------------|-------------|-------|---------------|----------|--------------------|------------|-------------|-------|--------------------|------------|-------------|-------------------|------------|-------------|--------------------------------|------------|-------------|-----------------------|-------------------|
|                  | Mean.       | Mean. | Maximum.      | Minimum. | 7.23 A. M.         | 3.23 P. M. | 11.23 P. M. | Mean. | 7.23 A. M.         | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.        | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.                     | 3.23 P. M. | 11.23 P. M. | Duration, Hrs. & Min. | Amount in Inches. |
| July, 1882.      |             |       |               |          |                    |            |             |       |                    |            |             |                   |            |             |                                |            |             |                       |                   |
| Sun., 16         | 30.296      | 71    | 85            | 63       | 70                 | 47         | 61          | 59    | Calm               | E          | SW          | 0                 | 2          | 10          | C                              | F          | C           | —                     | —                 |
| Mon., 17         | 30.213      | 72    | 83            | 59       | 51                 | 39         | 78          | 56    | SW                 | W          | SW          | 3                 | 2          | 6           | C                              | F          | C           | —                     | —                 |
| Tues., 18        | 30.033      | 72    | 81            | 64       | 84                 | 54         | 90          | 76    | SW                 | S          | SW          | 4                 | 2          | 4           | O                              | O          | T           | —                     | —                 |
| Wed., 19         | 29.916      | 72    | 83            | 67       | 83                 | 76         | 92          | 87    | S                  | S          | W           | 4                 | 3          | 6           | R                              | T          | C           | —                     | —                 |
| Thurs., 20       | 29.962      | 75    | 88            | 66       | 100                | 43         | 68          | 70    | SW                 | SW         | W           | 2                 | 12         | 3           | G                              | O          | C           | —                     | —                 |
| Fri., 21         | 30.056      | 73    | 84            | 63       | 57                 | 39         | 59          | 52    | W                  | SW         | W           | 1                 | 4          | 4           | F                              | F          | C           | —                     | —                 |
| Sat., 22         | 30.121      | 71    | 82            | 64       | 65                 | 38         | 63          | 55    | W                  | W          | W           | 4                 | 9          | 11          | O                              | O          | C           | —                     | —                 |
| Means, the week. | 30.091      | 72    | 88            | 59       |                    |            |             | 65    |                    |            |             |                   |            |             |                                |            |             | 5.00                  | 1.68              |

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; X., clearing.

#### C. C. HOLMES, M. D. OBITUARY.

DIED, at his home in Milton, July 16, 1882, after an illness of six months, Dr. Christopher C. Holmes.

Dr. Holmes was born in Kingston, Mass., September 14, 1817, was graduated from Harvard College in the class of 1837, studied medicine in the Harvard Medical School, and, after one year's service as house surgeon at the Massachusetts General Hospital, settled in Milton, where he remained until his death, a period of forty-one years. His life was one of hard work, his daily business calling him to all parts of Milton, Dorchester, Quincy, and Canton. Although devoted to his profession, he was active as a citizen in all things relating to the public good. During the late civil war he was, as commander of the Cadets, busy in the service of his country. A man of refined tastes, of high social qualities, and with an unselfish heart, his presence was always as a ray of sunshine, whether in the sick room or in the circle of his friends. In his days of sickness, as in those of health, his care was for others rather than for himself. He will be remembered by his townsmen and by his professional brethren as the kind and judicious physician and the whole-souled Christian gentleman. Those who knew him best will feel his loss the most keenly.

C.

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM JULY 22, 1882, TO JULY 28, 1882.

ELBREY, F. W., captain and assistant surgeon. Granted leave of absence for six months on surgeon's certificate of disability. S. O. 168, A. G. O., July 21, 1882.

RAYMOND, H. L., first lieutenant and assistant surgeon. To proceed at once, with necessary attendants, from Whipple Barracks, via Fort Verde, to the scene of recent engagements with hostile Indians near General's Spring and bring in those wounded to Fort Verde, and remain in charge of post hospital there until further orders. S. O. 112, Department of Arizona, July 19, 1882.

CARVALLO, CARLOS, captain and assistant surgeon. Died near Boston, Mass., on July 23, 1882.

BOOKS AND PAMPHLETS RECEIVED. — A Treatise on the Physiological and Therapeutic Action of the Sulphate of Quinine. By Otto Frederick Manson, M. D., Professor of Physiology and Pathology in the Medical College of Virginia. Philadelphia: J. B. Lippincott & Co. 1882.

## **Lectures.**

### **CLINICAL LECTURE.<sup>1</sup>**

DELIVERED AT BELLEVUE HOSPITAL, NEW YORK.

BY AUSTIN FLINT, M. D.,

*Professor of the Principles and Practice of Medicine and Clinical Medicine in Bellevue Hospital Medical College.*

#### **OBSTRUCTIVE JAUNDICE.**

GENTLEMEN, — I propose to direct your attention to-day chiefly to the important subject of organic murmurs of the heart, but before we enter upon this study I wish to show you the patient who came before us one week ago to-day suffering from acute jaundice. The condition of the young man has now very much improved, and yet, as you perceive, the coloring matter of the bile has by no means left the skin and conjunctiva, but nevertheless he is practically well, and will shortly leave the hospital. The fecal evacuations show the presence of bile in sufficient quantity, and in the urine there is but little of it left, so that we conclude that the obstruction which caused the difficulty has now been removed. Why, then, you may ask, does this discoloration of the skin and eyes still remain? This is because biliodin, the substance which produces the yellow color, has been deposited in the tissues. What little there may be of it in the blood is simply that which is taken up by the blood from the tissues. We find, then, a certain amount of discoloration continuing, but the process of elimination will go on, and in the course of a week or ten days it will have entirely disappeared. Before dismissing the patient I may remark that after he was before the class last week a good substantial blister was applied, and that this is usually an excellent remedial measure in such cases.

#### **ORGANIC MURMURS OF THE HEART.**

I proceed now to the subject proper of my remarks to-day, and I will say in the outset that I assume that many of you have already given considerable attention to the study of endo-cardial murmurs; but although this is the case, I think it will be of service to you to go over the ground again, since it is important that you should have this knowledge so readily at command that you can bring it to bear in a practical way at any moment. No apology is necessary, therefore, for introducing this subject.

The most important endo-cardial murmurs which we meet with are in connection with the left side of the heart, the right side being so comparatively rare that they are of much less practical significance. The murmurs which we will study to-day are four in number, — a connection with the mitral valve, and two in connection with the aortic. The first murmur to which I direct your attention is the mitral direct or obstructive. It is also called the mitral systolic from the time at which it is heard. The second murmur is called the mitral regurgitant, and signifies, as the name denotes, insufficiency of the mitral valve and consequent regurgitation from the left ventricle into the left auricle. The first murmur in connection with the aortic valve is the aortic direct. It may imply an obstruction, or if not this a certain amount of roughness of the surface over which the blood passes. The sec-

ond murmur is the aortic regurgitant, which involves of necessity insufficiency of the aortic valves with resulting regurgitation from the aorta into the left ventricle. It is a matter of importance, I hardly need say, that all should acquire the ability to recognize each of these murmurs when occurring alone, and also when in combination. All four of them may be met with in the same individual, and we should be able in such a case to differentiate the several murmurs. This knowledge involves, in addition, a recognition of what these different murmurs denote.

In the first place, then, how are we to distinguish the several murmurs, singly or in combination? By way of preface I may remark that every adventitious sound about the heart is called a murmur, the word murmur being always used in this connection in a conventional and technical sense. The regular heart sounds themselves, although certain modifications are noted in them also, are entirely distinct from these. These murmurs, as sounds, present differences among themselves. Thus they may be either loud or faint, soft or rough. They are said to be soft when they sound like a current of air passing from the bellows. When they have not this bellows-like character they are called *rough*, and if the roughness is quite marked they are sometimes designated as *rasping*. Again they are sometimes characterized by a distinct musical note. There are, then, three kinds of murmurs as regards the matter of sound, soft, rough, and musical. The sound of the murmur, however, gives us no information as to its origin. Any one of the four murmurs pointed out may partake of either of these characteristics. Let us proceed, then, to inquire by what points we may recognize the several murmurs, and differentiate them when they are found in combination.

This inquiry can be best answered, I think, by a reference to the case of the woman whom I now bring before you. In commencing an examination of the patient, I will call your attention first to the marked pulsation noticeable in the arteries of the neck. This sign, I may say, in passing, indicates, as a rule, aortic regurgitation, but we need not, of course, base our diagnosis on this alone. In auscultation of the heart the stethoscope is better than the unaided ear, as it serves to localize the sounds more satisfactorily. Now placing the stethoscope at the second intercostal space on the right side of the chest, but quite near the sternum, I get a distinct rough murmur. My first inquiry in connection with it is, With which of the two heart sounds does it occur? I find that it is connected with the first sound, and it is therefore a systolic murmur. Suppose, now, that I had some difficulty in determining the heart sounds, which might occur, for instance, with great rapidity and irregularity of action. In that case I might place my finger over the carotid artery while listening to the heart, which would give me the desired information, since the carotid pulsation corresponds with the first sound of the heart. Or I might place my hand over the apex of the heart, and if I could then connect the murmur with the heart impulse, which is synchronous with the first sound, I would know that it was systolic. On further auscultation I find that this murmur cannot be heard much below the base of the heart, but when I carry the stethoscope up to the neck I get a murmur which corresponds exactly to that heard at the second intercostal space. We have, then, a rough murmur at the base of the heart,

<sup>1</sup> Reported for the JOURNAL.

which is systolic, and which is propagated to the carotid artery. The diagnosis, therefore, is a direct aortic murmur, due either to obstruction or to roughening about the aortic orifice. It is possible, however, that this may be an inorganic murmur, due to some abnormal condition of the blood, but as we shall not have time on the present occasion to enter into a discussion of the question, we will assume that it is organic in character.

While listening to the heart in this same situation I recognize a second murmur, which I can very readily distinguish from the other because it follows the latter, and that not continuously. There is a little break between the two, and I find no difficulty in determining that this last murmur is coincident with the second sound of the heart. If, as is sometimes the case, the second sound could not be made out, the interval would be sufficient to indicate that it occurred at the time when the second sound was to be expected. I find, furthermore, that the murmur is propagated almost down to the apex, which shows that it is due to an insufficiency of the aortic valve. If the valve is sufficient or adequate, as we say, there can, of course, be no regurgitation, but if there is regurgitation the blood in thus flowing back always give rise to a murmur, unless, indeed, the action of the heart is exceedingly feeble. The question now arises, Does the intensity and quality of the murmur give any intimation as to the amount of regurgitation? Experience shows that the answer is a negative one, and this is a practical point of considerable importance, since we should naturally infer that if the murmur was loud there would be a large amount of regurgitation. The reverse of this is perhaps more apt to be true, but there is really no definite rule about the matter. We have, then, two distinct murmurs which succeed each other, to and fro, like the ordinary sounds of the heart. There is one point to guard against when two murmurs exist in this way, and that is the danger of mistaking them for a pericardial friction murmur.

I next go down to the apex, wherever that may be. The rule is that the point where the lowest appreciable impulse is found is the location of the apex; although it is often the case that we get a stronger impulse at other points than this when the heart is enlarged and the shape of the organ altered. One reason for this is that as the heart enlarges it pushes away the lung, and so comes nearer to the chest wall. You must bear in mind, however, that the lowest point of impulse is always the apex, whether it is in the normal position for the apex or not. As you are aware, we listen at the apex for mitral murmurs, and now placing the stethoscope at the apex in this case, I find a murmur which occurs just before the first sound of the heart. There is no difficulty in determining its relation to the first sound, since the latter is always synchronous with the impulse. This murmur is short, rough in character, and can be heard only over a very circumscribed space. It is worth while to note also that it ends abruptly with the first sound of the heart. From these points I know that I have here a mitral direct, obstructive, or pycnoletic murmur. This is a murmur which precedes the first sound of the heart, and is usually rough; the roughness being of a peculiar quality, which is described as vibratory. This vibratory character is due to the course of the murmur, which we do not time to have to do minutely at present. I can only allude in passing to the fact that

there are usually adhesions, which produce certain changes about the orifice.

Moreover, while listening to the apex I get still another murmur. This one begins with the first sound of the heart, and is of a soft and blowing character, so that it is readily differentiated from the other. An additional characteristic of it, in contradistinction to the latter, is that it is propagated laterally around the chest as far as the scapula. From these points we diagnose a mitral regurgitant murmur, so that we find all four of the murmurs which I have mentioned present in this patient. Here, as before, the loudness and quality of the regurgitant murmur affords no indication of the amount of the valvular insufficiency.

There is one point to which I will now call your special attention. Please to mark that two of the four murmurs occur synchronously, the aortic direct and the mitral regurgitant, which are heard with the first sound of the heart; while one, the aortic regurgitant, is diastolic, and one, the mitral direct, is presystolic. Given a systolic murmur, and if it is an aortic regurgitant, it will be heard with the greatest intensity at the base of the heart and propagated to a very slight extent below this point. On the other hand, if the systolic murmur be a mitral regurgitant, the greatest intensity is found at the apex, and propagated laterally to the back of the chest. In case both these murmurs exist, as in the present instance, we shall find the characteristics of each. One is rough and the other soft, while each has its special location and direction of propagation. To determine the distinct presence of both we may carry the stethoscope gradually from apex to base, or *vice versa*, when we shall arrive at a point where one murmur ceases to be heard; while if we proceed further the other will presently commence to appear. On this occasion I will not go into the question whether there is enlargement of the heart in this patient, or, if so, whether its character is of the nature of hypertrophy or dilatation, or of both, as is more apt to be the case.

There are some points of interest in connection with the history of the case to which I will now direct your attention. The patient is a native of Ireland, twenty-eight years of age, and she is an embroiderer by occupation. She was admitted to the hospital two days since. Ten years ago she had a severe attack of acute articular rheumatism (the first in her life, as far as we are able to ascertain), and since then the attack has been repeated regularly every spring, although with diminished intensity. About five years ago she began to suffer from palpitation, and more recently from dyspnea, which has increased very much during the past year. Her feet have been swollen at times, and she has also suffered from dimness of vision. Her urine is now of a specific gravity of 1010, and contains no albumen. Of course, it is impossible to say with which of the attacks of rheumatism she had endocarditis. This certainly occurred with one of them, and may possibly have done so with all. As this complication is most apt to occur with a severe attack it is probable that she had it with the first. Another thing that renders this probable is that the symptoms of which she now complains commenced five years ago, and, as a rule, endocarditis does not produce these symptoms of distress until several years have elapsed. A few words now as to the subsequent history of the case. Although the patient has the four heart murmurs, I think the reason that she is suffering more than usual

at present is because her general health is run down to a considerable extent. Perhaps there is no condition in which the system is so tolerant (if otherwise in good condition) as organic disease of the heart; and I think that after this woman has enjoyed a season of rest, with the best nourishment and appropriate tonics, she will feel wonderfully better in every way. This is an important practical point, but I cannot enlarge upon it at present.

Our next patient, a man in advanced life, as you see, has another serious trouble besides that of the heart, namely, locomotor ataxia; but I do not propose to discuss the latter on this occasion. I believe, if I remember rightly, that he has all the four murmurs also. On applying the stethoscope to the second intercostal space, a little to the right of the sternum, I find, as before, two murmurs, one with the first, and one with the second, sound of the heart. He has, therefore, both aortic obstruction and regurgitation. Again, at the apex there are the same two murmurs as in the other patient; so that here is a second instance of all the four murmurs existing in combination. I will call your attention in passing to the fact that notwithstanding he has all these murmurs the patient suffers very little from the condition of the heart. What gives him all his trouble is the locomotor ataxia.

#### CHRONIC SYPHILITIC LARYNGITIS.

In presenting now a third patient I will pass briefly to another subject. This man, in middle life, has, as you notice when he replies to my questions, a difficulty in speech. He speaks, you will observe, with decided effort, and his voice has a rough and strident sound. If we exclude the effect upon the laryngeal muscles of pressure upon the recurrent laryngeal nerve by a tumor (almost invariably aneurisinal in character), there can be no doubt that he is suffering from chronic laryngitis, the trouble having lasted for about seven months. There is not-aphonia here, but dysphonia, as the man speaks with evident difficulty and the voice is impaired, but not lost. A patient with aphonia may or may not have chronic laryngitis, and there is a practical test for determining in any given case whether it is a paralytic aphonia or one due to chronic laryngitis. If it is to the latter the patient speaks with a visible effort, as in the present instance, but if due to paralysis there is no visible effort. Of course, the laryngoscope shows at once whether there is an inflammatory condition present or not; but we may be so situated that this means of diagnosis is not available. A chronic laryngitis in by far the greater majority of instances is either tubercular or syphilitic in character. If it is tubercular there is almost invariably pulmonary tuberculosis also. It is still a disputed question, I may say, whether there is any exception to this rule. In the present case the patient has no trouble in his lungs, and, in addition, he confesses to having had syphilis. There are, as a rule, some differences to the eye between tubercular and syphilitic laryngitis, but these differences are not, I believe, entirely reliable. When this patient came into the hospital there was so much obstruction in the larynx that it was thought that it would be necessary to resort to tracheotomy; but he has improved in a very marked degree, and there is no longer any occasion for such a procedure. In this connection I may add that it is only in syphilitic laryngitis that there is apt to be such obstruction as to necessitate the performance of tracheotomy.

## Original Articles.

### REPORT OF THREE CASES OF ABSCESS OF THE BRAIN.<sup>1</sup>

BY J. T. ESKRIDGE, M. D.,

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ABSCESS of the brain is of sufficiently frequent occurrence to make the subject of interest to the general practitioner. The cases reported in this paper are all the more interesting because each, due to a different cause, was associated with dissimilar diseases.

The first case was associated with cancer in several of the other organs of the body; the second, with chronic meningitis; the third, with apparent facial erysipelas and pneumonia followed by acute meningitis.

Detailed cases of brain lesions lose half of their interest, and become almost valueless to students of cerebral localization, when unattended by accurate descriptions of the relations of pathological lesions to ganglia, fissures, and convolutions.

I wish to acknowledge the services of my friend Dr. Charles K. Mills, who took an active part in the post-mortem examination of Case I., and rendered me valuable assistance in accurately locating the lesions in the first two cases.

**CASE I. Two Abscesses of the Brain.** (1.) The larger one, involving the centrum ovale of the postero-frontal and parietal lobes, deeper portions of the gray matter of the anterior parietal convolution, and superior parietal lobule. (2.) The smaller, the anterior two thirds of the lenticular nucleus, and the adjoining portions of the external capsule and caudatum.

September 8, 1881. Mrs. D., aged fifty-four, born in Germany of a family several of whose members had died from cancer, had been a sufferer from headache fourteen years. She had a large frame, and carried considerable fat. Excepting the head trouble, she had enjoyed excellent health until two years before, when she noticed a small tumor involving the left mammary gland. This proved to be cancerous, grew gradually, and was removed by a surgeon one year after its first appearance. There had been no return of the growth, although some pain had been complained of in the region from which it had been excised.

Her head pain had greatly increased in severity during the last few months.

In the early part of July, 1881, the left arm began to feel weak, and ten or twelve days later the left leg was similarly affected, but to a less extent. About this time she went to the country for her health. Continuing to grow worse, she returned home during August, three weeks before I first saw her, and was able to walk from the street cars to her house, a few hundred yards distant. She was then treated by a homoeopathic physician for a few weeks, when I was called in, and made the following notes:—

The left leg was almost completely paralyzed, the muscles feeling soft and flabby. The left arm was entirely paralyzed. The muscles of the left side of the face were slightly paretic. The right pupil was normal in size, left slightly dilated, and responded imperfectly to light. There was no paralysis of the muscles of the tongue, palate, or pharynx. The tongue was

<sup>1</sup> Read before the College of Physicians, Philadelphia, May 3, 1882.

slowly protruded in the median line, but when it was held in this position a few seconds it became tremulous, a vibratory tremor taking place in individual muscular fibres. Muscular power was impaired in the right arm and leg, but coordination was perfect. She had had no convulsions, and there was no muscular twitching.

With the exception of a slight tendency to drooping of the upper lid of the left eye, the ocular muscles seemed to be acting well and in harmony.

Sensation was unimpaired on both sides of the body.

*Special Senses.* Vision was equal in each eye, and she read Snellen No. 8, held at about fourteen inches. The ophthalmoscope revealed nothing beyond a slight haziness of the right retina. Taste, smell, and hearing were nearly normal, being well preserved for a woman of her age. Speech was unaffected.

The tongue was moist and slightly coated, appetite poor, bowels constipated, not having been opened for several days. The urine was high colored, specific gravity 1025, but free from albumen. The bladder was tolerant and acted voluntarily.

She was restless, did not sleep well, and complained bitterly of pain in her head. The pain was usually dull. Its seats of intensity were at the top of the head and above each temple, being worse on the right side. She was intelligent, her mind was clear, but being under the impression that her cancer would return, she worried, had become emotional and imaginative.

Temperature (left axillary)  $99^{\circ}$  F.; pulse 76, full, soft, and regular; respirations 24 per minute.

September 10th, two days later, during my absence from the city, she was seen for me by Dr. Mills, who reported her to be about in the same condition.

September 12th. She was not so intelligent, worried more, and refused to eat. The feet were extended and inverted, the balls of the great toes lying in contact with each other. The internal and posterior muscles of the legs were so firmly contracted that it required considerable force on the part of the attendant to evert and flex the feet, and the effort gave her decided pain. The muscles of the left side of the face were almost completely paralyzed. Swallowing solid or semi-solid substances was so difficult that she refused to eat.

Temperature, right axilla  $96^{\circ}$  F.; left axilla  $99.4^{\circ}$  F.; right elbow  $95.5^{\circ}$  F.; left elbow  $96.7^{\circ}$  F. Pulse 86; respirations 26 per minute. Respiration was largely of the abdominal type. After taking citrate of magnesium her bowels were opened once yesterday, being the first time in about a week.

September 13th. At eleven A. M. the temperature of the room being  $80^{\circ}$  F., after ascertaining her body heat, as indicated in each axilla, I made observations on her cerebral temperature, applying the thermometer to most of the stations used by Broca, Gray, and later, by Mills. On the present occasion the surface temperature of the head was taken at eight different stations, on a subsequent one, at two, and still later, at eleven. Hick's surface thermometer was employed and allowed to remain in place ten minutes. On each occasion the temperature of the room was ascertained, and that of each axilla noted. The observations were made by myself between the hours of eleven A. M. and two P. M. The selected stations were as follows: (1.) A middle frontal station in the centre of the forehead. (2.) A right anterior frontal station,

over the right eye, an inch and a half above the brow and the same distance from the median line of the forehead. (3.) A left anterior frontal station, similarly located on the left side. (4.) A right posterior frontal station, near the external angular process of the frontal bone. (5.) A left posterior frontal station, corresponding in position on the left side to that on the right. (6.) A right parietal station, just above the right ear. (7.) A left parietal station, just above the left ear. (8.) A right Rolandic station, situated on or near a line drawn over the top of the head from the right to the left auditory meatus, and from two to three inches above the top of the right ear. (9.) A left Rolandic station situated similarly to that on the right. (10.) A right occipital station, one and a half inches to the right of the centre of the occipital region. (11.) A left occipital station, one and a half inches to the left of the centre of the occipital region.

I shall now give the temperature records in connection with the history of the case, and further details under the head of remarks.

Temperature in right axilla  $97.9^{\circ}$  F.; in left axilla  $98.4^{\circ}$  F. Pulse 104, weak, and unsteady; respirations 24 per minute.

#### SURFACE TEMPERATURE OF THE HEAD.

| <i>Right side.</i>            |                   | <i>Left side.</i>             |                   |
|-------------------------------|-------------------|-------------------------------|-------------------|
| Anterior frontal station....  | $97.3^{\circ}$ F. | Anterior frontal station....  | $97.7^{\circ}$ F. |
| Posterior frontal station.... | $97.8^{\circ}$ F. | Posterior frontal station.... | $98.1^{\circ}$ F. |
| Parietal station.....         | $97.1^{\circ}$ F. | Parietal station.....         | $97.9^{\circ}$ F. |
| Rolandic station.....         | $96.3^{\circ}$ F. | Rolandic station.....         | $96.8^{\circ}$ F. |

She was unable to void her urine for the first time to-day. Thirty-two ounces were drawn off by the catheter. From this time to the date of her death, just two months later, the catheter was daily required to relieve the bladder. She had not eaten anything for two days. Headache was excruciating. One half of a grain of morphia was required each night to produce sleep, bromide of potassium making her wild and delirious. During the latter part of the day she frequently talked incoherently.

September 15th. The temperature of the left Rolandic station was  $5.5^{\circ}$  higher than that of the right. The intermittent character of the respiration formed a very interesting feature of the case at this time. There was no gradual rise and fall of the respiratory movements, as seen in the typical Cheyne-Stokes' respiration. There were twenty-eight shallow respirations per minute. After four or five short and rapid respirations there was an interval of rest of eight or ten seconds; then, after about the same number of respirations, came another interval of rest. During the next week the pain in the head became more intense, and localized in the top of the head and right temple. The bowels failed to respond to various purgatives and enemata.

September 22d. The muscles of the left side of the face showed but little loss of power. The pupils were of equal size. The left leg, as well as the left arm, was now entirely paralyzed. The muscular strength on the right side did not fall faster than is usual in one whose general vitality is being lowered.

The conjunctiva of the right eye was congested and watery, the sight being but little impaired.

Temperature, right axilla  $97.6^{\circ}$  F.; left axilla  $98.2^{\circ}$  F.; pulse 68; respirations 12 per minute. Respiration was still of the abdominal type. The movements of the abdomen preceded those of the chest, and formed with them a see-saw like, or to-and-fro, motion, the



chest apparently not expanding until the end of inspiration and beginning of expiration.

September 23d. Temperature of room 82° F.; of right axilla 98.9° F.; left axilla 98.2° F.; pulse 72; respirations 9 per minute.

#### SURFACE TEMPERATURE OF THE HEAD.

Anterior central station, 96.3° F.

| Right side.                    |          |                                |          | Left side.                     |          |                                |          |
|--------------------------------|----------|--------------------------------|----------|--------------------------------|----------|--------------------------------|----------|
| Anterior frontal station.....  | 95.9° F. | Anterior frontal station.....  | 96.2° F. | Anterior frontal station.....  | 97.6° F. | Posterior frontal station..... | 97.6° F. |
| Posterior frontal station..... | 95.6° F. | Posterior frontal station..... | 97.6° F. | Posterior frontal station..... | 98.1° F. | Posterior frontal station..... | 98.1° F. |
| Parietal station.....          | 97.6° F. | Parietal station.....          | 98.1° F. | Parietal station.....          | 98.8° F. | Parietal station.....          | 98.8° F. |
| Occipital station.....         | 95.3° F. | Occipital station.....         | 95.2° F. | Occipital station.....         | 98.2° F. | Occipital station.....         | 98.2° F. |

The pulse, although only 72 per minute, was very weak, but regular in time and volume. The intermittent character of the respiration was more marked on this than on the preceding day. Three or four respiratory movements were followed by an interval of rest, lasting from twelve to fifteen seconds. The number of respirations did not exceed four in succession, nor were they, at any time, less than three. The interval, or rest, was not longer than eighteen seconds, nor was it less than twelve. The respirations, which were largely abdominal, had to be counted for two minutes to obtain the average number per minute. If the movements of respiration were looked for at the beginning of an interval, none were seen during the first quarter or third of the minute, and only three or four during the second quarter or third; whereas, during the latter part of the minute, there might be eight, six, or only three respirations. Thus:—

| Inter. | Res. | Int. | Res. | Int. | Res. | Int. | Res. | Int. | Res. | Res.       |
|--------|------|------|------|------|------|------|------|------|------|------------|
| 15s.   | 9s.  | 15s. | 9s.  | 15s. | 9s.  | 15s. | 9s.  | 15s. | 9s.  | 4 = 20     |
| 15s.   | 9s.  | 15s. | 9s.  | 15s. | 9s.  | 15s. | 9s.  | 15s. | 9s.  | 92 = 120s. |

It will be seen by observing the above tabular view that, if the respirations had been counted during one minute only, eight might represent the breathing frequency per minute; and if those paroxysms of respiration, if I may so term them, had been limited to three respiratory movements each, as they sometimes were, six instead of ten, of the tabulated form, could have been set down as the number of respirations. This character of breathing, sometimes slightly increasing in frequency, continued until a few days before her death, when it changed to the so-called Cheyne-Stokes respiration.

Sighing rarely occurred. The pupils were normal. The bowels had not been opened since the 11th instant, notwithstanding various purgatives and enemata had been given. Croton oil had been given by the mouth until it had produced gripping pains and an emesis of glary mucons, yet it seemed to have no effect on the bowels. The patient lived from the 11th of September to the 13th of November without having an evacuation from the bowels. During this period of two months and two days, or about nine weeks, she neither suffered from nausea, vomiting, nor distension of the bowels from gas or faeces. Her diet for more than two months just preceding her death was almost exclusively of a liquid nature, she rarely taking any semi-solid food.

September 28th. During the last few days the face had been turned to the right, and the head drawn toward the right shoulder. At this time she complained of great pain and soreness in the right and posterior portions of the neck. The parts were hard, swollen, and painful to the touch. An attempt, on my part, to straighten the neck greatly augmented her suffering. Pain was also complained of in the right eye and ear. The former was inflamed, and almost useless as a vis-

nal organ, and from the latter there was a constant discharge of yellow pus. The ocular inflammation involved more especially the conjunctiva and cornea. An ophthalmoscopic examination of the right eye was unsatisfactory on account of the hazy condition of the cornea and the uncontrollable movements of the eyes. The watch was not heard by the right ear except on firm pressure.

October 3d. She was blind in the right eye, and deaf in the right ear. The discharges from the eye and ear continued.

October 13th. She remained quiet during the day, but required two grains of morphia to induce sleep at night. The hearing in the left ear varied; at times she heard tolerably well with this ear, and at others she was almost deaf. No improvement in the right eye and ear. A semi-choked disk appearance was noticed in the left eye, and vision was nearly gone. The left eye showed no evidence of external inflammation. No discharge was noticed from the left ear.

November 11th, five p. m. Temperature, right axilla 95.5° F.; left axilla 98.2° F.; pulse 101; respirations 28 per minute. The right side of the body felt quite cool. The breathing had changed from an intermittent to an irregular character, and constituted what is known as the Cheyne-Stokes's respiration, except that there was no lull, during which the hand could not detect feeble movements of the thoracic wall. The respiratory movements gradually became shorter until they were almost imperceptible, then they gradually lengthened until a full inspiration was taken with considerable effort, followed by a blowing noise. Every paroxysm, or rise and fall of the respiratory acts, included about eighteen respirations. She neither saw nor heard, and was no longer able to speak or swallow. The saliva was wiped from the mouth by the attendant, or she made an awkward and ineffectual effort to do it herself, showing that she was probably not entirely unconscious. Her urine was passed involuntarily. No morphia had been required during the last few days. The neck remained in about the same condition that it was on September 23d. The muscles of the left side of the face were paralyzed, the mouth being drawn well over to the right side.

She died, exhausted, November 13, 1881, at 12.30 p. m.

Post-mortem examination was made three hours after death by Drs. Mills, Bissey, and myself.

**Brain.** The venous sinuses and arteries were carefully examined, but were found to present nothing abnormal. No lesion of the membranes was discovered. The pia mater was unusually transparent (almost bloodless). The optic nerves were normal in appearance, and no perceptible lesion was detected in the other cranial nerves. No effusion. Entire surface of brain examined through the transparent pia mater before its removal, and no pathological condition was discoverable. On stripping the pia mater from the right hemisphere the external surface of the convolutions was still found to be intact. Before completing the process of removal of the pia mater from the right hemisphere a large quantity of a dirty grayish-white liquid suddenly escaped through a small opening at the bottom of a secondary fissure just in front of the upper extremity of the fissure of Rolando.

The right lateral ventricle was laid open by an incision through the lateral border of the corpus callosum. The surfaces of the intra-ventricular ganglia were

healthy in appearance. The floors and roofs of the cornua showed no lesion. A longitudinal incision was made through the middle of the head of the caudate nucleus and the optic thalamus, deep enough to pass through these bodies and the lenticular body, just to the inner margin of the insular and sphenoidal cortical substance (gray matter). This incision (Fig. 1) exposed

Fig. 1.

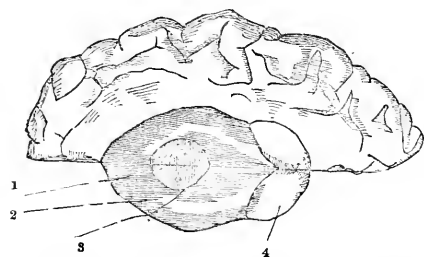


Fig. 1. Abscess (shaded) in the right lenticular nucleus, as seen by a longitudinal incision. 1. Caudate nucleus. 2. Internal capsule. 3. Lenticular nucleus. 4. Optic thalamus.

a small, isolated abscess, about one inch in length, three quarters in depth, and one third of an inch in width, involving the following parts from before backwards: the anterior two fifths of the lenticular nucleus, and the adjoining portions of the external capsule and claustrum. The caudate nucleus, optic thalamus, and the entire internal capsule (Fig. 2) were not changed

Fig. 2.

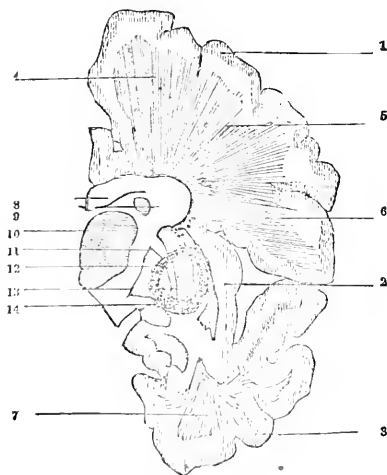


Fig. 2. from Ferrié. Abscess (shaded) as seen by a vertical brain section frontal. 1. Caudate nucleus. 2. Internal capsule. 3. Lenticular nucleus. 4. Optic thalamus. 5. Corpus callosum. 6. Caudate nucleus. 7. Sphenoidal fasciculus. 8. Optic thalamus. 9. Internal capsule. 10. Optic thalamus. 11. Internal capsule. 12. Lenticular nucleus. 13. External capsule. 14. Claustrum. Varieties.

in appearance. The posterior three fifths of the lenticular nucleus and a very narrow strip of its anterior two fifths above the abscess were intact. Vertico-

transverse sections through the pre-frontal and occipital regions showed no lesions. Further transverse sections revealed a nodulated mass and large abscess

Fig. 3.

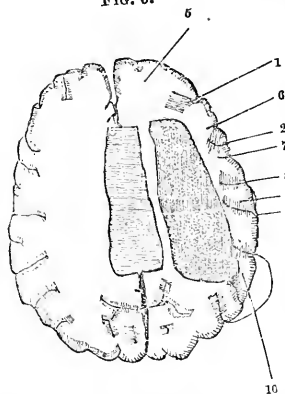


Fig. 3. Abscess (shaded) as seen by a longitudino-horizontal section on a level with the corpus callosum. 1. Upper frontal fissure. 2. Vertical frontal fissure. 3. Fissure of Roland. 4. Inter-convolutions. 5, 6, and 7. Upper, middle, and lower frontal convolutions. 8 and 9. Anterior and posterior central convolutions. 10. Parietal lobules.

of the centrum ovale of the postero-frontal and parietal lobes.

The nodule (Fig. 4) was about the size of a large hickory-nut. It involved the white matter and the under portion of gray matter at a point corresponding externally to the superior parietal lobule or convolution, a little anterior to the middle of the inter-parietal fissure. Its anterior extremity just grazed the middle portion of the gray matter of the ascending parietal convolution. The nodule was apparently firm. The abscess (Figs. 3 and 4) extended on all sides of the irregular

Fig. 4.

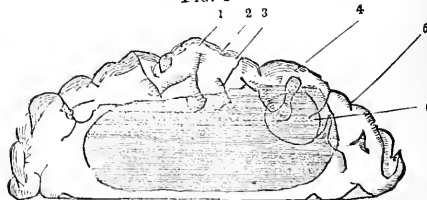


Fig. 4. Abscess (shaded) as seen by a vertico-longitudinal section made a little externally to the basal ganglia through the cortical substance and centrum ovale of the right hemisphere. 1. Ascending frontal convolution. 2. Fissure (upper end) of Roland. 3. Ascending parietal convolution. 4. Superior parietal convolution. 5. Parieto-occipital fissure. 6. Nodule.

body, and the exact limits of the former were determined by transverse sections to be as follows: Its anterior extremity reached a point in the centrum ovale corresponding to a plane, just in front of the caudate and lenticular bodies, externally through the anterior halves of the first, second, and third frontal convolutions. Its posterior extremity reached a point in the centrum ovale of the parietal, near the plane of the parieto-occipital fissure. The abscess in its anterior half involved white matter only, but close up to the gray

substance. Its posterior portion involved the white matter, also the inner part of the gray substance of the adjoining convolutions. The posterior one fourth of the abscess involved the gray matter to the greatest extent, and approached near the surface at the most posterior part. It had, therefore, destroyed the centrum ovale directly in relation with, *a*, the posterior parts of the first and second frontal convolutions; *b*, the middle regions of the ascending frontal and ascending parietal convolutions; *c*, the middle and lower portions of the superior parietal convolutions; *d*, the upper portion of the inferior parietal convolution. The gray matter destroyed was chiefly in the anterior parietal convolution and the superior parietal lobule. The entire length of the abscess was between four and five inches.

The left hemisphere showed no pathological lesions.

**Thorax.** Heart and large vessels were normal in appearance. The apex of the left lung contained four cancerous nodules, varying in size from that of a Lima bean to a horse-chestnut. The apex of the right lung was the seat of a nodule about the size of a hickory-nut. The middle and lower portions of the lungs were anæmic. The pleurae were normal except at the apices of the lungs, where slight adhesions were formed over the nodular growths. Slight effusion in the left pleural cavity.

**Abdomen.** The uterus, ovaries, and ligaments of the womb were the seat of fourteen cancerous nodules, most of which were not larger than a hickory-nut. The liver, spleen, kidneys, and pancreas were anæmic, but free from cancerous growths. The stomach was empty, pale, and contracted, but no induration of its walls was discovered. The upper and lower bowels contained a small amount of fecal matter scattered throughout their entire extent. The contents of the bowels were soft. No evidence of intestinal obstruction could be detected. The rectum was empty.

**Microscopical Appearances.** The nodule in the brain was composed of blood-vessels, brain-substance, extravasated blood, and blood-pigment. No cells of a suspicious character were seen.

**Remarks.** The abscesses cannot be attributed to the presence of a cerebral tumor. The history of the removal of a malignant growth from the left breast one year before, naturally suggested to me the probability of a similar one in the brain. No local interference with the venous or arterial circulation of the brain was detected at the autopsy. As causative agents, apparently nothing beyond a profound lowering of the vital forces and the blood infection attendant upon the presence in the system of several cancerous masses were found. If in these lies a sufficient cause, I am at a loss to know why abscess of the brain is so infrequently found in connection with cancer of other portions of the body, or why it is not more generally associated with general anæmia.

Remittent respiration is referred to by Hughlings Jackson,<sup>1</sup> although he does not give it that name, and Cheyne-Stokes respiration by nearly every recent author on nervous diseases, but I find no allusion to the peculiar intermittent variety, found in this case, in which three or four respiratory movements of equal length and depth were followed by distinct intermissions varying in length from fifteen to eighteen seconds.

Just before the patient's death, when the respiration approached the Cheyne-Stokes character, there was

no period or interval of several seconds duration, during which the respiration intermitted, but the movements were continued regularly, increasing or lessening as the effort at respiration reached the maximum or minimum.

One or more cases with respirations differing from the Cheyne-Stokes similarly to this may be found described in a joint paper presented at the Northern Medical Society of Philadelphia, by Drs. Mills and Ott.<sup>2</sup>

The abdominal respiration noted in the clinical history may be imitated by any one in health by first voluntarily expanding the abdomen, then allowing the chest to be inflated subsequently, the expiratory movements taking place in the order of time, in which the inspiratory were effected. It differs from the form of abdominal breathing referred to by Hughlings Jackson in connection with cerebral hæmorrhage. It is a grave omen, and is most commonly found in cases of great prostration as in typhoid fever and shock, or it is associated with certain brain diseases attended by a similar condition of the vital forces.

The inflammatory changes that occurred in the right eye and ear with the subsequent loss of vision and hearing in these organs cannot be accounted for by any appreciable lesion in the pons, medulla, or at the base of the brain adjacent to the optic nerve. The well-known experiments of Waller, Bernard, and Brown-Séquard, on the effect of stimulation and paralysis of the cervical ganglia of the sympathetic nerve aid us in attributing the trophic changes found in the eye to the local trouble present in the right side of the neck, which preceded the affection of the organs of the special senses. I regret that we failed to examine the indurated tissues of the neck, and to ascertain the condition of the sympathetic nerve and ganglia in this region.

The general and cerebral thermometric records of this case present some points of interest.

**General Thermometry.** According to the physiological experiments of Hitzig, Eulenbergh, and Landois quoted by Mills,<sup>3</sup> the heat controlling centres are situated in the cerebral cortex of the motor regions around the fissures of Rolando, especially in the ascending convolutions. Usually, but not constantly, destruction of this area gave rise to increased, and irritation produced lessened temperature in the extremities of the opposite side of the body. In the present instance the large abscess involved to some extent the supposed thermic area of the right side. Comparative observations of each axillary temperature were made on seven different occasions, and were as follows:—

| Date.        | Right Axilla. | Left Axilla. |
|--------------|---------------|--------------|
| September 8  |               | 99° F.       |
| September 12 | 96° F.        | 99.4         |
| September 13 | 97.3°         | 98.4         |
| September 14 | 97.0°         | 98.2         |
| September 19 | 95            | 98           |
| September 22 | 97.5          | 98.2         |
| September 23 | 98.3          | 98.2         |
| November 11  | 95.5°         | 98.2°        |

The temperature of the right or non-paralyzed side of the body only once exceeded that of the left, when the thermometer registered .7° higher in the right than in the left axilla. The temperature of the left

<sup>1</sup> Reynolds's System of Medicine.

<sup>2</sup> Philadelphia Medical and Surgical Reporter, July 3, 1881.

<sup>3</sup> Philadelphia Medical Times for January 18, 1879.

armpit ranged from  $.5^{\circ}$  to  $3^{\circ}$  higher than that of the right. During the first shock to the system produced by the abscess, and just before death, when paralysis was most complete, the difference between the two sides of the body heat was greatest, being  $3.4^{\circ}$  at one time, and about  $3^{\circ}$  at another.

*Cerebral Thermometry.* I shall only refer to the extended observations of Broca, Gray, and Maragliano, and Sepelli, on cerebral thermometry in health and disease. Their conclusions are in harmony with each other, and their utility has been demonstrated by observations made on at least two cases of tumor of the brain, one by Dr. Charles K. Mills,<sup>1</sup> and the other by Dr. Landon Carter Gray,<sup>2</sup> who was the first in this country to investigate the surface temperature of the head in health. Dr. Gray found the average normal temperatures of the stations on the left side of the head to be for the frontal  $.65^{\circ}$  F.; for the parietal  $.85^{\circ}$  F.; for the occipital  $.72^{\circ}$  F., higher than those of the corresponding stations on the right side. He gave as the average normal temperature of the right frontal station  $93.71^{\circ}$  F.; of the left  $94.36^{\circ}$  F.; of the right parietal  $93.59^{\circ}$  F.; of the left  $94.44^{\circ}$  F.; of the right occipital  $91.94^{\circ}$  F.; of the left  $92.66^{\circ}$  F. Variations of more than  $1.5^{\circ}$  he considered suspicious of disease at that point, and of more than  $2^{\circ}$  strong evidence of a pathological condition.

Comparing the results of the surface temperatures of the head made on the case reported at length in this paper with those reported by Gray and others, we shall find several points of difference. The temperatures were from  $2^{\circ}$  to  $4^{\circ}$  higher than those obtained on the heads of healthy subjects, although the axillary temperatures of this case, taken at the same time, were normal or subnormal. The temperatures at the several stations on the left side of the head exceeded those on the right by about  $.5^{\circ}$ , which is nearly in accord with the normal difference. The temperature at the left Rolandic station was  $.2^{\circ}$  lower than that of the right on one occasion only. With this exception the temperatures on the left side were the highest. On September 23d, when paralysis of the left side of the body was complete, the surface heat at the left posterior frontal station was  $2^{\circ}$ , and at the left parietal  $1.5^{\circ}$ , greater than at the corresponding stations on the right side. Before complete paralysis had taken place in the left leg, there was nearly an equal increase of heat at the frontal and posterior stations; later, when the leg was powerless, the temperatures of the posterior stations exceeded their normal more than did those of the anterior. In the observations on cerebral thermometry in connection with brain tumors made by Drs. Mills and Gray, the stations nearest the growths, both of which happened to be on the right side, gave the highest average increase of temperature.

The area to which the occluded vessels in embolic hemiplegia are distributed is said to have a subnormal temperature.

I am not aware that the results of any observations of the surface temperature of the head made on persons suffering from abscess of the brain have been reported. No valuable conclusions can be drawn from observations made on a single case; especially is this so when the surface temperatures of the head are not more frequently taken than in the history of the

one just reported. In health the head temperatures are from  $4^{\circ}$  to  $6^{\circ}$  lower than that of the axilla, being lowest posteriorly. In the present case, with a normal or subnormal axillary temperature, the head temperatures were elevated from  $4^{\circ}$  to  $6^{\circ}$  above their normal, the occipital, in one instance, being the highest, equaling the axillary, and exceeding its own in health  $6^{\circ}$ .

Dr. Allan McLane Hamilton, of New York, has reported the results of his observations on a case of meningitis, in which the occipital temperatures exceeded those of the other regions of the head.<sup>3</sup>

It is doubtful whether the local temperatures of the head in abscess of the brain will aid us in locating the disease to any particular region, but if the results of the observations already made on cerebral thermometry in brain tumor be sustained by future investigations, the surface thermometer may help us in differentiating abscess from tumor of the brain.

In a case of brain trouble, in which the diagnosis is between tumor and abscess, a limited surface area of one side (especially the right) of the head, with a temperature considerably elevated above the heat of the surrounding parts, would point to tumor; whereas, an elevation of the entire cerebral surface temperature would indicate abscess.

The direction of the destructive lesion in the brain, if we may judge by the progress of the paralysis, was from before backward, showing that the nodule occupied the region last involved instead of the first, as would have been the case if it had been caused by an embolus, and had in its turn given rise to the abscess.

#### DR. JOHN CHAPMAN'S SYSTEM OF NEURO-DYNAMIC MEDICINE, WITH CASES.

BY B. O. KINNEAR, M. D.

In the early autumn of 1880, having read the works of Dr. Chapman, and feeling convinced, after the perusal, that the system advanced and advocated deserved trial in a wider sense than I think the profession in this country have hitherto given it, I determined, acting carefully in accordance with his directions, to apply it in my practice whenever opportunity afforded; that is to say, when in any case there was no complication to hinder the safe use of heat or cold over the spinal nervous centres.

A careful examination of those points which might prevent, or rather do prevent, the use of one or the other is as strongly urged as the advocacy of the method; thus I would say that a knowledge of when *not* to use the treatment is essential before beginning it. With such information, excellent and speedy results may be obtained in cases in which medicines and other remedies have usually only a temporary effect. Acting carefully, to say that I have been pleased with the sequels to its application in general practice, would be to offer very small praise; I have been astonished and delighted.

To make what follows plain and easily understood, I will give, in a few sentences, a concise explanation of Dr. Chapman's theories, namely, that ice in disease, used properly in rubber bags of the right length and width over the spinal and sympathetic centres, dilates the arterioles controlled by said centres, and arrests,

<sup>1</sup> Philadelphia Medical Times, January 18, 1879.

<sup>2</sup> Hamilton's work on Nervous Diseases, 2d edition, page 22.

<sup>3</sup> Ibid.

at the same time, hypersecretion from the glandular system, checks spasmodic and irregular muscular movements of voluntary and involuntary muscles; and arrests hypernutrition, by its sedative action upon trophic centres. Heat used likewise acts in exactly an opposite manner.

In respect to Dr. Chapman's theory as to the cause of pain, I refer my readers to his work on Neuralgia, page 23, where a "summary statement of the author's theory" upon this subject may be found. I can state, however, that by the use of ice, in some cases of neuralgia, over the centres controlling the part affected, and in others, by the application of heat, I have relieved the suffering more quickly than by hypodermic injections of morphia, and in every case, as quickly. During the past eighteen months I have almost left off the use of this drug, to ease pain, finding a more satisfactory agent in heat or cold, used as directed by Dr. Chapman. Beyond the swift relief given to the sufferer the method has another most valuable qualification, namely, that no sickness at the stomach, no prostration, headache, or other disagreeable symptom, follows its proper use; which, we are all very well aware, is not very often the result in the use of opium and its preparations.

In the case of a lady to whom I was called, the patient was agonized from pain over the region of the gall-bladder, with much tenderness upon pressure. Inquiry and the general symptoms eliminated from the diagnosis both inflammation and the passage of gall stones. Ice was applied over the dorso-lumbar region, and in three minutes both the pain and tenderness disappeared, the sufferer expressing great surprise and pleasure, as despite the use of morphia in her former attacks, she never had been eased for several hours. In the so-called "wind colic," ice gives invariable and rapid relief when applied over the same region of the spine as just mentioned.

The "bilious attack" or "sick headache" is speedily eased by application of ice over the same segments of the spine; the vomiting ceases, and if the head is hot and painful, relief is readily given to these symptoms; comfort and very often sleep rapidly result.

Medicines may now be retained by the stomach to act upon the bowels and relieve the surcharged portal circulation.

In acute diarrhoea it has been swift in its action by checking the discharge from the bowels, as well as the vomiting when there is any, and, in those severe forms where there is great circulatory disturbance, restoring warmth to cold and cramped extremities.

It acts thus at once, according to this theory, in four distinct ways, namely, upon the spasmodic action of voluntary and involuntary muscles, upon the excessive glandular secretion, and upon the "vaso-motor spasm." I give a case to illustrate.

A female patient, about thirty years old, was attacked during the summer of 1881 by violent diarrhoea and vomiting, so severe as to simulate cholera.

All the usual remedies were used for twenty-four hours, except opium, without any abatement of the disease, but rather an increase, a watery stool passing, or an attack of vomiting occurring, every ten minutes. Just previous to the application of the ice to the spine, covering the last four cervical, all the dorsal and lumbar vertebrae, two severe and prolonged chills were experienced, during which both legs and arms turned of a bluish color, cramped, and became very cold to the touch. The action of the ice was marvelous, because

instantaneous. The vomiting and diarrhoea at once ceased. Quickly the extremities became warm, and the patient fell asleep, being awakened every two hours to have the bag refilled, and reapplied. The ice was constantly used from eleven P. M. until five A. M., and upon visiting her next morning about nine A. M., she begged to have it used again at once, saying it was "the most comforting thing she had ever felt." The application was made at intervals during this day and the next; no relapse took place, and not only did the attack remain subdued, but the patient began to regain strength rapidly, much more so than is usual after such an illness.

In the vomiting of pregnancy, carefully used, it promises to be a successful agent. In a single case I found it of great service, enabling the stomach to retain and digest food.

In the mucous vomiting of the so-called "gastritis," it has in one case saved the patient's life by subduing the muscular irritability of the viscus, and checking the mucous discharge, enabling the stomach thereby to retain and digest nourishment, which would have otherwise been impossible, giving also by relief to the straining the much needed physical and mental rest, thus hastening recovery.

In simple leucorrhoea, with deficient and painful menstruation, I have found it of much service, producing a free flow at the period, and stopping the white discharge. Following Dr. Chapman's directions, I have successfully treated constipation with ice over the dorso-lumbar region, caused or rather become chronic from lack of proper blood supply to the muscular coat of the intestine, thus lessening nutrition and peristaltic action sufficiently, to prevent the forcing downward of effete materials. In the same manner the leg muscles, or any others, may atrophy and fail to perform their function, which loss, I am convinced, is, in the majority of cases, caused by vaso-motor spasm, or, in other words, by a hyperamia of the sympathetic ganglia controlling the diseased parts.

In hysteria I have found excellent results from the use of ice, by subduing the hyperamia of the sympathetic ganglia, and those spinal centres which give rise to the muscular spasm when unduly excited, as in these cases. The patient often quickly becomes quiet, warm, and falls asleep. In jerking of the lower limbs at night it frequently works like a charm when there is nothing to contra-indicate its use.

In sleeplessness, due to excessive use of the brain from almost any cause, ice applied low down (dorso-lumbar region) will produce sleep and give refreshing rest by dilating the arterioles of the lower body, thus withdrawing from the cerebral circulation its excessive supply, the cause of the sleeplessness. When the ice is not sufficient, thus applied, to have the desired effect, a double-columned hot water bag may be used over the sympathetic ganglia of the cilio-spinal region of Chapman, or, in other words, the cervico-dorsal vertebrae, and will assist, by stimulating these ganglia, to a hyperaction, causing thereby a contraction of the blood-vessels of the brain. This, it will be seen, was done in Case I., with an excellent night's rest as sequel.

In one case of asthma treated, very great and I believe permanent benefit has been given to the affection itself, while the general health is better than it has been for a long period. The patient had been a great sufferer for sixteen years, and is sixty years of age.

In the cases reported below, that the results there stated could be obtained by electricity, massage, rest, or medicines, or by all of these combined, either in so short a time as reported, or at all, seems to me very doubtful, but whether this hypothesis be right or wrong, they are remarkable as exponents of a great measure of truth in Dr. Chapman's theories practically and carefully applied; and, I trust, may be interesting to the profession.

In conclusion, I would again suggest to those of my medical confrères who may decide to try this method, not to do so without a careful attention to those *dangers* with which a careless or ignorant application will very certainly bring them face to face. Upon these *dangers* Dr. Chapman gives very clear and minute directions and cautions.

I have used Dr. Chapman's system in a number of other diseases with benefit to the patients treated, for this article has been written not with the intention of covering all the ground practiced upon, but simply as an exponent of what may be done by this method.

I have made no endeavor to either contrast the neuro-dynamic discovery of Dr. Chapman with the discoveries of other great neuro-physiologists and pathologists or to demonstrate that by the *results* of his treatment he has discovered much of the physiological nervous action upon blood-vessels, muscles, glands, tissues, etc.; but in a future article I hope to enter upon this subject fully, and will endeavor to show that, by the sequels obtained from the proper application of the method, truthful views of nervous, normal, and abnormal power are manifested.

#### INSOMNIA AND NERVOUS AFFECTIONS.

CASE I. is that of a gentleman from Philadelphia who consulted me in October last, having been recommended to try treatment by Dr. Chapman's method.

The history of the case reads as follows, namely:—

Has been troubled with loss of sleep for many years, at present sleeping from two to three hours per day. Head and arms are hot at night, while the legs, as high as the knees, are so cold as to be absolutely painful; this last is not a constant symptom, being worse some days than others.

The conjunctivæ often become so congested at night that he has no sleep. Has spasmodic jerking of the lower limbs nearly every night. The digestion is much disordered. Has suffered with a looseness of the bowels for many months, at times amounting to a diarrhœa. Is intensely nervous, and becomes very excited from trivial causes. States that he has had hæmorrhage from lungs; this is doubtful.

Suffers from lack of coördination of the muscles concerned in locomotion, pronounced by a prominent New York physician, "locomotor ataxia," and at times has a partial paralysis of both limbs. The right leg drags somewhat when walking.

Is very weak physically, and unable to take much exercise on account of the exhaustion to mind and body which ensues. Upon examination, two of the middle dorsal, the last cervical, and all of the lumbar vertebral spines, were found *very* sensitive to pressure, while the whole column was more or less so.

Applied an ice bag from the fifth dorsal to the first sacral vertebra for three quarters of an hour. During its use the sensation was a burning one upon the surface covered, increased to the "feeling of the touch of a hot iron" over the very sensitive spines.

Ten minutes after the bag was removed the patient felt drowsy, and upon lying down slept soundly for an hour and a half. The treatment was continued for five days, when business called him away, but so much relief was experienced that he decided to return in November, to remain as long as was thought necessary.

He returned upon November the 23d, ice being applied on the evening of that day for one hour and a half before going to bed.

November 24th, ten A. M. Patient had a quiet night, but did not sleep much; awoke feeling sick at the stomach, which was at once relieved on application of the ice. One large loose stool after breakfast. The ice was used seven hours through the day to the dorso-lumbar region. One more loose stool after a dinner of soup, fish, and oysters; troubled by flatulence. The muscles of the back upon each side of the spinal column became tender from the long employment of the ice, and the burning sensation during its application continues. In the evening felt tired but not weak; feet comfortable and warm; complains of hot upper extremities, and a feeling of pressure upon the head.

November 25th. Slept between six and seven hours, and awoke refreshed. Ice was used four and one half hours through the day. One loose movement of bowels; felt a tendency to faint during the afternoon. At ten P. M. left the patient comfortable, with the feet quite warm; feeling of pressure upon head remains.

November 26th. Had a quiet night, but slept little, feeling uncomfortable upon waking. Ate a hearty breakfast, however. Ice used four hours during the day. No stool at all; much flatulence and rumbling in bowels. Placed the ice the whole length of the spinal cord this P. M. from the fourth cervical to the first sacral, which resulted in an attack of vertigo, due, I believe, to an excessive dilatation of the arterioles of the brain from the sedative action upon the already depressed vaso-motor or sympathetic cervical centres. The attack lasted only a few moments, the ice being at once removed from the cilio-dorsal region of Chapman. Left the patient at ten P. M. very comfortable; feet continue warm.

November 27th. Slept several hours, being very quiet when not asleep; woke refreshed; one large, loose stool after breakfast, which did not cause him to feel weak; flatulence continues, but not so troublesome. Ice used over dorso-lumbar region five hours through the day.

November 28th. Had a loose stool after breakfast; slept well. Ice used seven hours through the day. Asserts that he is much stronger than when he arrived.

November 29th. Slept, but passed rather a restless night; two loose stools in the day; ate three good meals, and enjoyed them.

November 30th. Slept well; had some jerking of legs at four A. M.; one stool; less flatulence; feet remain warm all the time.

December 1st. Slept well; head a little dizzy at intervals.

December 2d. Slept well; feels much refreshed; "best feeling day yet;" the first solid stool passed that he has had for many months; patient rather excited over his rapid improvement.

December 3d. Had a quiet night; one small, loose stool, and is depressed in consequence.

December 4th. Slept well until three A. M., when awakened by flatulence and pain in the shoulders;

ate heartily through the day, passing another natural stool in the evening; there is no burning sensation upon application of the ice now, nor does any tenderness of the muscles of the back remain; patient likes to have the ice on, and enjoys its use; both legs are much stronger, and the right, which dragged in walking, no longer does so.

December 5th. One natural stool; did not sleep so well as usual. Instead of employing ice this evening to the dorso-lumbar region, used a double columned hot water bag, filled with water, at a temperature of about 120° F., over the sympathetic centres in the neck, the object being to produce sleep, by contracting the cerebral capillary circulation.

December 6th. Patient slept soundly through the night (ten hours) and awoke, as he said, "feeling like a new man;" one natural and one loose stool. Ice used three hours through the day.

December 7th. Slept until three A. M., and was quiet afterward; ate a good breakfast; asserts that he "feels much stronger in all respects;" the general nervous irritability, which has been severe hitherto, grows less daily, while the patient looks like a different man; evidently gaining in weight. He remained in Boston until the 15th. Improvement as follows: An average of from six to seven hours' sleep every night; the cessation of the diarrhoea; a continually increasing appetite, with much improved digestive powers; a gain of several pounds in weight; nervous irritability greatly lessened; perfect recovery of the use of right leg, and a large increase of bodily strength, as was evident by the power shown in taking physical exercise.

December 25th. Has continued to improve, and is doing well, despite working much more, both physically and mentally, than he ought to do or would have been allowed to do under my *direct* care; the appetite is good, and he obtains a full night's rest about every other night. Ice used two hours in the day.

March 22, 1882. I continue the notes of the case in the patient's own words at this date:—

"I have great pleasure in stating that from the very first day of the ice treatment until this morning I have steadily improved in every respect.

"I have been sleeping from the first of the year an average of from five to seven hours per night. All the disagreeable nervous symptoms that so much distressed me after any exertion have gone. My lower extremities are as warm as a baby's. My appetite is good, and I can digest almost anything that comes upon the table. I keep up the use of the ice once a day, before going to bed."

The patient was treated exclusively by the ice, as stated above, with the exception of an alkaline mixture given to assist in relieving the acidity of the stomach, and a few calomel powders, of one grain each, administered with the intent to alter the clay-colored stools to a natural hue, in which they succeeded. The *rationale* of treatment after Chapman was that by the constant application of the ice for many hours during each day, in the early stage, the hyperæmic nervous centres controlling the nerve cells of the intestinal glands might be kept steadily in a state of sedation during the time the patient was up and about, thus preventing a recurrence of the surplus of blood to the spinal centres, and so an immediate recurrence of the diarrhoea. At the same time the arterioles of the lower portions of the body, in a state of contraction almost constant, as shown by the persistent coldness

of the legs and feet, with loss of muscular coördination, might be kept dilated by the sedative action of the ice upon the hyperæmic, sympathetic, or vaso-motor centres, thus warming the extremities, and at the same time producing sleep, because withdrawing, by the dilatation of the arterioles in the lower body, the surplus blood in the brain, which in this case seemed to be the cause of the sleeplessness. That hyperæmia of the capillaries of the brain *was* the cause I think is proven by Chapman's method of reasoning from the astonishing result of the first use of the ice over the dorso-lumbar centres, producing sleep immediately, in the daytime, and by the effect of the hot-water bag over the "cilio-spinal" region the night that ice was not used. What the recovery of this case proves in regard to the truth of Dr. Chapman's theories of spinal and sympathetic control over the glandular system and blood-vessels, seems to be self-evident, and needs no comment. This case had been under treatment in New York and Philadelphia without more than very temporary benefit. To test the method thoroughly the patient was allowed to eat solid food from the outset.

#### NEURALGIA OF THE HIP AND KNEE-JOINTS.

CASE II. April 27, 1881, Mr. N. consulted me in regard to his wife, a young woman, who had been suffering steadily for the previous six weeks with no assistance rendered by the usual measures. Upon inquiry found that she has had several previous attacks, the first one following a miscarriage, which took place three years ago. The disease has recurred with increasing frequency latterly, and each successive seizure is of longer duration than the one preceding.

The patient's digestion was much disordered; bowels moved every day; the arms and legs almost constantly cold and damp, so cold as to be disagreeable to the touch; the physical strength much reduced, with fits of mental depression of frequent occurrence.

Sleeplessness was constant, even upon those nights when the pain was not so severe. The heart was irritable, the lungs healthy. Pain upon pressure was experienced over the last cervical, fourth and fifth dorsal, and all of the lumbar, vertebrae. The usual stinging and burning sensation was felt over these regions upon the application of the ice.

The patient has been treated thus far by large doses of morphia, bromide of potash, chloral, and she has sometimes inhaled as much as twenty ounces of ether in a night, to produce sleep and ease pain. All medicines were stopped, and an ice bag applied over the vertebrae, from the fourth cervical to the first sacral, to be so used one hour and a half every night and morning.

May 7th. Sleeplessness greatly relieved, pains not so violent, nor for so long a period daily. Appetite good, and the digestive powers strengthened. Physical strength much improved, and has taken short walks several times. Arms and legs much warmer. Complaints of pain in precordial region and palpitation of the heart. Has very severe pain in calf of right leg. Always cold now, and in pain from early morning, when the suffering begins and lasts until reaction takes place, about three P. M. She then becomes warm, and the pain is eased. Ordered the ice to be used daily two and one half hours upon awaking, one and a half hours in the afternoon, and one hour before going to bed.

May 13th. Strength much improved in every way; depression almost gone; appetite excellent. Has been

out some days the whole afternoon without great fatigue. Pain in hip, knee, and calf, only an ache. Hands and feet constantly warm. Sleeps soundly; slight palpitation of the heart remains. Ordered: Tinct. ferri chloridi 3i, after meals, in water, and tinct. digitalis, minimis x., potas. bromid., gr. x., tinct. cinchon. co. minimis 20. Take in water before meals.

May 19th. No pain; weight increased; appetite excellent; sleeps profoundly. Patient is convalescent, taking long walks daily. To continue the use of the ice two hours every day for a month.

June 31st. Patient well, having gained fifteen pounds in weight, and feeling just as strong as she ever did.

In this case the sympathetic or vaso-motor and sensory centres were both affected, as shown by the pain and the constantly cold upper and lower extremities.

I did not see the case as often as I wished, or I could have made more minute notes of the daily effect produced by the treatment. The only medicines used were in the prescriptions given above, and they were not prescribed until the patient had advanced far toward convalescence. This lady was told to use the ice one hour per day until the end of August, but did not do so. Since June last there has been, I believe, one *slight* return of the pain.

#### GREAT PROSTRATION AFTER PROLONGED LABOR.

CASE III. is one of prolonged labor in primipara, otherwise normal, left occipito-anterior position; great prostration after confinement, but no alarming hemorrhage. The child was born January 19, 1881. Up to March 4th following the patient remained prostrated; about holding her own. During this period she suffered with night-sweats, continued constipation, and quite severely from catarrh of the posterior nares. The appetite was excellent throughout this time, but she remained so weak that she would become much fatigued by even standing a few moments upon her feet. Her extremities were cold very frequently. She was treated by doses of laxatives, and various laxative foods, to relieve the constipation, — belladonna for the night sweats and a variety of tonics, iron, quinine, and strychnia, with no result beyond the most temporary benefit. Ice was applied upon March 4th from the fourth cervical to the last lumbar vertebra for one hour per day. The patient began to improve in general strength after the second application. Within a week she was walking out every day, and upon March 20th came to my office, a distance of three quarters of a mile. She steadily improved, the constipation disappeared, and the nasal catarrh was much relieved.

According to Dr. Chapman's views, the ice acted in this case upon the vaso-motor centres, thereby warming the cold extremities, and supplying at the same time a greater amount of blood to the anemic muscles of the intestine, stimulating the bowels therefore to normal peristaltic action, and so relieving the constipation. It acted also as a sedative upon the nerve centres controlling the gland cells of the posterior nares, which, by their over action, produced the nasal catarrh; it checked this trouble permanently. The child of this patient was also troubled by the most severe flatulence and constipation. After three weeks spent in useless endeavors to relieve it by the usual remedies, I applied ice to the dorso-lumbar region in a very small bag, with permanent relief to the disease in a few days.

CASE IV. is that of a Boston gentleman who consulted me in December of 1881. He had been troubled with sleeplessness for a long period; very much impaired digestion; nervousness which showed itself by great mental excitability, alternating with delusions and intense depression. The bowels were costive, while the feet and legs were constantly more or less cold and moist. The head was hot, and as the patient expressed it, "felt too full of blood all the time, accompanied by a hissing sensation in the ears."

Ice was applied from the second dorsal to the fifth lumbar vertebra, one and one half hours, twice a day. Improvement was immediate to the sleeplessness; the digestive powers became gradually stronger, and the bowels moved regularly. The lower extremities were soon permanently warm and dry, and the nervous symptoms disappeared to a great degree, although the patient was subject to much mental worry during the treatment. This improvement lasted from January until May, when he had a temporary relapse, which has been overcome, and the strength renewed. His physical strength has much increased under the treatment. He is a man of middle age.

#### AMERICAN DYSPEPSIA.<sup>1</sup>

BY JAMES H. ROBBINS, M. D., OF HINGHAM.

WE are beginning to realize that at the present day there is a notable failure of the organs of digestion.

Many would persuade us that such failure affects especially the people of the United States, and use the term American dyspepsia as if the existence of such a complaint were fully conceded, though, by what we can gather from medical periodicals, and observant tourists, the same delicacy of stomach prevails in Great Britain and on the European Continent, while an eminent English physician, Dr. J. Milner Fothergill, is the first to emphatically call attention to the matter. To it he devotes, in a text-book of practice, a chapter worthy of the importance of the subject, nor does he anywhere hint that a failure of digestion is more common here than in other countries.

It is the object of this paper merely to speak of dyspepsia among our own people, and to emphasize and illustrate the fact that, more than of anything else, it is the result of neural causes.

Eighteen years ago, in the edition of 1866 of Dr. Flint's Book of Practice, the author says in his general remarks upon dyspepsia, that "It is undoubtedly less prevalent than it was a quarter of a century ago in this country"; but in examining the medical periodicals of to-day, and in conferring with busy physicians, we find that a large proportion of those who seek medical treatment, a larger proportion than at any previous time, complain of poor digestion and biliousness.

Scientific research and skill in therapeutics are stimulated to their utmost to furnish stomach tonics, food digestants, and different aliments already digested and ready for absorption by the debilitated stomach. The leaves of even our medical journals abound with advertisements of therapeutic agents of this nature, while physicians in their great desire to furnish their dyspeptic patients with the most elegant, palatable, and scientific aids to digestion, become willing instru-

<sup>1</sup> Read before the Massachusetts Medical Society at its Annual Meeting, June 14, 1882.



ments in the sale of large quantities of proprietary or trade-marked medicines. The prevalence of indigestion is also evinced by the popularity of a vast number of quack preparations for the stomach, and by the great and increasing quantities of laxatives and cathartics taken for constipation, almost every family having its favorite patent pill.

In spite of all this therapeutical effort, designed to meet the vast demand of this prevalent debility of the digestive organs, indigestion increases, while the means for its relief lag far behind, leading one to question whether the coming American is to digest his food himself at all, or whether it will not be digested for him outside his body, and administered ready for absorption and assimilation.

This prevalent, so-called *American dyspepsia*, seems to be without a morbid anatomy, which is perhaps the very reason why we often practically overlook it, our text-books of theory and practice being sadly deficient in hints concerning this form of weak digestion. While they abound in treatises upon gastric catarrh, ulcer, gastric carcinoma, dilatation, liver diseases, and distinct intestinal maladies, we have to be content with scraps and hints occurring sparingly in books of general practice, works on gynaecology, diseases of the nervous system, and monographs concerning neurasthenia, for light upon mere weakness and failure of the digestive organs. Dr. J. Milner Fothergill, so far as I can find, is the only author who furnishes us with a chapter on the subject, at all commensurate with its importance. Some of the principal causes usually assigned for *American dyspepsia* are as follows:—

First. Rapidity in eating.

Of course no one would defend hurried eating as beneficial, but I fancy its injurious influence has been over-stated.

Nearly all animals eat in haste. And it is an old proverb among farmers, "Quick to eat, quick to work," which applies equally to men and horses. A horse that eats slowly is slow mettled and dull. If a farmer wishes to employ a new laborer he is prejudiced immediately against the man who eats with deliberation, which proves that the rate at which a man consumes his food is merely a matter of temperament.

Another fruitful source of this trouble is supposed to be found in unsuitable or improperly prepared food, such as badly cooked meats, bread fresh from the oven, or ill made, too hot beverages, tea over-steeped or even boiled, fried food, and that national institution, the pie, which it is now the fashion to condemn. As Charles Dudley Warner humorously says, "There has come over this country within the last generation a great wave of condemnation of *pie*. It has taken the character of a movement. . . . It is safe almost anywhere to denounce pie, yet nearly everybody eats it on occasion. A great many people think it savors of life abroad to speak with horror of pie."

True as it is that the foregoing edibles are not the best food for a weak stomach, it yet seems to me that they do not necessarily produce weak stomachs. Every physician knows that such food is very commonly given, even to infants, among certain of the laboring classes, with no such disastrous effects as one would expect.

*Over-eating* is a very common bugbear. It is true that many eat more than they can well digest, which is over-eating for them. But it is as true of the animal economy as of any other machinery, that force requires fuel according to its degree.

Americans, if we compare them with people of other nations, are not large eaters, and do not consume any more than is necessary to produce the required bodily and mental force. Alas, the trouble is, they are not able to digest so much as they need.

Dr. Flint and other writers say that gluttony does not often produce dyspepsia, but is more likely to give rise to gout or some other malady.

*The use of ice-water* is unsparingly condemned. Enthusiasts attribute to it all our stomach weakness, whereas, it is really not used to any great extent outside the cities and large towns. The effects of over-indulgence in it are so immediate that people soon learn the extent to which they may drink it, and thousands have learned either not to use it at all, or sparingly, while many insist that it is better to use ice-water moderately than to keep the stomach afloat with excessive quantities of water not iced.

*The universal use of fine white flour*, which consists principally of starch, with gluten and phosphates bolted out, is often mentioned as a cause of impaired vitality and dyspepsia.

To it is attributed the degeneration of the teeth, and the starvation of the nervous system. We may well hail the day when our people shall make their bread of the entire grain, but we must acknowledge that the poorer classes who subsist most largely upon white flour, are not the greatest sufferers from stomach failure.

But we cannot here examine the great number of alleged causes of *American dyspepsia*.

One great principle in nature is apt to be overlooked by many theorists, namely, the very remarkable power of the human system of adapting itself to all sorts of dietetic conditions and even enormities, and appearing to thrive upon them. German babies are not uncommonly given a daily allowance of beer, beginning when a few weeks old.

School boys of the rugged sort will eat three meals, visit the pantry every time they come into the house, and by way of variety regale themselves on green apples, lobster bought on the street, or some other strange thing which only boys will eat. Nature may revolt now and then by emesis, but seldom by the Nemesis of chronic dyspepsia. The fact is that to no special habits of eating, times of eating, nor articles of diet can the weakness of the American stomach be attributed, either wholly or in any important degree.

We are now brought to the brief consideration of a class of causes which thinking physicians must admit to have a powerful and wide-spread effect, detrimental to digestion and nutrition, compared to which all other causes are insignificant, namely, those causes of a nervous nature.

Every one is familiar with the effects upon digestion of mental and emotional states even in the healthy subject. Dr. Carpenter, in his great work on physiology, has much to say on this head, with vivid illustrations. Every physician can recount similar illustrations from his own observation by the score. Bad news will arrest or retard digestion, and often cause vomiting. No influence in the world is more powerful to take away all appetite for food and create a loathing for it than grief. Anxiety and apprehension and a good digestion are incompatible. Fear will dry up the saliva, stop digestion, and frequently bring on diarrhoea. Many a soldier from this cause has been put on the sick list on the eve of battle. Worry and petty

mental annoyance are, perhaps, the most universal, at the same time the least recognized, of influences affecting digestion. Mental strain, overwork, or complete absorption for a length of time by a train of thought hold the digestive functions in abeyance. Ambition, the goal of which is unattained or far removed, sharp competition, without immediate or satisfactory results, cause wasting of the body, and feeble nervous supply to keep the nutritive functions up to their work. Shakespeare makes *Cæsar* say,—

"Yond *Cassius* has a lean and hungry look;  
He thinks too much . . .  
Such men as he be never at heart's ease  
Whiles they behold a greater than themselves."

Conversely to all this it may be stated that pleasurable emotions, a contented mind, congenial employment, a measure of success in one's endeavors, sufficient recreation, and opportunity for nervous repose seem indispensable to a healthy stomach.

These conditions existing, a person may endure a great deal of arduous toil, either bodily or mental, without detriment, but rather with benefit, to a healthy working of function. The machine is then well lubricated, and does not wear from friction.

But what peculiar reference has this class of neurological causes to American dyspepsia?

I take it to be this: Such causes operate with special power upon us of the present generation of the Anglo-Saxon race, whose ancestors came to this country several generations ago, for the reason that from these ancestors we inherit nervous systems of impaired vigor. Our parents and grandparents were so strenuously engaged in an arduous, ambitious, and competitive endeavor, amid the rapidly changing conditions of life in a new country, to secure competency and respectable social position, that they expended to a great degree their own vital powers, and have accordingly transmitted to their children delicate and neurotic constitutions. If it is granted that we inherit a diminished vitality, it is easy to see how ingeniously the pressure, the wear and tear, the strain, the excitement, the hurry and worry incident to this breathless, bustling life of ours affect the nervous system. It is also evident that impairment of digestion and mal-nutrition must be the certain result of such a condition of things.

Among the causes which are thus acting upon large numbers and classes of our population are, first, the manner of rearing our children.

Weakly at the start, they are forced into precocity by multitudes of ingenious and complex toys, plays, and amusements suited to rouse and stimulate intellectual and emotional activity, by sight-seeing and excitements more than are wholesome, by making premature men and women of them instead of romping children.

Under this head comes our system of education, with its high pressure, its cramming, and competition during too many weeks of the year. Arrived at adult life, our children are sparse in body, stooping in form, nervous, emotional, and possessed of stomachs which have to be treated by rule in order that they may perform their functions.

Second, School teaching.

Teachers of both sexes form an astonishingly large class in our communities if we add to the numbers in active duty the hosts who have given the best of their lives to teaching, and are either completely or partially broken down by the pursuit. It is difficult to estimate the onerous and nerve exhausting work de-

manded of instructors by our exacting modern systems. A teacher who has taught for a few years, and has a good, healthy digestion, is exceptional.

Third, Lack of simplicity and honesty in living.

This applies especially to mothers of families, who, in addition to their simple domestic duties, strive too much for appearances in the dress of themselves and of their children, and in other ways endeavor to maintain a style of living beyond their means.

Fourth, Business strain, worry, and apprehension.

During the late financial crisis it was a matter of common observation among physicians that business men, as a class, were out of health and dyspeptic, and that it was an almost hopeless task to benefit one of these dyspeptics by medical means.

Fifth, The present unsettling of religious beliefs.

The unrest of the age has pervaded the domain of conscience, and harassing doubts usurp the place of confident faith. The conflict of the old beliefs with modern Agnosticism is a fruitful source of mental disquietude of the most disturbing kind. Sleepless and tormented nights bring to many a sensitive soul days of physical suffering proportioned to the mental anxiety that has preceded them.

Sixth, The state of the weather.

This subject would furnish material for an extended essay. Multitudes of people are in fair health when the weather is fine, and the barometric pressure high, but with the falling mercury their nervous vigor wanes, and if dull weather is long continued they lose appetite, and become dyspeptic. Many people's digestion is impaired by the heat of summer, and their stomachs do not recover tone till the coming of the cold season. In so variable a climate as ours, with its trying extremes of temperature, the effect of the changes is in calculable upon people of weak vitality.

Seventh, Valetudinarianism.

Under this head comes the very general anxious effort at personal comfort and hygiene, the solicitous watching and study of the different functions of the body, which are best performed unconsciously. Very many of the believers in homeopathy early acquire the pernicious habit of watching their daily and even hourly symptoms, thus cultivating, by what Carpenter calls "expectant attention," a state of general hyper-æsthesia, and often a condition of actual functional disease.

Since the completion of this essay I have noticed that Dr. Oliver Wendell Holmes, in his recent lecture, *Medical Highways and By-Ways*, has touched upon this very point concerning homeopathy in his usual witty and incisive manner.

Our catalogue of widely acting causes is by no means full, but I have not time to extend it. Upon the treatment of this stomach debility I have no original nor peculiar views. As I said at the beginning of this paper, I wish merely to emphasize a class of causes which busy physicians are prone at times to overlook. If what I have said bears the test of common sense, it behooves us to be mindful of these considerations whenever called upon to treat our many cases of mal-nutrition and dyspepsia.

We may be powerless to stay or modify the influences of the present phase of our civilization upon the nerves and stomachs of the Anglo-Saxon race in this country, nevertheless, by being ever aware of these vast and wide-spread influences we shall find means outside the materia medica to benefit many a patient to whom drugs alone can bring but little help.

## RECENT PROGRESS IN MEDICAL CHEMISTRY.

BY WILLIAM B. HILLS, M. D.

## DETECTION OF BLOOD-STAINS.

DRAGENDORFF<sup>1</sup> recommends the following methods of manipulation in the detection of blood-stains.

Particles of dried blood are first removed when possible, and reserved for further examination, and the scraped spot is tested as follows:—

(1.) A small piece of filter paper is moistened with distilled water and pressed on the spot for five to thirty minutes. It is then removed and moistened with oil of turpentine, which has been exposed to the air, and a drop of fresh tincture of guaiacum. The blue color should appear within a few minutes. If no blue color appears, it will hardly be possible to detect blood by any other test. A blue color does not, however, necessarily prove the presence of blood.

(2.) A part of the spot is macerated in a few cubic centimetres of a cold saturated solution of borax at 40° C. The solution, which gradually assumes a red to reddish-brown color if blood is present, is examined spectroscopically for oxyhæmoglobin. It has been stated that red inks from cochineal, a coloring matter from the feathers of the banana-eater and purpurinsulphonic acid may be confounded in this test with oxyhæmoglobin, since they show similar spectra. The first may be distinguished by being decolorized by chlorine water without yielding a precipitate. The second does not give the spectrum of reduced hæmoglobin when treated with a solution of sodium sulphide (one in five). Purpurinsulphonic acid yields a spectrum only when the solution is hot.

(3.) The guaiacum test is repeated with a small quantity of the borax solution, if the spectroscopic best succeeds.

(4.) A portion of the solution is diluted with five to six volumes of distilled water, and a five per cent. solution of zinc acetate is added as long as a precipitate forms. This is filtered, washed, dissolved in one to two cubic centimetres glacial acetic acid, and examined spectroscopically for hæmatine.

(5.) A small quantity of the zinc acetate precipitate is dissolved on a slide in glacial acetic acid, treated with a crystal of sodium chloride, allowed to dry by exposure to the atmosphere, and examined microscopically for hæmine crystals.

(6.) A portion of the dried blood which has been scraped from the spots is tested for hæmine crystals, as under (5), and the guaiacum test is then applied. A portion may be incinerated and the ash tested for iron. Nitrogen may also be tested for; if, however, the spots are upon iron it must be remembered that ferric oxide may absorb ammonia and yield the nitrogen test. Wool, silk, etc., may also be sources of error. It is difficult to detect blood upon rusty iron, since the blood-pigment forms a compound with ferric oxide which is not easily soluble. A solution of borax at 50° C., will remove the hæmoglobin from this compound. This solution may be examined as previously described; or the rust may be removed with acetic acid, and the solution examined spectroscopically for hæmatine.

(7.) It may be of value to determine the size and shape of the corpuscles if the blood is fresh; but in partially decomposed or dried blood the results are unreliable, since the corpuscles are generally much al-

tered. Thin fragments may, however, be examined under the microscope in turpentine or some other liquid which does not act upon the corpuscles. After removing the hæmoglobin the residue may be tested for fibrine with an aqueous solution of iodine.

(8.) Hairs, fish scales, etc., often indicate the origin of the blood, and the blood of some animals when warmed with dilute sulphuric acid often evolves an odor peculiar to the animal from which the blood was derived. This is especially true in the case of fish, pig's, and cat's blood. Epithelium cells and sarcinae frequently denote blood from the stomach, while that from abscesses contains fit, pus corpuscles, and cholestérine. In cases of dcloration epithelium cells and spermatozoa should be searched for.

(9.) It is not possible to determine exactly the age of a blood-stain. The older the stain the more difficult it is to extract the hæmoglobin. An aqueous solution of arsenious acid (one in one hundred and thirty) dissolves a spot one or two days old in about a quarter of an hour; one eight days old in about half an hour; one two to four weeks old in one to two hours; one four to six months old in three to four hours; one a year old in four to eight hours.

A solution of borax may be used to extract blood from soil. This solution may be examined spectroscopically, and 0.5 per cent. of blood may be detected in this way. Blood diluted with water may be precipitated with zinc acetate, when one part of blood in six thousand of water or in one thousand of urine may be detected.

According to Victor Schwarz<sup>2</sup> zinc acetate is to be preferred to tannic acid for the separation of blood from its solutions in well water, soap water, salt water, or normal urine, for the formation of Zeichmann's hæmine crystals. For the solution of dried blood-stains upon linen the ordinarily employed potassium iodide is well adapted. The solution thus obtained is treated with zinc acetate. The spots may also be extracted by digestion for forty-eight hours at the ordinary temperature with a cold saturated solution of borax; to the solution thus obtained zinc acetate is added as long as the precipitate appears colored; by further addition borate of zinc only is precipitated, which hinders or retards the formation of the hæmine crystals from the precipitate. Blood is best extracted from mixtures with sand, earth, and turf, by means of the cold saturated solution of borax; much less thoroughly by means of potassium iodide, since the blood solution obtained with the latter decomposes very quickly, so that after a few hours a blood spectrum, which at first is plainly visible, can no longer be detected. In opposition to an older statement of Wessel, the author has repeatedly succeeded in obtaining hæmine crystals from blood which had become completely decomposed.

According to Struve<sup>3</sup> the detection of blood is most difficult in those spots which have a very pale color, and which are only visible by means of the sharper contour of their edges. In such cases Struve treats a large piece of the fabric containing the suspected spot in a suitable glass with a dilute solution of potassa. When the color of the alkaline liquid ceases to increase, the liquid is poured off and the fabric is washed with water. The solution thus obtained, which is usually turbid, is filtered, and to it a solution of tannin is added, whereby the liquid assumes a

<sup>1</sup> Phar. Jour. Trans., vol. xii., page 586.

<sup>2</sup> Zeitschrift für Analyt. Chemie, 1882 xxi. 311.

<sup>3</sup> Ibid.

deeper reddish-brown color, and it is then made just perceptibly acid with dilute acetic acid. At once, or after some time, a more or less colored precipitate separates. This is collected upon a filter, washed, and two portions of it placed upon two glass slides. After the addition of a crystal of sodium chloride they are allowed to dry, and the blackish residue is then treated in the ordinary way with glacial acetic acid, in the one case with the aid of heat, in the other at the ordinary temperature. After standing quietly for some time, best from twenty to twenty-four hours, the hæmine crystals are sought first in the preparation formed with the aid of heat, afterwards in the one prepared at the ordinary temperature. In the former the crystals are found on the edge of the object glass, in the latter in the middle of the test; the last obtained result is decisive.

Struve calls attention to the fact that blood stains may become so changed by mould that by the micro-chemical examination they will neither yield the hæmine crystals nor permit the detection of the structural elements. The color of such dark stains is not due to the blood coloring matter, but to fibrine; they are soluble in dilute caustic soda, and the solution gives the different reactions for albuminous matters.

Curtmann has shown that when blood-sucking insects are killed stains may result in which human blood corpuscles are plainly recognizable. Bugs digest human blood more rapidly than mosquitoes do; in the former no trace of human blood can be detected after twelve hours, while in mosquitoes it can be easily demonstrated even later than twenty-four hours after ingestion.

Struve<sup>1</sup> has re-examined the method suggested by Malinin and Schmidt for the diagnosis of blood-stains, which consists in heating them with thirty to thirty-five per cent. potash solution and measuring the corpuscles, in order to determine from what source the blood has been drawn. He finds that this method is valueless, because the blood corpuscles, after having been dried and then soaked with potash, do not attain their original size, and no conclusions of value can be drawn from their measurement.

#### EXAMINATION OF SPERMATIC STAINS.

Vogel<sup>2</sup> recommends the following method: The stain is softened with water, and in the moist condition is taken off with a knife, avoiding as much as possible the removal of any of the tissue on which it lies. A few small hairs are unimportant, however, as they are readily dissolved from the scrapings on the object-glass or slide with a drop of concentrated sulphuric acid. After two minutes one or two drops of tincture of iodine are added, the whole stirred carefully with a glass rod, and covered with a large cover-glass, which, if the dark-brown mass be too opaque, may be pressed down a little, unless it be intended to transfer smaller portions to other slides. The spermatozoa are stained distinctly brown, and are visible under the microscope in their whole contour, but it is not possible to keep the staining in longer than twenty-four hours unless the sulphuric acid be washed out, when the preparation is soon spoiled. Alcohol at once decolorizes the spermatozoa, showing the staining to be only superficial.

#### ARSENICAL BISMUTH SUBNITRATE.

The frequent occurrence of arsenic in bismuth subnitrate has been confirmed by Chittenden and Lambert.<sup>3</sup> Out of fourteen samples analyzed only one was found to be quite free from arsenic, whilst the average amount was found to be 0.013 per cent. or thirteen milligrammes arsenious oxide in one hundred grammes of the subnitrate. In one sample one hundred grammes were found to contain seventy-seven milligrammes or 1.2 grains arsenious oxide, which is about half a fatal dose of the poison.

In order to determine whether elimination of arsenic goes on at the same rate as its absorption, experiments were made upon a large, healthy dog, to which arsenical bismuth subnitrate, containing 0.01226 per cent. arsenic, was given in his food in gradually increasing doses. This treatment was continued for thirty-nine days, at the end of which time the dog was killed, and the various organs and tissues were examined for arsenic. The experiment showed that the greater part of the arsenic had not been absorbed, a result probably due to the fact that the arsenic in bismuth subnitrate is present in the form of a compound only very slightly soluble in water. This was directly proved by repeatedly drenching a sample of arsenical bismuth subnitrate with water, and examining the filtered liquid for arsenic by Marsh's test, the result being that not a trace of arsenic was found in the liquid. It may therefore be concluded that although medicinal bismuth subnitrate usually contains a weighable quantity of arsenic, the poison is not present in a form in which it is readily absorbed by the animal organism.

#### LEAD PIPES.

W. Thomson<sup>4</sup> refers to a case of poisoning through drinking water passing by gravitation through a one-inch lead pipe. Being asked to suggest a substitute for the lead pipe, he advised the use of a tin-lined lead pipe. However, the water which had passed through this pipe was found to be contaminated with lead to a considerable extent, and on examining some of the tin lining this was found to contain a large proportion of lead; in fact, all the samples sent to the author from various manufacturers, on analysis, were found to contain lead, and quickly contaminated water left in contact with them. The author was then informed that in preparing the lining the tin is poured down the side of a strip of lead into the hole left in the solidified lead in the cylinder previous to forcing it through the dies by hydraulic pressure. These tin-lined lead pipes are used to a large extent and principally in making communication between the beer in the cask and the pump on the counters of beer retailers. The author has tested many samples of beer passing through such pipes, the result being that the beer contained a considerable proportion of lead.

There is another kind of lead pipe manufactured called tinned lead pipe, the inside of which is covered with a very thin coating of a white metal to afford protection against the action of water on lead. In its preparation the molten tin dissolves the lead, and the coating is a mixture of tin and lead. This coating cannot therefore be regarded as a thoroughly efficient protection against the action of water on lead.

The author has analyzed a large number of aerated

<sup>1</sup> Journal of the Chemical Society, London, March, 1882, page 312, from Chem. Centr., 1881, page 710.

<sup>2</sup> The London Medical Record, 1882, page 205, from Wiener Med. Blätter, 1882.

<sup>3</sup> Journal of the Chemical Society, London, June, 1882, page 573, from American Chemical Journal.

<sup>4</sup> Journal of the Chemical Society, London, June, 1882, page 668, from Chemical News.

waters, which he found to be contaminated with lead from the fact that impure sodium carbonate was used in their manufacture. It was also found that pure water acted more strongly on comparatively pure lead than on lead alloyed with antimony to the extent of three fourths to one per cent.

#### STRYCHNIA.

Messrs. Williams and Waters<sup>1</sup> claim to have discovered an antidote for strychnia in the organic base, first discovered by the former among the products of the destructive distillation of cinchonine with caustic potash, and to which he has assigned the name betulidine. They find that this base causes a distinct increase in the tonicity of both cardiac and voluntary muscular tissue, also a retardation in the rate of the heart's beat, and that it arrests the inhibitory power of the vagus; that by its action upon the nerve cells of the spinal cord it, in the first place, lengthens the time of reflex action, and then arrests that function; finally, that it is successfully antagonistic to strychnia in its action upon the spinal cord.

#### INDICAN.

According to M. Thoms,<sup>2</sup> urine containing balsam of copaiva gives, upon the addition of hydrochloric acid, either alone or with the addition of a drop or two of nitric acid, a reddish-violet color similar to that produced by the same reagents in urine containing indican. In the former case alkalies change the red color to a green.

### Recent Literature.

*A Treatise on the Physiological and Therapeutic Action of the Sulphate of Quinine.* By OTIS FREDERICK MANSON, M. D., Professor of Physiology and Pathology in the Medical College of Virginia. Philadelphia: J. B. Lippincott & Co. 1882. 164 pages.

After a few pages devoted to introduction and the history of quinine the author begins the study of the action of this drug by investigating:—

First. Its action on animals.

Second. Its effects on man in health.

Third. Its effects on the human organism in disease.

Under the first and second of these are given the results of work done by various experimenters some decades ago. The action of sulphate of quinia in disease is spoken of more fully, and many authors are quoted.

As regards the amount which may be given in a day the author cites a number of instances where several hundred grains were given, in most cases without injurious effects; it is hardly necessary to say that the author does not approve of such excessive doses, and what is said of deafness resulting from the use of the drug is of interest.

A large portion of the work is devoted to the therapeutic use of the sulphate of quinia, and the author's large experience makes the book of much interest and value to every practitioner.

<sup>1</sup> The London Medical Record, 1882, page 203, from Proceedings of Royal Society, vol. xxxii., page 162.

<sup>2</sup> Journal de Pharmacie et de Chimie, March, 1882, page 366.

## Medical and Surgical Journal.

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No. 4 PARK STREET, BOSTON, MASS.

### THE REGULATION OF SOURCES OF WATER SUPPLY IN THICKLY POPULATED DISTRICTS

DURING the ten years ending in 1880 the legislature of Massachusetts passed one hundred and fifty-two acts and resolves with regard to water supplies for cities and towns, beside having spent a great deal of time in considering petitions for measures to provide pure drinking water from which there was no legislation. The question of the pollution of streams has acquired such importance as to occupy a large part of the attention of the committee on public health at the State House every year, and yet the difficulty of securing a sufficient quantity of water, uncontaminated by the refuse from human habitations or industries, seems each year farther from solution, so rapid is the concentration of population in the large towns, and so insatiable is their demand for "all the modern conveniences." All sorts of blunders are made every year in the effort to get quickly and cheaply water enough for manufacturing, for protection against fires, for street sprinkling, and for all the ordinary domestic uses. The quantity estimated to be sufficient for each individual for one day goes up rapidly from forty to one hundred gallons, and the natural result is that much of the supply must be of inferior quality or there is not water enough for the enormous waste which is sure to follow the unmeasured use of large public supplies.

As a consequence of the fact that there is no adequate general law governing such vital questions as water supply and sewerage, the legislature wastes an enormous amount of time annually in considering for the various towns, one after another, the same problems with which previous legislatures have wrestled; every municipality or ring is uncertain what measure of legislative wisdom will be meted out to its own plan or scheme, and the streams continue to be polluted, which furnish drinking water to at least one quarter of the population of the State. How far this is an injury to health is a matter of opinion, not susceptible of demonstration from the mortality returns; but that the public is convinced of the danger at least is evident from the great quantity of pure water purchased by those who can afford to do so.

There is only one remedy for the evil, namely, in general legislation covering the whole subject, and in restoring the State Board of Health to its former position, or creating a new board to have supervisory control of the whole matter.

## THE NERVOUS SYMPTOMS OF MYXŒDEMA.

DR. W. B. HADDEN contributes to the July number of *Brain* some pages on the nervous symptoms of myxœdema, which, in view of the comparatively recent recognition of the disease, and the still somewhat unsettled views of observers as to its claims to be classified independently of renal affections, are not without interest. The principal symptoms of the disease are summed up by this writer under the following heads: (1.) Slowness of bodily movements. (2.) Slowness of intellectual operations. (3.) Constantly subnormal temperature. (4.) Diminished excretion of urea. (5.) Solid œdema of skin and connective tissue. (6.) Decreased size of thyroid gland.

The remarkable diminution in the amount of urea excreted by the kidneys is probably owing to the fact that the urea is not formed in the system because the tissues are not subjected to the usual wear and tear of life, heat formation is thus retarded, and there results a diminished body temperature and the subjective sensation of cold.

To account for these symptoms, in regard to which most observers are now agreed, Dr. Hadden offers as a working hypothesis, carrying with it a *prima facie* probability, the theory of a lesion of either the vaso-constrictor or vaso-dilator filaments of the vaso-motor branch of the sympathetic system of nerves from which a condition of angiospasm supervenes, not affecting the blood-vascular system alone, but involving also the lymphatics.

Assuming a state of angiospasm universally existing, we have, Dr. Hadden thinks, a fair explanation of the main symptoms of myxœdema; as a consequence there would result diminished tissue waste and heat, together with bodily and mental sluggishness, and the atrophy of the thyroid gland may be as reasonably referred to vaso-motor spasm in myxœdema as its hypertrophy to vaso-motor paralysis in exophthalmic goitre.

Starting with such a hypothesis, the following conclusions are reached by the writer:—

(1.) That in the early stages myxœdema is essentially a disease of imperfect nutrition, dependent, probably, on generalized angiospasm.

(2.) That the solid œdematous condition of the skin and connective tissue is due to a form of lymphatic obstruction, which may also be ascribed to vaso-motor influence, and that the accumulated products undergo changes which result in the formation of mucin.

(3.) That the condition of the thyroid gland is also to be explained on the vaso-motor hypothesis.

(4.) That the more severe mental symptoms, such as insanity, occurring in the later stages of myxœdema, are due to alterations in the brain itself.

(5.) That although myxœdema is a distinct morbid entity, it is probably intimately allied to certain other disorders, such as sporadic cretinism and scleroderma.

(6.) That the solid œdema, which is universal in myxœdema, may be localized to various parts of the body, such as the tongue and extremities.

(7.) That the primary and essential lesion probably exists in the peripheral sympathetic system, and perhaps, too, in the supreme centre in the medulla oblongata, this last supposition being based on the occasional occurrence of bulbar symptoms.

## THE APPROPRIATIONS FOR THE NATIONAL BOARD OF HEALTH.

THE Senate Committee on Appropriations in reporting the sundry civil bill added considerably to the appropriations for the National Board of Health, but these additions were stricken out upon the return of the bill to the House of Representatives, one of the members expressing himself very depreciatingly in regard to the Board, very enthusiastically of the Marine Hospital Service, and drawing a comparison between the works of the two in warding off epidemics which did but little justice to the Board of Health.

Among other things already given up by the Board, its investigation into the nature of the malarial poison, which was being carried on in Boston, has been stopped.

Apart from the cutting off of funds, the present bill provides that "hereafter the duties and investigations of the Board of Health shall be confined to the diseases of cholera, small-pox, and yellow fever."

The present Board will be seriously crippled; the evil, however, will not be without compensations if we can have a newly-organized board, not composed entirely of physicians, with new powers and resources.

## ARE SCHOOLS OF MEDICAL PRACTICE TO HAVE REPRESENTATIVES IN THE UNITED STATES GOVERNMENT SERVICE?

MR. CAMERON, of Pennsylvania, introduced in the National Senate a joint resolution entitled "relative to Schools of Medical Practice in the United States and the Graduates thereof," which we append. It was referred to the Committee on Civil Service and Retrenchment.

The object of the resolution is said to be to further an effort which is making to secure a representation in the government service of various medical dogmas, and especially of homœopathy. The rigid character of the examinations seems to be the greatest impediment at present to the success of "pathies:"—

*Resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That it shall be a misdemeanor, punishable by a fine of five hundred dollars and dismissal from office, for any officer of the United States Government, civil, military, or naval, to make discrimination in favor of or against any school of medical practice, or its legal diplomas, or its duly and legally graduated members, in the examination and appointment of candidates to medical service in any of the departments of the government.*

SECT. 2. That all such examinations shall be open to the attendance and witness of all physicians, citizens of the United States, and that duly-certified copies of the complete records of all the details of said examinations shall be placed on file in the office of the Librarian of Congress, subject to the inspection and use of members of Congress.

## MEDICAL NOTES.

—The *Lancet* tells the old story of a practitioner of Galashiels who failed to protect himself during a surgical operation on a female by the presence of a third party, and was obliged in consequence to stand a trial for rape, which fortunately was followed by acquittal.

—Dr. John Chiene has been appointed Professor of Surgery in the University of Edinburgh, succeeding the late Professor Spence. Dr. Chiene is widely known as a surgeon and as a devoted adherent to the antiseptic doctrines.

—The *Medical Times and Gazette* contains the following interesting quotation on the importation of American pork into France. This subject of discussion, which has now continued for nearly two years, has not yet been closed. The Chambers, upon the recommendation of the sanitary authorities (for, in truth, partly in consequence of the culinary habits of the country, trichinosis has never appeared in France) as to precautions taken at the frontiers to ascertain that the American certificates of "fully cured" were realities, had voted the reversal of the prohibition. The protectionists in the Senate, however, setting themselves up as the guardians of public health, have refused by a slight majority, to pass the law. The pork is nevertheless bought in an underhand way, and is consumed in Paris without any ill effect. — *Gaz. Hebdomadaire*, July 7.

## MEDICO-LEGAL NOTE.

IN a recent suit for malpractice brought against Dr. David Clark, of Springfield, Massachusetts, the defendant was substantially supported in his method of treatment by six or seven of the local profession on the witness stand, all of whom except one also indorsed the results obtained, and he himself testified to the intoxication of the patient, who threw off the bandages at a critical stage of the treatment. Notwithstanding the testimony the jury was divided, and stood seven for the defendant to five against, then eight to four, and finally seven to five. The five jurors are reported to have considered rather the question of the merits of doctors in general than the evidence introduced in the trial.

## Miscellany.

## LETTER FROM WASHINGTON.

WASHINGTON, D. C., August.

MR. EDITOR, — After an absence of some weeks from this city with a patient in quest of health among our lakes and Her Majesty's maritime provinces, your correspondent returns to find that much has occurred worthy of note among his medical brethren, and, accordingly, with the influence of the briuy still upon him, feels disposed to spin a long yarn, upon which you, in your judgment as an editor, may use the scissors before its close.

First, let me say, that however lovely we found the lakes, however charming were the places along their

banks for fishing, boating, and camping out to the wearied city resident with a good use still of his muscles, to the listless, apathetic invalid there was something wanting, — it was the vigor which salt air brings to so many. To be on those vast bodies of water without the salt air, and without the look of the sea, — for say what you please, the lakes do not look like the sea, — was disappointing. Accordingly, the contrast on reaching the Gulf of St. Lawrence was very striking, and it is surprising that comparatively so few of our invalids know, for instance, of the charms of the Gaspé region, with its bold scenery, its abundance of fish, and its readiness of access. To be sure, the luxuries of life are few, but the necessities of life, and many of its luxuries, can be readily taken there by proper management. We found Prince Edward's Island and Halifax well known and appreciated by those in search of summer resorts; of Prince Edward's Island we did not see the great advantage, while Halifax must be a delightful place in which to pass the summer. We found the medical men there on the alert for all that is new in medicine and surgery; the ovariectomy wave has reached them, and three successful cases so far are among their surgical triumphs. We found three Bellevue Hospital men, two of whom were old chums whom we were very glad to meet. Why is it that our hospitals, particularly those of an age covering the years that do Bellevue and some others, do not attempt to keep up and perpetuate these staff memories. We have college class days for our literary colleges, and there are alumni and class associations for our medical colleges, but our classes are so large in these times that while we take an interest in a man who was in our class, we know but little of many of the Toms, Dicks, and Harrys, who may have been of our date. In hospital service it is far different. We receive the memories of the giants (whales, Dr. C. R. Gilman would say if he were alive) that preceded us with reverence, learn to respect each other's capabilities, and in turn leave something behind us for our successors to respect. We form friendships in a hospital term of eighteen months, or two years as it was in my time, that deserve to be kept alive, and if any Bellevue man reads this sympathetically, your correspondent is ready to act with him in any way that may bring about so desirable an end.

The colleges here have already issued their circulars for next winter's campaign. In the National Medical College, owing to the absence in Europe of Dr. J. Ford Thompson, Dr. John B. Hamilton, Surgeon-General of the Marine Hospital Service, will, as lecturer, fill the chair of surgery; and in the Georgetown Medical College, Dr. Antisell having resigned, Dr. Ellzey fills his place as professor of chemistry. These colleges are both of them very much crippled in their usefulness by the want of proper clinical advantages, Providence Hospital, the only general hospital here which was ever available for the purpose by the faculties of the two colleges, having virtually closed its doors by the action of the Sisters of Charity in charge in removing, or causing the removal of, the old staff and the appointment of a new one whose interests were not identified with those of the colleges. It is true some of the new staff have offered to give clinical instruction, but it is hard for men not identified with college interests to establish systematic instruction of that character. Its doors, however, have been opened a little by the appointment on the attending staff of Dr. Joseph Taber Johnson, Professor of Obstetrics,

Georgetown Medical College. Dr. Johnson at the time expressed himself as in sympathy with the staff which was so summarily ousted, but of course must have good and sufficient reasons for taking a place made vacant by such action.

The Garfield Memorial Hospital, which, if successful, would supply in great part this want of clinical material, is not having everything its own way. After the refusal of Congress to grant an act of incorporation, the ladies were induced to work for it. The rounds of the Capitol was by them turned into a great bazaar, and they succeeded in raising money. Then it was found that there was a homœopathic element that wanted a say in the management of the hospital; this spirit was laid by good management, and a circular was issued, signed by some eighty-five names of resident practitioners, calling for aid in establishing the hospital. It was necessary to go to Congress again, which, after the reception previously met with, was not an agreeable anticipation; but this time it was for the purpose of obtaining authority to enable the trustees of the Soldiers' and Sailors' Orphan Asylum to turn over their interest in that property to the hospital in question. After considerable discussion this was granted by the House of Representatives, and by a large vote, 69 to 22; it will now have to go before the Senate, and it is feared it will not be reached by that body during the present session. The discussion in the House on granting this authority brought out some facts of interest to the friends of the hospital. Decided opposition having been met with in the course of the attempts to legislate the hospital into existence, it was felt that there were certain parties working strenuously against its passage, and inferences were made as to who they might be. Mr. Blount, of Ohio, in arguing that there was no necessity for such a hospital, had a statement read to support his views, signed by some twenty-six practitioners, thus giving explicitly the objections and names of the objectors. It simply contradicts the circular, but its contradiction does not seem to weaken the facts; it is merely assuming a different line of argument from the same premises. The circular avers "that there is no hospital in this District into which a deserving poor white man or woman, unless she is afflicted with some disease peculiar to her sex, can find accommodations except upon payment of a weekly board, or submit to conditions which should not be imposed upon that class." The denial recommends the following general hospitals, of course the only ones which could be considered under this clause: "The Almshouse Hospital accommodates a class that drifts into such institutions." The deserving poor certainly cannot come under that head. "The Freedman's Hospital is 'mainly a hospital for the sick of the African race,' but is open to white patients, and is satisfactorily fulfilling its mission," but while its mission is to obtain the best medical care and most comfortable accommodations for the sick of the African race, it is certainly *not* its mission to outrage the prejudices of a large class of our resident white population, and compel them to use the hospital from the necessities of poverty. Lastly, and evidently of the most importance, as it has a separate paragraph to itself, to repeat what went before, in Providence Hospital, under the charge of the Sisters of Charity, we are told "resident paupers are admitted at the request of the sanitary officer of the metropolitan police, a request that is never refused." That is to say, a medical man having a pa-

tient requiring hospital care that is too poor to pay for it may hunt up a sanitary police officer, and, obtaining his request, may send his patient to the Providence Hospital, trusting to the will of the Sister in charge, and to the statement of these medical gentlemen that admittance has never been refused. Certainly, the circular does not exaggerate when it says these are "conditions which should not be imposed upon that class." There is no law here, no right to demand admission; it is pure charity, exercised at will by representatives of a religious denomination which many of the recipients of that charity are not in sympathy with. As to the will of the Sister in charge, there is no doubt but what she has it and exercises it; and some of the gentlemen who felt its force on being removed by her from the attending staff recognize it accordingly as a one-will power. The signatures to this statement seem in the main to be made up of the present staff of the Providence Hospital and their friends. Two of these names are of men who were supposed to be directly interested in the Garfield Memorial Hospital, one of them having been on an important committee and attending several important committee meetings.

There is one paragraph, however, in this circular of the Garfield Memorial Hospital which mars its force and usefulness. Your correspondent's signature is attached to the circular, but if he had read this paragraph carefully and appreciated its application it is more than doubtful as to whether his signature would have been there to the paragraph as it now stands. It is simply a statement that this great want of proper hospital accommodation exists, notwithstanding the annual expenditure of seventy thousand dollars in support of hospitals. "A large part of this sum is disbursed in payment of large salaries (Freedmen's and Columbia Hospitals) to the medical officers." It may be true that a large part of this sum is disbursed in payment of salaries, but they are not large salaries, and there is no one of these medical officers but deserves all he gets, and it ought to be a matter of congratulation that he does get it. It is not too often that medical men get more than their pecuniary dues, and especially at this time the inference of that paragraph does not come with a very good grace. Let our politicians and members of Congress, — many of them lawyers who secure to themselves fat retaining fees before undertaking *their* cases, — let them discuss this matter to their heart's content, the quiet dignity of the profession and the medical press in laying aside all other issues and refraining from comment upon the discussion which questions the propriety of any sum, however large, being allowed to Garfield's physicians shows how well we can control ourselves. Why would it not be a good plan to institute a retaining fee in cases of importance other than those of obstetrics, where it has already been inaugurated. Are there not many instances where a patient recognizes the right of his physician to receive a suitable fee, and where at his death, for want of legal proof, the executor cuts down his bill to a mere stipend. The discussion in Congress over the payment of the fees of Garfield's physicians is simply disgraceful, and it will do no good to review it, except, perhaps, to the future physicians who are to attend some of these gentlemen that they may adopt the European plan, and take their fees at each visit.

This naturally leads to the consideration of the Guiteau autopsy. What a curious ending to this remark-



able case, take it all in all; the treatment of Garfield, the autopsy, the treatment of his physicians, the trial of Guiteau, and his autopsy, each and all make us think, would that it were behind us and forgotten as much as possible. There are some points about the Guiteau case upon which your correspondent desires more light, being absent at the time. We know all about the minority and majority reports. We know from the statements made in print, and almost everybody concerned seemed to have rushed into print, that the brain was thoroughly drained of its blood before it was examined, and we know that the Rev. Dr. Hicks knows how to write vigorous and forcible English, and that his threat to himself act as assistant might not, from his own showing, have been a bad idea after all. But now that the excitement is all over, might not those doctors concerned in the making of the autopsy go further than to give us the bare facts in the case; let them tell us wherein the brain differed from, and bore resemblance to, both in general contour and microscopical appearance, other brains of cases of insanity examined by them; and what was Dr. Loring looking for in the eyes of a man dead from strangulation or pressure upon the medulla. Was it choked disk or papillitis that he saw when Guiteau was living, or that he was looking for, and what additional proofs one way or the other did he expect to find under the circumstances. We take it that there are others as ignorant, to whom answers to these questions would be valuable and interesting.

So the American Medical Association refused to admit the New York doctors. Well, it has stirred up the homeopaths, for one thing, to an increased sense of their importance, at least judging from a bill recently introduced into Congress, in the Senate July 14th by Mr. Cameron, and in the House July 17th by Mr. O'Neill. It is in the form of a joint resolution relative to schools of medical practice in the United States and the graduates thereof, and resolves "That it shall be a misdemeanor, punishable by a fine of five hundred dollars and dismissal from office, for any officer of the United States government, civil, military, or naval, to make discrimination in favor of or against any school of medical practice, or its legal diplomas, or its duly and legally graduated members, in the examination and appointment of candidates to medical service in any of the departments of the government.

"Sect. 2. That all such examinations shall be open to the attendance and witness of all physicians, citizens of the United States, and that duly certified copies of the complete records of all the details of said examinations shall be placed on file in the office of the Librarian of Congress, subject to the inspection and use of members of Congress."

What in the world does all this mean? is the first thought, but the answer is not far to seek. The *Hahnemannian Monthly*, of Philadelphia, for July, tells the whole story in its editorial. It seems that Dr. John C. Morgan, as chairman of the Committee on Legislation of the American Institute of Homeopathy, addressed a letter to the War and Navy Departments, —through Mr. O'Neill, —of which the following is an abstract: "Will you kindly inform me, *first*, if the Honorable Secretary of the Navy authorizes a discrimination between the diplomas of homeopathic medical colleges, in good legal standing, and those of the allopathic, or so-called 'regular' school, in the admission of candidates to examination for the medical corps

of the Navy. *Second*, if a graduate of a 'regular' medical college, who shall avow himself an adherent of homeopathy, will be admitted to examination and appointment on proving himself to be possessed of the requisite amount of knowledge."

The answers came, and will be given further on. The editor leaves to itself the carefully-worded and diplomatic reply from the Navy Department, but he takes the bold and squarely put answers from the War Department, and expends his force upon the latter, concluding that "we shall not be greatly surprised, ere long, to 'hear it thunder all around the sky.'"

We give an abstract from the answer of the Navy Department, which is signed by W. E. Chandler, Secretary of the Navy:—

"I beg leave to say that the matter was referred to the Chief of the Bureau of Medicine and Surgery, who reports that no discrimination is made in favor of or against any school. The only requirements of the department are that a candidate, in addition to his moral and physical qualifications, shall possess the necessary professional and literary knowledge to enable him to pass the established examination."

In the following is also the substance of the letters from the War Department, signed J. K. Barnes, Surgeon General United States Army:—

"April 24th. The term 'regular' as applied to a medical school, has no relation to its legal standing, but indicates that its teachings are not confined to the particular doctrines of any sect. It does not, for instance, apply to a school which professes to teach homeopathy or botanic medicine only.

"The knowledge which a medical officer of the army should possess to enable him to properly discharge the important and responsible duties which devolve upon him, and to make use of the means of treatment which are provided by the department, can only be obtained at a regular medical school, and it is not considered worth while to waste the time of the Army Medical Examining Boards or to induce young men to incur useless expense by extending invitations to appear before such boards to those who cannot furnish evidence that they have at least had an opportunity to obtain the knowledge required."

Again:—

"May 10th. I have the honor . . . to state that it is not considered desirable to introduce in the army the practice of homeopathy, hydropathy, botanicism, physico-medicalism, or any other sectarian and exclusive system of medicine.

"The fact that a candidate has a knowledge of the dogmas of any or all of these systems would be no bar to his admission to the Medical Corps of the Army, but the fact that he *avowed* his adhesion to some one of these would indicate that he is not suited to the position of medical officer, nor in my opinion would he be acceptable to a large majority of those for whom medical attendance is provided by the government."

The editor (*Hahnemannian*) thinks this "is sufficiently definite and emphatic." So do we.

Writing of the Surgeon General's Office, United States Army, reminds us that considerable discussion has taken place in Congress regarding the Pension Records. It seems that they require to be removed to a safer place than where they are at present, and to a place more commodious for the force of clerks necessary to be employed upon them. It is proposed to put them all directly under the charge of the Adjutant General

of the United States Army. As this would reduce the Surgeon General's Office to very small proportions, and undoubtedly cripple the resources of that office for continuing much of its valuable and important work, it becomes a serious question, which is not yet decided, but it is presumed that the very worst that could happen would be to consolidate the two sets of records in one building and in one general office, and to detail a medical officer of the army to supervise the management of the hospital files, etc., of the pension records. In such an event the work would practically still be under the control of the Surgeon General's Office.

The National Board of Health is faring badly this session, and the fact comes home to us forcibly when we find the publication of its valuable *Bulletin* suspended for want of funds, and now we find that hereafter its duties and investigations are to be confined to yellow fever and cholera. The appropriation for publishing the *Bulletin*, which at its lowest estimate should be \$9,500, has been put at \$5,000,—fortunately the appropriation for the clerical force has finally been adopted by the Senate at very nearly the amount required, but still sufficiently below the proper figure to materially interfere with the workings of the Board. The discussion in the House showed plainly that local commercial interests which resisted the rigid quarantine necessary to prevent the spread of disease, and which would naturally be exercised by an independent power, that these interests were too great in their influence for the friends of the Board in Congress. The news comes to us through the daily press of the last day or two, that small-pox is prevailing in Baltimore to an alarming extent, and that it is feared it cannot be kept within bounds. An unfortunate coincidence, occurring as it does with such action as this.

We still believe the Potomac flats have been legislated out of existence by the appropriation for their reclamation; the veto of the President, with his practical and sensible message, was like hope deferred which maketh the heart sick. The discussion on the subject in Congress was on the commercial value of the undertaking—no commerce, no advantage; the unhealthiness of the city from such a cause was denied, and indeed the arguments brought forth were very convincing. Mr. Blount, for instance, showed by statistics that Washington was one of the healthiest cities in this country, and considered the statement a fraud that Garfield's health was affected from such causes by his remaining here after receiving his wound. The fact that a new President's house is about to be built, just behind the location of the present one, and of course more than ever subject to the influence of these flats, with the approval of the President and Congress, speaks quite as strongly against the dread of malaria, as the debate in Congress itself.

Do away with the bugbear of malaria and our neighbors have only our dreadful heat to complain of. The heat of the past two weeks has been far more bearable here during the day time than anywhere on the coast line from Portland to Boston. Believe one who has tried it.

Congress has appropriated one thousand dollars for publishing a history of, and all necessary information concerning, the Society of the Red Cross, the United States having recently joined the Geneva Convention, and a national Society having been established here with Miss Barton as the President.

W. L.

## INFECTION BY RAGS.

MANY years ago the writer attended a public institution to which were brought a number of cases of small-pox. The patients were put into a loft high above other inmates and segregated as much as possible.

One evening an errand boy was allowed to wait in the basement of the institution while a message was prepared for him. He returned at once to his home, miles away. About a fortnight after this a woman at the boy's house fell ill of small-pox, which proved fatal.

It was immediately proclaimed that the boy had carried the disease from the institution to the woman. Popular excitement soon became fearful. The officers of the institution were belabored without stint, and threatened. The selectmen of the town were called upon to institute proceedings. It was a long time before the neighborhood was fully quieted, and there are now, or were quite recently, persons there who passionately refer to the case as one of homicidal negligence.

Twenty or more years afterward the truth of the matter came out, by the merest accident; and it appeared that, on the night the boy visited the institution, a man, already broken out with varioloid, and who was subsequently admitted into the institution for that disease, came to the woman's apartments, occupied her bed, and she slept with him!

Here is a good illustration of the cases of disease alleged to have been transmitted by rags, old garments, and the like. The whole truth is rarely ever brought to light in such cases. There is apt to be a man in them.

There seems no end to infallible instances—almost every one has his sure case—supported by evidence as good as and no better than originally in that related above, and set forth with an assurance that admits of no appeal. But truth is often evasive, sometimes past finding out; circumstances are frequently nebulous, occasionally misleading; motives for concealment of facts now and then there may be stronger than the fear of future punishment; adequate investigation at times proves difficult, rarely unprejudiced; while an unwarranted conclusion, if sensational, satisfies the crowd, and possibly the expert, better than a confession of ignorance.

There is hope, however, in the future. Recent authorities become less positive. One of the latest<sup>1</sup> admits that cases of such infection are "not very frequent;" and seems to have less confidence in laws to enforce "disinfection" or to punish transfers of infected articles. The difficulty in finding a culprit who knows of a real disinfectant, or who can tell whether a given sample of goods is infected or not, is more readily acknowledged than formerly.

We disbelieve in the boy!

M.

## TREATMENT OF IRREGULAR HEART IN PULMONARY CONSUMPTION.

IN a number of cases of incipient lung disease, I have been struck with tendency to attacks of palpitation and irregular overaction of the heart; and I have more than once traced a congestion of the lungs to this cause. I believe that it occurs more frequently in

<sup>1</sup> Boston Medical and Surgical Journal, July 27, 1882.

young men than in women, and appears sometimes to be connected with the use of tobacco. In some cases I have noticed an idiosyncrasy with regard to tobacco. Where there is some hypertrophy, the use of the bromide of potassium (especially in combination with a narcotic, such as chloral or morphia, in order to induce sleep) is serviceable. When the heart is weak and the circulation languid, a cardiac tonic like digitalis, quinia, boldo, or viscum album will prove necessary; but veratrum viride will be required if hypertrophy be marked. It is in the condition of failing circulation that a small amount of alcohol in a hot drink is often of great service. I am strongly of the opinion that stimulants, so-called, are out of place in a chronic degenerative disorder like this under consideration, and I believe that cases of consumption reported by Flint and others as cured by large quantities of alcoholic liquors really recovered in spite of the heroic doses prescribed rather than on account of them; for we do not forget the fact that in all these cases alcohol is never the sole treatment, but the greatest attention is paid to general hygiene. Alcohol is really contra-indicated in phthisis pulmonalis, as far as the state of the respiratory apparatus is concerned; but small amounts given guardedly, I believe, may yield more than a temporary benefit from their action upon the stomach and the heart.

Probably the best (because most lasting) stimulant for these cases is the fluid extract of coca (one half to one drachm), which promptly exerts a marked effect. A bowl of meat-broth, of *boillon*, or of hot coffee (containing an egg beaten up with cream), or even a cup of tea, is often much more serviceable to the patient than hot whiskey. When a patient feels chilly, exercise in the open air, on horseback, or walking, will often quickly restore him to warmth when a hot fire and extra clothing fail to make him comfortable. Food and exercise in the fresh air are physiological stimulants to the heart and circulation that deserve the highest appreciation, and this fact is well recognized in the various resorts for the out-of-door treatment of phthisis. Where the heart is weak and irregular, the use of digitalis in combination with quinia and a small amount of opium, in the form so highly praised by Niemeyer (quinia, two grains; pulverized digitalis, one third of a grain; pulverized opii, one quarter of a grain), given three or four times daily, has stood the test of experience; but in all such cases it is important to bear in mind that uninterrupted rest of seven or eight hours at night is a better general tonic than any remedy in the Pharmacopœia. — DR. FRANK WOODBURY on the Rational Treatment of Pulmonary Consumption — in the *Philadelphia Medical Times*.

## REPORTED MORTALITY FOR THE WEEK ENDING JULY 29, 1882.

| Cities.                         | Population by Census of 1880. | Reported Deaths in each. | Deaths under Five Years. | Percentage of Deaths from         |                |                     |                       |                |
|---------------------------------|-------------------------------|--------------------------|--------------------------|-----------------------------------|----------------|---------------------|-----------------------|----------------|
|                                 |                               |                          |                          | The Principal "Zymotic" Diseases. | Lung Diseases. | Diarrheal Diseases. | Diphtheria and Croup. | Typhoid Fever. |
| New York.....                   | 1,206,599                     | 1217                     | 769                      | 53.16                             | 4.46           | 43.88               | 2.63                  | .49            |
| Philadelphia.....               | 846,984                       | 314                      | 540                      | 12.40                             | —              | —                   | 5.72                  | 2.54           |
| Brooklyn.....                   | 566,689                       | 603                      | 402                      | —                                 | —              | —                   | —                     | —              |
| Chicago.....                    | 503,304                       | 371                      | 275                      | 49.05                             | 3.50           | 34.49               | 1.35                  | 1.62           |
| Boston.....                     | 362,535                       | 265                      | 165                      | 51.14                             | 3.76           | 45.12               | 1.40                  | 1.40           |
| St. Louis.....                  | 350,522                       | —                        | —                        | —                                 | —              | —                   | —                     | —              |
| Baltimore.....                  | 332,190                       | 192                      | 103                      | 44.72                             | 2.08           | 28.08               | 5.20                  | 3.12           |
| Cincinnati.....                 | 255,708                       | 151                      | 67                       | 41.71                             | 6.62           | 14.56               | 1.99                  | 4.63           |
| New Orleans.....                | 216,140                       | 111                      | 33                       | —                                 | —              | —                   | —                     | —              |
| District of Columbia.....       | 177,638                       | 91                       | 6                        | 41.72                             | 3.29           | 24.95               | —                     | 2.20           |
| Pittsburgh.....                 | 156,381                       | 128                      | 80                       | 47.18                             | 3.90           | 30.42               | 3.12                  | 2.54           |
| Buffalo.....                    | 155,137                       | 101                      | 64                       | 44.55                             | 1.98           | 30.69               | .99                   | —              |
| Milwaukee.....                  | 115,578                       | 65                       | 41                       | 21.41                             | 10.70          | 15.38               | 1.54                  | 1.54           |
| Providence.....                 | 104,857                       | 58                       | 37                       | 48.27                             | 5.17           | 44.82               | 3.45                  | —              |
| New Haven.....                  | 62,882                        | 37                       | 23                       | 8.11                              | 5.40           | —                   | 2.70                  | —              |
| Charleston.....                 | 49,999                        | 23                       | 7                        | 26.08                             | —              | 4.35                | —                     | 8.69           |
| Nashville.....                  | 43,461                        | 29                       | 8                        | 38.93                             | 3.45           | 34.48               | —                     | 3.45           |
| Lowell.....                     | 59,485                        | 50                       | 34                       | 50.00                             | 4.00           | 44.00               | 6.00                  | 2.00           |
| Worcester.....                  | 58,295                        | 63                       | 48                       | 65.98                             | 6.28           | 40.85               | 1.57                  | 1.57           |
| Cambridge.....                  | 52,740                        | 22                       | 12                       | 59.09                             | —              | 45.45               | —                     | 4.55           |
| Fall River.....                 | 49,006                        | 36                       | 15                       | 88.86                             | —              | 86.09               | —                     | —              |
| Lawrence.....                   | 39,178                        | 30                       | 23                       | 66.66                             | —              | 26.64               | —                     | —              |
| Lynn.....                       | 38,284                        | 11                       | 4                        | 36.36                             | 9.19           | 36.36               | —                     | —              |
| Springfield.....                | 33,340                        | 20                       | 9                        | 50.00                             | —              | 45.00               | —                     | —              |
| Salem.....                      | 27,598                        | 29                       | 12                       | 13.79                             | —              | 6.89                | —                     | 3.44           |
| New Bedford.....                | 26,875                        | 9                        | 0                        | 44.44                             | —              | 33.33               | —                     | —              |
| Somerville.....                 | 24,985                        | 19                       | 13                       | 63.12                             | 5.26           | 63.12               | —                     | —              |
| Holyoke.....                    | 21,851                        | 19                       | 0                        | 73.64                             | —              | 47.37               | 5.26                  | 5.26           |
| Chelsea.....                    | 21,785                        | 13                       | 7                        | 7.69                              | —              | 7.69                | —                     | —              |
| Taunton.....                    | 21,213                        | 7                        | 2                        | —                                 | —              | —                   | —                     | —              |
| Gloucester.....                 | 19,529                        | 7                        | 3                        | —                                 | —              | —                   | —                     | —              |
| Haverhill.....                  | 18,475                        | 7                        | 2                        | 33.33                             | —              | 16.66               | —                     | 16.66          |
| Newton.....                     | 16,995                        | 5                        | 3                        | 40.00                             | —              | 40.00               | —                     | —              |
| Brockton.....                   | 13,608                        | —                        | —                        | —                                 | —              | —                   | —                     | —              |
| Newburyport.....                | 13,537                        | 3                        | 0                        | 33.33                             | —              | —                   | —                     | —              |
| Fitchburg.....                  | 12,405                        | 2                        | 0                        | —                                 | —              | —                   | —                     | —              |
| Malden.....                     | 12,017                        | 6                        | 4                        | 33.33                             | —              | 33.33               | —                     | —              |
| Twenty Massachusetts towns..... | 155,560                       | 46                       | 20                       | 28.21                             | —              | 15.19               | 2.17                  | 2.17           |

Deaths reported 4285 (no report from St. Louis): 2637 under five years of age; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and fevers) 1884, consumption 362, lung diseases 143, diarrheal diseases 1484, diphtheria and croup 98, scarlet fever 57, typhoid fever 55, whooping-cough 51, small-pox 37, measles 29, cerebro-spinal meningitis 26, malarial fever 24, puerperal fever 18, erysipelas six. From *scarlet fever*, New York 16, Brooklyn 14, Philadelphia and Cincinnati seven each, Buffalo five, Baltimore two, District of Columbia, Pittsburgh, Milwaukee, New Haven, Charleston, and Cambridge one each. From *whooping-cough*, New York 19, Pittsburgh six, Brooklyn 10, Chicago and Boston four each, Buffalo two, Philadelphia, Baltimore, Cincinnati, District of Columbia, Cambridge, and Fall River one each. From *small-pox*, Cincinnati 21, Baltimore eight, New York three, Philadelphia and Chicago two each, Pittsburgh one. From *measles*, New York 11, Pittsburgh six, Chicago three, Boston, Baltimore, Buffalo, and Worcester two each, Lawrence one. From *cerebro-spinal meningitis*, New York five, Philadelphia, Chicago, Buffalo, Holyoke, and Peabody two each, Baltimore, District of Columbia, Pittsburgh, Milwaukee, Charleston, Worcester, Lawrence, Springfield, Salem, New Bedford, and Waltham one each. From *malarial fever*, New York 12, District of Columbia seven, Baltimore two, Cincinnati, New Haven, and Charleston one each. From *puerperal fever*, New York nine, Boston, Buffalo, and Milwaukee two each, Cincinnati one. From *erysipelas*, Chicago two, Philadelphia, District of Columbia, Worcester, and Holyoke one each.

Sixty-one cases of small-pox were reported in Cincinnati, Baltimore 25, Buffalo two, Pittsburgh and Nashville each one; diphtheria 12, scarlet fever six, typhoid fever seven, in Boston; scarlet fever three, and diphtheria one in Milwaukee.

In 39 cities and towns of Massachusetts, with a population of 1,632,148 (population of the State 1,783,086), the total death-rate

for the week was 32.02, against 21 and 19.87 for the previous two weeks.

For the week ending July 8th, in 173 German cities and towns, with an estimated population of 8,521,145, the death-rate was 27. Deaths reported 4419: under five 2461; consumption 517, lung diseases 396, diarrheal diseases 333, diphtheria and croup 159, scarlet fever 93, measles and röteln 50, typhoid fever 38, puerperal fever 12, small-pox (Beuthen, four, Koblenz two, Königsberg, Königshtute, and Munich one each) nine, typhus fever (Danzig, Breslau, Posen, and Beuthen one each) four. The death-rates ranged from 16 in Karlsruhe to 37.3 in Breslau; Königsberg 29.1; Breslau 37.3; Munich 26.9; Dresden 24.3; Berlin 35; Leipzig 26; Hamburg 25.6; Cologne 27.3; Frankfurt a. M. 18.3; Strassburg 22.9.

In the 28 English towns, with an estimated population of 8,469,571, for the week ending July 15th, the death-rate was 19.2. Deaths reported 3121: acute diseases of the respiratory organs (London) 199, diarrhoea 218, whooping-cough 112, measles 83, scarlet fever 57, fever 44, diphtheria 12, small-pox (London four) 10. The death-rates ranged from 14.1 in Norwich to 26 in Leicester; Sheffield 15.6; Bristol 17.1; London 18.1; Birkenhead 19.1; Leeds 21; Sunderland 22.3; Manchester 23; Liverpool 25.1. In Edinburgh 15.7; Glasgow 22.5; Dublin 16.8.

For the week ending July 15th, in the Swiss towns, population 494,390, there were 31 deaths from consumption, diarrheal diseases 26, acute diseases of the respiratory organs 13, diphtheria and croup five, scarlet fever three, typhoid fever two, measles one. The death-rates were, at Geneva 12.3; Zurich 10.1; Basle 19.6; Berne 31.

The meteorological record for the week ending July 29th, in Boston, was as follows, according to observations furnished by Sergt. O. B. Cole, of the U. S. Signal Corps:—

| Date.            | Barometer. | Thermometer. |          |          | Relative Humidity. |            |             |       | Direction of Wind. |            |             | Velocity of Wind. |            |             | State of Weather. <sup>1</sup> |            |             | Rainfall.             |                   |
|------------------|------------|--------------|----------|----------|--------------------|------------|-------------|-------|--------------------|------------|-------------|-------------------|------------|-------------|--------------------------------|------------|-------------|-----------------------|-------------------|
| July, 1882.      | Mean.      | Mean.        | Maximum. | Minimum. | 7.23 A. M.         | 3.23 P. M. | 11.23 P. M. | Mean. | 7.23 A. M.         | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.        | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.                     | 3.23 P. M. | 11.23 P. M. | Duration, Hrs. & Min. | Amount in inches. |
| Sun., 23         | 30.031     | 74           | 88       | 62       | 63                 | 34         | 63          | 53    | W                  | W          | W           | 6                 | 4          | 5           | C                              | F          | C           | —                     | —                 |
| Mon., 24         | 29.974     | 79           | 95       | 67       | 61                 | 27         | 58          | 49    | W                  | W          | W           | 11                | 8          | 6           | C                              | F          | C           | —                     | —                 |
| Tues., 25        | 30.037     | 81           | 96       | 69       | 64                 | 28         | 56          | 49    | W                  | W          | W           | 5                 | 12         | 10          | C                              | F          | C           | —                     | —                 |
| Wed., 26         | 29.996     | 82           | 95       | 71       | 60                 | 24         | 56          | 47    | W                  | W          | W           | 6                 | 12         | 6           | C                              | F          | C           | —                     | —                 |
| Thurs., 27       | 29.943     | 79           | 98       | 68       | 58                 | 26         | 84          | 56    | W                  | NW         | W           | 4                 | 2          | 9           | C                              | F          | O           | —                     | —                 |
| Fri., 28         | 29.884     | 70           | 82       | 65       | 100                | 84         | 84          | 89    | SE                 | E          | W           | 4                 | 4          | 8           | C                              | F          | O           | —                     | —                 |
| Sat., 29         | 29.911     | 78           | 92       | 69       | 79                 | 35         | 63          | 59    | W                  | W          | NW          | 6                 | 8          | 10          | F                              | F          | C           | —                     | —                 |
| Means, the week. | 29.968     | 78           | 98       | 62       |                    |            |             | 58    |                    |            |             |                   |            |             |                                |            |             | 2.50                  | .61               |

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; X., clearing.

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM JULY 29, 1882, TO AUGUST 4, 1882.

MENX, C. E., captain and assistant surgeon. Granted leave of absence for one month, with permission to apply for two months' extension, when relieved by Acting Assistant Surgeon T. H. Pleasants. S. O. 147, Department of the Missouri, July 28, 1882.

HOPKINS, W. E., first lieutenant and assistant surgeon. To proceed from Fort Adams, R. I., to Camp Washington, Gaithersburg, Md., and report to the commanding officer for duty. S. O. 132, Department of the East, July 31, 1882.

BOOKS AND PAMPHLETS RECEIVED. — Der Uranismus. Lösung eines Mehrtausendjährigen Räthfels von W. Bernhardt. Berlin: 1882. Verlag der Volksbuchhandlung. (Bernhardt.)

A Rational Materialistic Definition of Insanity and Inebriety, with the Medical Jurisprudence of Legal Criminality, founded upon Physiological, Psychological, and Clinical Observations. By Henry Howard, M. R. C. S. Eng., for the last

twenty-two years connected with Asylums for the Treatment of the Insane, etc. Montreal: Dawson Brothers. 1882.

La Lithotritie doit être faite sans traumatisme. Par le Dr. Reliquet, Lauréat de l'Institut. Extrait de la Gazette des Hôpitaux.

Annual Announcement. Memphis Hospital Medical College and Medical Department of Southwestern Baptist University.

Extensive Ravages from Lupus, with Subsequent Cicatrization, leaving but one Small Hole in the Face, which represents both Mouth and Nose, and with complete Closure of the Anterior Nasal Orifices. By Julian J. Chisolm, M. D. Baltimore, Md.

Thirty-Ninth Annual Report of the Managers of the State Lunatic Asylum, Utica, N. Y., for the Year 1881.

American Ovariotomies. By Horatio R. Bigelow, M. D., Washington, D. C. (Reprint.)

Fourteenth Annual Report of the President of the Inebriates' Home, Fort Hamilton, N. Y., for the Year 1881. Also a Statistical Report of Six Hundred Cases of Alcoholic Inebriety treated at the Inebriates' Home from November, 1879, to January 1, 1881. By Lewis D. Mason, M. D., Consulting Physician to the Inebriates' Home. Fort Hamilton: Printed at the Inebriates' Home.

## Original Articles.

THE ROUTINE TREATMENT OF VENEREAL DISEASES.<sup>1</sup>

F. E. GREENOUGH, M. D.

THE subject of venereal disease is not a savory one in this community. We have in this respect, as in some others, inherited from our Puritan ancestors the tendency to get over an unpleasant fact or problem by simply ignoring it. But venereal disease is one of those facts in modern civilized life that cannot be ignored, and sooner or later must be admitted as an existing evil, and combated with the weapons which medical and social science have placed in our hands. There can be no doubt that this evil is an increasing one; what with the greater laxity of morals of the present day, the large influx of a foreign element and consequently of foreign habits, the increased cost of the necessities of life and the considering as necessities what used to be luxuries,—thus preventing a large number of ambitious young men, whose parents have been able to give them the advantages of an education which opens to them the field of a professional, literary, or artistic life, from marrying,—there can be no doubt, I say, that at the present time illicit sexual intercourse is much more common than it was forty or fifty years ago, and as a matter of course its concomitant evil, venereal disease, also. But however important the subject of venereal disease may be to the welfare of the community, it has the additional claim to the attention of the medical profession of being one of the most wonderful and interesting chapters in the whole book of pathological science. What can be more extraordinary than the history of syphilis? Here is a disease which appeared spontaneously four or five centuries ago, which is acquired by the absorption of an infinitesimal amount of an unknown entity which we call virus. This results in a series of pathological manifestations which follow each other with as much regularity and certainty as is the case when a seed is sown and we have a plant develop which goes through the processes of growth, flower, fruit, and seed. Within a certain quite definitely marked limit of time after the absorption of the virus, we find the cutis or mucous membrane at the point of entrance breaking down, and around this point an increase of connective tissue takes place, producing the well-known induration. After another equally defined period, constitutional symptoms of a febrile nature appear; and these are accompanied by inflammatory processes of the skin and mucous membranes,—the former appearing as an eruption which may run through the whole sequence from simple erythema through the papular and pustular to the ulceration stage, and the latter as lesions from the simple abrasion on the inner lips to that form of papillary hypertrophy on the tongue, tonsils, or about the anus, which we call a mucous patch. This same inflammatory process may affect the periosteum or the iris. During this period we find the lymphatic glands enlarged, at first those especially in the vicinity of the point of entrance of the contagion; later, others are affected; still later, if the disease is not checked, we find a new and more serious set of symptoms. Neoplasms, gummy tumors, are found in the skin, bones, brain, or

internal organs, which break down, forming large abscesses, and destroying large portions of the tissues in which they happen to exist. Not only is the individual affected by this series of symptoms, but the disease is transmitted to his posterity. That a disease such as is thus most hurriedly and incompletely sketched should attract the attention of the followers of medicine is not to be wondered at, and, in fact, some of the best minds of the students and investigators who have preceded us have devoted much time and attention to the subject. Until a comparatively recent time, however, the matter was involved in much confusion and uncertainty; the other two affections which, with syphilis, are classed as venereal diseases, that is, gonorrhoea and the local venereal ulcer or chancreoid,—the latter more especially,—being for some time mixed up and confounded with the new disease. From our present point of view it seems hardly credible that such should have been the case; but it was only after years of careful and patient investigation and experiment that the French syphilographers, headed by Ricord, could force the truth of the existence of dualism to be accepted generally. To give even an abstract of the most important points in this controversy would carry this paper far beyond its proper limits; therefore I will merely say that at the present time it is all but universally admitted,—most certainly so by all accepted as authority,—that syphilis is entirely a separate and distinct disease from the local ulcerations which we call chancreoids. Probably most practitioners would admit this theoretically, but practically, as far as treatment goes, it is almost the rule to confound them together, and as this is one of the forms of routine treatment that I want most earnestly to protest against, I must beg your indulgence for a few words on the subject of differential diagnosis.

The only points in common between syphilis and the chancreoid are, first, that they both are acquired by the absorption of the contagion-bearing element, that is, the virus,—generally, but by no means necessarily so, during the act of coitus; and, second, that in certain cases, for a certain space of time, it is difficult, in fact sometimes impossible, to say whether the lesion we see is a primary syphilitic one or a chancreoid. Outside of these two points, and the first one is certainly of no importance, the two affections are as different and distinct as variola and acne. In this connection, then, we have only to do with the primary lesion of syphilis as being possibly mistaken for a chancreoid, or *vice versa*, and it is only during a certain period of the life of the former that any doubt can be possible. Time will therefore settle the question, even in the most puzzling cases. The period of incubation of the primary lesion is comparatively a long one, from ten days up to twenty or even thirty. It appears at first as a papule; is usually single; the surface becomes abraded, exuding a serous rather than a purulent secretion; the inguinal glands on both sides become enlarged; if the lesion is a large one, one of the chain may be larger than the rest, but even this is not inflamed or very tender. On the other hand, the chancreoid shows itself soon after contagion, from two or three days to a week. Its first stage is that of a pustule, the roof of which, breaking down, leaves a round or oval ulcer. This ulceration is deeper, its borders looking punched out; the base is of a dirty-yellowish pulsatious character; and the secretion is abundant, and consists of creamy pus. The lesions, also, are very apt

<sup>1</sup> Read before the Surgical Section of the Suffolk District Medical Society, May 20, 1882.

to be multiple. There is no surrounding induration, the inguinal reaction is confined to one side, and one gland only on that side is affected. The enlargement of this gland is greater, more acute, and is due to one of two processes. It is either sympathetic, that is, due to the inflamed condition of the tissues at the seat of the chancre, exactly as we find a gland in the axilla enlarged and tender after a bruise or irritated sore on the hand, and in this case it may or may not go on to suppuration, or it is due to the actual transmission of the chancre virus along the lymphatic vessels until it is arrested at the first gland; and in this case it must of necessity result in the formation of a focus of pus in the gland, which pus has all the properties of that secreted from the base of the chancre, and on inoculation reproduces a chancre.

These certainly are two very different pictures, and one would suppose that there could not be much difficulty in distinguishing one from the other, but practically this is not always the case. In the first place it is often next to impossible to get any reliable information as to the period of incubation; it is extremely rare that the lesion is seen at an early stage of its existence, that is, early enough to be able to determine whether it began as a papule or as a pustule. On the other hand, it is very likely to be seen before the characteristic induration of the lesion itself and the sub-acute enlargement of the inguinal glands could have developed, supposing it to be syphilitic. Or very possibly it may have been touched up with nitrate of silver, or blue-stone, or some more active caustic, causing an amount of inflammatory induration which, when seen for the first time, cannot be told from the specific induration of syphilis. Again, during the first two or three days of the appearance of multiple chancroids, the lesions themselves cannot be distinguished from a crop of vesicles due to simple herpes progenitalis. In short, the fact is that however distinct and different these diseases are, not infrequently it is absolutely impossible at the time of the first examination to give a positive diagnosis. It is a matter of vital importance to the patient's welfare and peace of mind to be able to make this diagnosis. The difference between having a local sore which at worst may result in a suppurating bubo, and being in for an attack of syphilis is very great, and we should most certainly avail ourselves of all means in our power to get at the desired knowledge, and *a fortiori* avoid doing anything which would impede or obstruct as early a decision as possible. And yet this is exactly what is done in a very large proportion of cases of venereal sores.

As a rule, the ulcerations are either irritated with nitrate of silver, or cauterized with some more powerful caustic, and the patient is immediately put upon a course of mercury or iodide of potash, or a combination of the two, according to the fact of his adviser's having definite ideas as to the greater value of the two drugs, or his being doubtful and wanting to make sure by combining them. Now this is not only irrational, as it is undertaking a course of treatment without having diagnosed the disease, but what is of much more importance, it is positively injurious and unfair to the patient. It is done, of course, under the supposition that the lesion will, or may be, followed by constitutional symptoms, and that by using specific treatment at once those symptoms may be modified or prevented. If there is one thing that is settled by observation and experience it is that syphilis cannot

be aborted by treatment: that is to say, if we have a primary syphilitic lesion which is simply the notice put out to show that the syphilitic virus has been absorbed at that point, no amount of specific treatment will prevent the constitutional or secondary symptoms from showing themselves; but it may retard their appearance, and interfere with the regular sequence of symptoms which we observe in a typical case. It is an established fact that a primary syphilitic lesion will be followed by secondary symptoms, probably within three months, and certainly within six; and the reverse holds true, that if a sore is not followed by constitutional symptoms within these limits of time, it could not have been a syphilitic one; but if the patient has been under specific treatment the case is altered, as the symptoms may have been delayed, and it may be years before he can feel sure as to whether he ever had syphilis or not. I have seen cases whose whole life has been ruined, who have abstained from marriage, and have been running from one physician to another, thinking that every slight ailment they felt was due to a supposed case of syphilis, who, I am as sure as one can be of anything, never had syphilis at all. Such cases, if they had been properly treated, at the expiration of six months could have been absolutely guaranteed that they never would have any trouble of a syphilitic nature.

It must therefore be admitted that in doubtful cases those that are not syphilitic are seriously wronged by being put on specific treatment. The natural query follows. Are those that will prove to be syphilitic sufficiently benefited by being put at once on constitutional treatment to balance the wrong that is done to their more fortunate fellow-sufferers? I have already said that if the syphilitic virus has once been taken into the system, no treatment can prevent the development of constitutional symptoms, and clinical experience of the best observers has shown that not only is this the case, but that those cases in which the specific treatment is begun before the manifestation of secondary symptoms do not do any better than those in which it is delayed until evidence of constitutional infection shows itself. One of our teachers, to whose opinion we must all bow down, especially in matters pertaining to surgery, has said, I am told, that in deferring treatment we are practically allowing a fire to get well under way before we begin to put water on it. But that is hardly a fair comparison. We know that a certain course of treatment has a most marked effect on certain constitutional symptoms of syphilis, but we do not know that the same treatment will act as a preventive to the development of those same symptoms; on the contrary, we do know that it will not, and a fair statement would be that we are at least wasting time and water in pouring water into a building in which as yet no fire exists. I would say, then, that in any case of venereal sores in which any doubt exists as to their nature, we are doing the patient a serious wrong when we put him on specific treatment. Practically, unless there exist special reasons for immediate treatment, such as a very obstinate primary lesion, or one that takes on a destructive action, or where the healing quickly of said lesion is a matter of great importance to the patient, I much prefer to delay constitutional treatment until the appearance of constitutional symptoms. What is, then, the proper treatment of a venereal sore which we are called upon to treat? This will depend, of course, upon the character of the

lesion, but in no case can any benefit be obtained by touching it with nitrate of silver. If a caustic is needed, which is rarely the case, the nitrate does not act as such. The only use that can be properly made of this agent is in cases of ulcers, either chancreoid or true syphilitic ones, that have arrived at the reparative stage, and show indolent vascular cellular granulations which need stimulating applications. Up to five years ago every text-book on the subject laid down destructive cauterization as the proper treatment for the chancreoid, and in many to the present day the same stands. At that time I published a short paper protesting against such treatment, and advocating the use of iodoform as a local application. My experience since has been such as to confirm me in the opinions then expressed, and I hope to be able to take up the subject again, but in the present connection I will simply say that cauterization is rarely necessary. The objections to cauterization are, the great and needless suffering to the patient, the chance of producing an inflammatory phymosis if the lesions are on the prepuce, and consequently preventing proper cleansing and topical applications, the undoubted tendency to start up a sympathetic adenitis, the obscuring and masking the diagnosis by creating an inflammatory induration, and last, but by no means least, the fact that this treatment does not shorten the course of the disease.

The marked influence of iodoform as a topical application in diminishing suppuration and hastening the process of cicatrization has been admitted, and attracted much attention among surgeons lately, especially in Germany, and in no cases is this action more decided than in those of venereal sores, whether chancreoids or true chancres. Its use has the serious disadvantage of being most offensive to the olfactory of the patient and his friends, but by care in applying it, and avoiding spilling it about, this can be somewhat controlled.

The advantages of the treatment are so marked, however, that some slight inconvenience ought to be cheerfully put up with; but even in the exceptional cases where iodoform cannot be used, we can do very well with other local applications without falling back on cauterization. The rapidity with which chancreoids will clean up and heal under iodoform is at times little short of marvelous, and even the true chancre will in a short time skim over, the specific induration, however, still existing. There is one form of the chancreoid that is apt to prove more obstinate to treatment, and that is a type that has been described by Chair as the exulcerous or elevated chancreoid. It is usually multiple and situated on the free border of the reflected prepuce, in individuals where the glans penis is completely covered. Instead of looking punched out, the sore is actually raised above the level of the surrounding tissue, although its base and edges are the same as those of the usual sore. It is very apt to be the result of auto-inoculation from subpreputial lesions, and its peculiar form and obstinacy may be due to the fact that it is either washed over by the urine or irritated by the act of retraction at each act of micturition. At any rate it heals much less quickly, but in time it will do so, and, if we attempt to use destructive cauterization, from the situation of the lesions we are sure to get an inflammatory phymosis.

Up to this point I have endeavored to show that it is not rational treatment to cauterize a venereal sore, or to put a patient on specific treatment until constitutional infection is made evident. Let us see now what the

rational treatment should be in those cases where we do have an outbreak of secondary symptoms. In syphilis we have one of the rare instances of a pathological process, to combat which we have undoubted empirical specifics, that is to say, drugs that for some unknown reason and in some unknown way do actually act as antidotes to the disease and exert a decided curative influence. All authorities on the subject admit the marked power of mercury and iodide of potash on syphilitic disease, but when we come to the method of administration, and more especially the length of time that treatment should be persisted in, we find a great diversity of opinion. Those who advocate a certain definite and well-marked-out course of treatment may be divided into two classes: the French school, headed by Fournier, who believe in an interrupted course (*coup sur coup*), that is to say, using the mercurial until the secondary symptoms have all disappeared, and then giving the patient a rest for a few weeks; then resuming treatment for a certain time, and then omitting it, and so on. The other, of which Dr. Keyes is the exponent, believe in an uninterrupted course of mercury in small, or tonic, doses for as long a space as two years or more. Both use the iodide to combat certain symptoms. Dr. Keyes has very decided ideas on the subject of treatment, which he has given to the profession. He prefers the protiodide of mercury as the form of the drug to be used in treatment by internal administration, and beginning with as small a dose as one centigram or one sixth grain, three times a day, he gradually increases the dose until he gets evidence of intestinal disturbance. He then takes half the amount that was required to produce the irritation of the bowels, and calls that the patient's tonic dose. This he administers for the space of two years, using the iodide of potash if symptoms occur which call for its exhibition. He did claim that patients who had undergone this course of treatment could be assured that they would not have relapses. Since his publishing this course of treatment, however, he has somewhat modified his views, chiefly in the way of prolonging the treatment even beyond the period of two years. The truth of the matter undoubtedly is, that by no method or length of treatment can we be sure of absolutely curing every case. But I think that we stand the best chance of so doing by giving a protracted course of a mercurial, in small or so-called tonic doses. The term tonic, as applied to a mercurial course, has been objected to, but it is a perfectly fair use of the term, — long and most carefully conducted experiments in counting the red blood corpuscles, under the microscope, having shown that during such a course these corpuscles are decidedly increased in number. It does seem as though the virulence of syphilis must have been modified during the last century. Undoubtedly the avoidance of pushing mercury to the point of calling forth its toxicological action, which was formerly always done, has had much to do with this, but there must be something more to account for the comparative mildness of many cases. That some cases are capable of a spontaneous cure is proved to every observer who sees much of the disease. Some are so susceptible to mercury that the use of it even in very small doses cannot be persisted in; others from recklessness or ignorance, or belief in real homoeopathy, practically have no treatment at all; and yet some of them recover, and never hear from the disease again. So true is this that some of the first syphilographers, notably Didary in Lyons, and Sigmund in

Vienna, do not consider it necessary to use mercury in a mild typical case. Inasmuch, however, as in cases where we do use it we are struck by its marked beneficial action, it does not seem as though we are justified in not taking advantage of the power which we have in this drug, unless there is some harm done by its use. And that is not and cannot be the case where it is given in proper doses, and the patient is carefully watched to see how he bears the treatment. I myself do not think it is necessary to test each patient as to the amount he can bear, and then halve that as the regular dose. Most patients will do very well on one third grain of the protiodide, three times a day, given on a full stomach. Cases occur where even this moderate dose will disturb the bowels, and in such it is better to try some other form, rather than to combine opium with the prescription. The bichloride is often well borne where the protiodide is not, and the average dose would be one fifth grain, three times a day. There are cases, however, where any form administered internally cannot be taken with impunity for any length of time, and in such we can have recourse to the method by inunction. This method has not only the advantage of not disturbing the digestive tract, but by its means we can bring the system under the desired influence of the drug much more rapidly and surely than by that of internal administration, and for these reasons it is the sole form of treatment used by some practitioners. My reasons for not doing so are that it is dirty and disagreeable, and many patients will not use it for any length of time, or at least only very carelessly and inefficiently; and as a large proportion of cases do perfectly well under the more easily, and more-surely-to-be-thoroughly-carried-out method of internal treatment, I prefer to reserve inunctions for obstinate cases, or for those that have advanced into the later stages of the disease. In these latter, combined with iodide of potash internally, inunction is a most valuable and reliable help. Whatever form or method of mercurial treatment is used, the possibility of salivation should be borne in mind. With proper doses, especially at first, and proper precautions, there is not much danger of its occurring, however. Some patients have such a susceptibility to mercury that an incredibly minute amount will salivate them. Hebra used to tell, with great glee, of a Russian princess whom he salivated by the topical application of the acid nitrate of mercury to a plaque magueuse, but such cases are extremely rare. Of the large number of cases treated at the dispensary, many of whom are stupid, and take no care of the state of their teeth or gums (a most important thing by the way), I have had an average of less than one case a year, and in private practice I never saw one. In iodide of potash we have as valuable a drug as in mercury. The generally received axiom, however, "secondary, mercury; tertiary, iodide," is not true, the fact of the matter being that as a *cure* for syphilis, mercury is our mainstay in the primary (if it is treated at all), secondary, and tertiary stages; the *role* which the iodide fills so successfully being to combat certain symptoms, and of these some occur in the very earliest part of the disease. Thus in the violent syphilitic headaches which sometimes just precede, and often accompany, the first secondary manifestations, the action of the iodide is most wonderful. Patients who have been suffering atrocious torture, especially at night, for days, will after twenty-four hours' use of the iodide be entirely freed from all pain. Any of the periostites that

are so painful subside like magic; and as for the new formations, the gummy tumors, which may have reached the size of a pullet's egg, and look and feel as though suppuration had already commenced, in a week's time they will have melted away like snow. The deep ulcerations, also, whether of the cutis or mucous membranes, heal rapidly under iodide, but in all these cases I believe that a mercurial should be given in combination with it. Theoretically, the protiodide of mercury should not be prescribed with the iodide of potash; the bichloride or biniodide being the forms generally used, or, as I said before, inunctions. When I say that mercury should be always combined, I mean, of course, unless there should be something to contra-indicate its use. For obtaining a decided effect from the iodide, not less than ten grains, three times a day, should be given, and in some cases this may and should be much increased. There is another class of comparatively early symptoms besides those I have mentioned, that is, the specific headaches and periosteal inflammations, on which the iodide has a marked influence. I refer to the secondary lesions of the mucous membrane of the mouth and throat. It was only after careful investigation of a large number of cases that I was convinced of this, but I do not think there can be any doubt as to its truth. One word as to local applications for these lesions. I feel very strongly that cauterization can be abused here as well as in the case of the primary lesions. As the true mucous patch is an indolent papillary formation, the occasional use of lunar caustic has a very good effect, and the same holds true in the case of the superficial secondary abrasions on the inner lips; but no lesion of the mucous membrane can heal, if it is being cauterized constantly. In the deeper ulcerations in the later stages cauterization is rarely useful. Of course the important factor is the constitutional treatment, but besides that, cleanliness, gargles, spray, especially of iodine, and insufflation of iodoform or calomel will act as useful adjuncts.

Dr. Wigglesworth read a paper on this subject at the last meeting of the Dermatological Association, based on cases of his own and Dr. Cushing's, which was published in the *Archives of Dermatology*, which contains a great deal of truth on this subject. As an application for the ulcerative forms of cutaneous symptoms I know of nothing better than the mercurial ointment, more especially now that by using a petroleum product for a vehicle in the place of lard we avoid the irritating action of the latter when rancid. The oleate of the oxide of mercury is a more elegant and expensive preparation, but neither as a dressing nor as a means of inunction have I found it as reliable as the plain unguentum.

Having thus hurriedly run over some few of the most important points in the rational treatment of syphilis, we come to the very important question as to how long this should be kept up, and the almost vital one to the patient, as to what answer we can give him when he asks, Am I cured? I do not see how, under any circumstances, an absolutely and unconditionally affirmative answer can be conscientiously given. I do believe, however, that quite a large proportion of cases are practically cured; or perhaps I should say, recover; that is to say, that neither they nor their posterity will ever be in any way influenced by the disease. To say that the disease is not eliminated, but only made latent, is, if it always remains latent, a mere quibble. As Hebra used to say, What



would not we give to be able to render phthisis, or carcinoma, or Bright's disease latent to the same degree? However, those cases, rare it is true, but undoubted, where a patient acquires a second case of syphilis and goes through the whole sequence of symptoms from the primary sore in regular order, do prove that all remnants of the first attack must have been thrown off. Unfortunately, that means of proof would not be a very satisfactory one to that individual patient. If we cannot tell the patient that he can feel absolutely sure that his troubles are over forever, we can at least give him the benefit of the chances, and tell him that many others who have in the past been through what he has are now perfectly well and fathers of healthy families. I believe myself that if a patient has a fair constitution, takes proper care of himself, undergoes a protracted course of treatment in doses of such moderation that his general health does not suffer, and a couple of years have elapsed since treatment was stopped without the appearance of any sign of a relapse, — I do believe, I say, that the chances of there ever being a relapse in the future are very small. That I believe, and have never had occasion to call my belief in question.

(To be concluded.)

#### SOME OBSCURE MENTAL SYMPTOMS OF DISEASE.<sup>1</sup>

BY CHARLES F. FOLSON, M. D., BOSTON.

SUCH a considerable number of cases of disease seriously interfering with some of the functions of the mind without causing marked intellectual disorder have come lately within my observation that I have thought it worth while to call the attention of the Society to their more important features.

A child, seven years old, with the history of profound cerebral disturbance at the age of five, and right hemiplegia of short duration, was observed to have an entire change of character since that serious injury to the brain. Previous to it he had been in no way different from what might have been expected of a child of his age and circumstances. After it the balance of the mind was found to be entirely destroyed, although the memory and perceptive faculties were observed to have become extraordinarily acute. Upon entering the room it was impossible to arrest his attention sufficiently to get answers to questions for which he had abundant intelligence, except for a moment at a time; his eyes glanced rapidly about, and in five minutes he had taken in nearly everything to be seen, beside prying into drawers and pockets so vigorously as to keep his mother on the alert to prevent him from injuring himself or some object in the room. His mother stated that the affectionate nature which he had before his brain disease had remained, but that, with it all, there was in him the real spirit of a devil, which could not be corrected, or chastised, or drawn by loving care into anything better. He was the torment of every one who attempted to teach him, and yet he managed, by the aid of his unaided faculties, to pick up knowledge of a certain kind much faster than his companions. He not only did not possess the power of controlling his mental operations and his actions natural to a boy of his years, but he could not be, and never can be, educated into them. He is, and always will

remain, like a locomotive with the brakes off and steam up, off the track, as long as he lives, in spite of the best efforts of his friends and himself to the contrary. Steady application, reasonable self-control, reflection, and judgment, he will never have, except to a limited degree, while the acuteness of his other faculties will keep him in constant danger up to the time when he follows the natural law of the unfortunates like him to die of disease or accident, perhaps hastened by his own temerity, to commit suicide, to develop into more general mental disease, or to be convicted of crime justly or wrongly.

The second case was similar to the first except in its origin, which was congenital, the child having been born almost literally in the midst of a drunken brawl of a mother who had rarely been sober during the whole period of gestation. Its future will be similar to the other's.

It is by no means uncommon to see less marked types of this form of brain disease in women after confinement, in young persons of families with neurotic tendencies, after typhoid fever and scarlet fever, and in old people as the result of cerebral hemorrhage, but of so marked a degree as in the two cases which I have quoted, or sufficient to constitute a genuine type of insanity, it is so rare that even many men having had long experience in insane asylums state that they have never seen it.

The next case is one, the notes of which were given me by Dr. S. K. Towle, whose words I cannot do better than quote, of a man whom he had under his care at the Soldiers' Home, near Milwaukee, Wis., some eleven or twelve years ago.

"He had been a lieutenant in a volunteer regiment, and I gave him rather more privileges on that account, but after a time I found that he was more nearly an example of 'total depravity' than I had ever seen. There was no truth in him, and he was intelligent enough to make his lies often seem plausible to me as well as to others. By his writing, and talking, and conduct generally, he kept the patients and their friends in a ferment, and gave me more trouble than the whole hospital beside. For a long time I could find no evidence of any disease about him, but after long observation I thought that I got evidence of epileptic seizures in his sleep, and possibly lighter ones, *petit mal*, in the day time, and I settled down on that. As to insanity, I am sure he would have impressed a casual observer as an unusually bright and intelligent fellow, while at the same time perhaps he would be maliciously lying in every sentence.

"He had a small scar about the middle of his forehead, which he said was due to a slight flesh wound from a glancing ball in battle, and I finally thought that possibly his epilepsy might be caused from the effects of the blow from the bullet. While he was under my care an older brother came to see him, and he told me that up to the time his brother, my patient, who so tried my patience, entered the army he was almost a model young man, amiable and affectionate, the pet of the whole family and intimate friends; 'but,' said he, 'ever since he came back he has been possessed of a devil if ever any one was.'

"After a time, much to my delight, he asked for a transfer to the Soldiers' Home at Dayton, Ohio, which I got for him with commendable alacrity, and he went there. His conduct at Dayton was the same as with me, but after a few months he quite suddenly died,

<sup>1</sup> Read before the Annual Meeting of the Massachusetts Medical Society, June 13, 1882.

when an autopsy was made. In sawing open the skull, at the point of the small scar on his forehead, the saw came directly upon the butt end of a conical bullet, two thirds of which projected through the skull, piercing the membranes and into the brain. The internal table of the skull had been considerably splintered by the ball, the pieces not being entirely separated, and there was evidence of severe chronic inflammation all around, and quite a collection of pus in the brain where the ball projected into it. Here was the 'devil' that had possessed the poor fellow. Instead of being an outrageously wicked, unprincipled man, he was a martyr to the Union cause as much as Abraham Lincoln, and more, for the ball that killed my patient not only took his life, but destroyed his character, lost him the love and esteem of his friends, and doomed him for half a dozen years to do the things he would most have hated and despised when he was himself. Dr. Dunlap, the assistant surgeon at Dayton, told me that he found in this man's trunk letters from several, half a dozen, I think, at least, women in various places, from which it appeared that he was engaged to be married to each one of them. The letters were neatly tied up in packages, each one's separately, in several instances with photographs supposed to be of the writers, and the date of reception and reply was noted on many of the letters in a business-like way."

The fourth case is of a gentleman, who, without other marked mental symptoms, except an unusually advanced mental deterioration for his age, sixty-four, and yet without senile dementia, had so strong an impulse to kill two members of his household, a son whom he loved, and a mother-in-law who annoyed him in many ways, that he begged to be sent to an asylum for the safety which his family persistently refused to think necessary. In the course of six months, with the progressive weakening of his mental faculties, his power of self-control became so much diminished that during one of his paroxysms of homicidal impulse, excited perhaps in part by irritation from a natural cause, he killed his mother-in-law, an act entirely abhorrent to his nature. He afterwards begged to be never left alone with his son for fear that he might commit some act of violence upon him. There was no delusion, no illusion, no hallucination, no mania, no melancholia, no delirium, no unconsciousness, no ignorance of the nature of his deed, no blunting of his sense of right and wrong, not the slightest moral perversion, no feeling but horror at his doing such a thing, and yet the insane impulse, as inevitable as the sword of Damocles or the dagger of Macbeth, was so strong that he could not resist it. He was *conscious sui*, but not *compos sui*. After his arrest his feeling of grief and remorse was so great, the disgrace of being hanged, which he feared, was so terrible, and his mental suffering was so insupportably intense, that he tied a handkerchief around his neck, meaning to hang himself, an entirely sane and logical process, but, in spite of his insanity, his fine character asserted itself, his ordinary self-control returned, and he said, "No, if I am to perish for my act it shall be at the hands of the law, it must not be by my own hand; that is not right." It is not possible to find a more irresponsible act than this man's homicide, and it is not easy to conceive of more tremendous self-control as regards his own self-destruction, or more sane appreciation of his own condition and relations to society.

The cases which I have described, including that one

which was complicated with senile dementia, come under the head of moral insanity, not very properly so-called, because the loss of control over the operations of the mind constitutes evidence of impaired intellect and is a purely mental symptom, which under some form or other is always discoverable. There is in many cases frequent or persistent headache; in most, there are great irritability, some feature of intensely developed egotism, general or partial moral perversion, exaggerated or perverted sexual instinct, decided loss of the sense of the relation of the individual to the community, a striking misconception of the adjustment of means to ends, overwhelming strength of ideas and impulses as compared with power of self-control, and yet a certain fixed standard of right and wrong, together with a definite sense of duty and a power of self-control at certain times and in certain directions, which with the quickness of the perceptive faculties and memory, usually convey to those not familiar with the disease an idea of simple depravity. It differs from the eccentricity of character over which more and more control is gained with advancing age. Its diagnostic point, if there is one such, consists in the fact that like other diseases it is progressive, and that it ends as a rule, in suicide, or advances slowly into mania or dementia with such gradual progress that there is no time at which a marked change in character, or condition is discernible. Until mania or dementia appear, crimes are rarely committed; and the point at which accountability ends and irresponsibility begins is the most difficult problem in the whole range of the medical jurisprudence of insanity. In reported cases of recovery, I should doubt the diagnosis.

I have illustrated very briefly a type of insanity which is recognized, under one name or another, by the leading authorities in mental disease, although not fully described except in the German medical literature. It is easy, as Kraft-Ebing says, for the non-expert expert to fail of a correct appreciation of such a case. This seems to me the most terrible of all of the many forms of mental disease, as it is also the least understood and the most difficult to differentiate from depravity. The very sharpening of some of the faculties of the mind, coincident with defect, degeneration, or disease manifested in others, is generally accepted as evidence of responsibility, although it is only an illustration of that marvelous compensation in nature for failure in one direction by concentration of force in another, by virtue of which the blind deaf-mute learns to see with her fingers and to hear with her sense of smell.

Important as is the medico-legal study of this form of disease, it is not my intention to say more in that direction at present. The point to which I desire to call the attention of our Society to-day is that these same symptoms may exist, and do very often exist, although in far less degree, as the early, and often as the only, indications of the greater number of those many diseases which we group together under the name of insanity; that they may accompany chronic disease of the nervous system; that they frequently indicate acute, curable disease, and also that in children especially they are often overlooked and neglected because their import is not fully appreciated. By far the majority of mental diseases, taken at the time when they are recognized and placed under treatment, are absolutely incurable. For months also, often for years before that time, however, there have usually been unmistakable, or at least suspicious, evidences of brain disorder, consist-

ing simply in slight change of character, so slight that in a case which has recently come to my attention, a young woman in the early stage of mania was advised to marry, and with sad results. I should say that it is exceptional for general paralysis of the insane and for insanity of persecution, for instance, to be diagnosed for months after its presence is apparent; and not seldom the individual has recognized for a long time the fact that he has not been fully himself. The intellect remains tolerably clear, the capacity for affairs is nearly, if not quite, as good as ever, the memory is unchanged, the mind is often even more active than usual, at least not commonly of diminished power, and yet the person is not himself. He becomes more readily excited, very easily irritated, neglectful of his home duties, suspicious and distrustful of his best friends, inattentive to the accustomed courtesies and refinements of life, disagreeable to his family, less truthful and scrupulous, at times slightly depressed. Less often there is simply a condition of mental and physical torpor and lowered moral standard.

These symptoms, especially if without external cause, following child-birth, fevers, brain disease, physiological changes, or any illness depressing the system, indicate a condition which needs treatment as much as a fractured leg or an inflamed joint.

The question naturally arises, "What can be expected by treatment even at this early stage of a disease in which less than one fifth of the cases are permanently cured?" I can only answer that if we follow the advice of Sydenham, that scarlet fever is dangerous only from the interference of the physician, many of our children who might have been cured of an acute nephritis will die of Bright's disease. If we fail to examine most carefully into the causes of every slight cough, many an innocent catarrhal pneumonia will end in fatal pulmonary consumption, and an insidious pleuritic effusion will now and then kill our patient almost before we know what is the matter with him. I cannot help thinking that an earlier detection of insanity will result in its wiser treatment and in a greatly increased proportion of cures.

I should not be justified in occupying your time now in a consideration of the proper management of the obscure mental symptoms which I have described, and which, for want of a better name, are often called nervous, farther than to say that I believe the matter to be one which will repay careful study, and which cannot be properly dismissed, as is the popular idea at present, in the case of women at least, by putting people to bed and fattening them. I shall never forget an intelligent lady's remark, that while her husband was rich, she had so-called nervous prostration. After he had lost his health and his property and she had something to do, she got well.

I have lately seen several cases of chorea in which the characteristic muscular twittings were nearly or quite absent, or only observed after some physical exhaustion or upon attempts to perform coordinate movements. The usual mental symptoms existed, commonly with severe headache, and disappeared in about the usual time, if treated with rest of the brain, general hygiene, and arsenic, but persisted, if neglected or not properly attended to. I believe such mental indications of disease, independently of chorea and insanity, to be more common than has been supposed, that their judicious treatment is quite necessary to the future welfare of the race, and their prevention demands our

most thoughtful and earnest attention. I have even thought that with our present idea of education the whole available vital energy of girls at least is often exhausted in physical inactivity and intellectual development at the expense of what in our ignorance of its exact nature, we call nervous force. For this our school system is largely responsible, and will continue to be so, until the intense strain upon mind and body is let up, and physical training and moral force receive that attention which their importance demands.

Mr. Charles Roberts, of London, than whom no one is more competent to express an opinion upon that point, has recently said, in a letter to Mr. Edwin Chadwick, "I think children are being very cruelly used by the Legislature. It took nearly fifty years, and half as many Acts of Parliament, to emancipate them from the injurious effects of excessive physical labor; but the result has been merely to transfer them from one taskmaster to another—from the manufacturer and their own parents to the schoolmaster; and to subject them to mental strain and physical inactivity, more injurious to their future well-being than their former condition. I look on your proposal to introduce the half-time system into schools, as a sort of mental 'Factory Act' of the utmost importance and urgency, and the establishment in elementary schools of systematic physical education, as absolutely necessary to prevent great physical degeneracy in future." We may not agree literally with Mr. Roberts, but must all acknowledge that there is much force in what he says. Each human being has a certain amount of force which can be safely expended every twenty-four hours, and which can be kept fresh only by sufficient rest, food, and physical exercise. The idle as well as the busy may exhaust, and more than exhaust, their daily supply, and with only one result.

#### FIBRO-MYOMA OF UTERUS CAUSING MOST INTENSE DYSMENORRHEA FOR FIFTEEN YEARS; ENUCLEATION; RECOVERY.<sup>1</sup>

BY J. W. ELLIOT, M. D.

On March 15, 1881, I first saw my patient, Mrs. M., living in a suburb of Boston, in quite comfortable circumstances. She gave me the following history: She was thirty-six years old, had been married ten years, but had had no children or miscarriages. The catamenia had occurred regularly, without pain, from the age of sixteen until fifteen years ago, when she began to suffer some pain at each menstruation. This pain continued for eight years, but during the last seven years it has grown steadily worse, and now it has become perfectly terrible. She described the pain as severe cramps and bearing-down pains in the lower abdomen. It was usually most severe during the first few days of the flow, but lasted through the whole time, which was five days. The amount of the flow was about normal. Her husband told me that she was always obliged to go to bed at those times; that when the pain began she tossed about, groaning in agony, and often threw herself out of bed on to the floor, where she rolled about in a most helpless state; that she had twice threatened to take her own life in the despair of looking forward to the next menstruation; that she must

<sup>1</sup> Read before the Surgical Section of the Suffolk District Medical Society, May 20, 1882.

always remain in bed the week following to recover from the exhaustion; that on the second week she gradually got about again; that the third week was the only part of each month when she could in the least enjoy life.

She had been under the care of various physicians for several years, but they had all failed to help her in the slightest degree. "One had dilated the cervical canal, another had pronounced the trouble to be constitutional," etc., etc. She had taken and still continued to take large quantities of morphia, which at first had relieved the pain somewhat, but lately it seemed to have no effect.

She complained of habitual constipation, pain in the back, left side, and lower abdomen, which pains were all increased by walking or standing, and now she is able to walk but a short distance. She also complained of a profuse leucorrhœa, and she thought she felt pain in the neck of the womb. There were no vesical symptoms.

*Status præsens.* My patient was a blonde, with very white cheeks and pale lips. She was of medium height, somewhat deficient in bone and muscle tissue, but possessed of an abundance of flabby fat. Her lips quivered before she spoke, her face flushed when she was addressed. She was very excitable, and sank back exhausted after the slightest exertion. In short she presented all the symptoms of nervous debility.

Upon examination I found extreme hyperæsthesia of the lower abdominal wall and of the entire genital tract, so that a thorough examination was almost impossible. There was tenderness in the left ovarian region. The vagina and external genitals were much irritated by leucorrhœal discharge. The uterus was tender, somewhat enlarged, and slightly anteфлекed. The cervix was large and very soft, while the os externum was open enough to admit a finger-tip. A sound was easily passed into the uterine cavity, which measured two and three fourths inches, the sounding causing pain and a flow of blood.

I regulated her bowels, prescribed dialyzed iron, and advised a constant use of the hot douche in the manner described by Dr. Emmet.

One month later, April 24, I saw her again at my office, a day or two before she expected her catamenia. The use of the hot douche had reduced the sensitiveness of the vagina and the size of the uterus. The cervix felt very soft and irregular. Upon introducing the speculum I saw immediately a polypus the size of the tip of my little finger, hanging partially out of the cervix. This polyp had appeared since my last examination. My explanation is that with the approaching menstruation it had become engorged with blood, and was then too large to remain in the cervical canal, and therefore had been driven out. Two leeches were applied to the cervix in the hope that it might diminish the pain of the coming menstruation.

On April 16th, two weeks later, with the assistance of Dr. Morse, the polyp, which was attached near the os internum, was twisted off. The cervix was then forcibly dilated to admit a sound ten millimetres in diameter, and the uterine cavity scraped out with a curette. This procedure brought away several small bits of mucous polyp. The operation was done under ether, and with the strictest antiseptic precautions. The temperature remained normal. The patient suffered some pain and tenderness in the abdomen, but sat up on the twelfth day.

The polyp was examined by Dr. Gannett, who reported that it was made up of muscular fibre containing many blood-vessels, and hypertrophied mucous membrane containing numerous gland structures; that it was a combination of a mucous polyp and a fibromyoma.

On September 28th, five months later, the patient placed herself under my care in town. Since last seen she had menstruated with less pain for three months, when she began again to have very severe bearing-down pains of a somewhat different character from the old cramps. I applied electricity to the cervix and to the interior of the uterus several times with the idea of giving tone to the uterine tissues, and of overcoming any spasmodic contractions which might be a cause of her pains.

On October 2d I had an opportunity for the first time of seeing what her suffering really was. The catamenia began in the morning. About eight o'clock in the evening I was called, and found her groaning and tossing about in great agony. At intervals she would clutch her fists, and make a great expulsive effort. The pains were exactly like labor pains. I found that the uterus contracted violently at each pain. I etherized her for three hours. Under profound anesthesia the uterine contractions continued as before. I took the opportunity to introduce a sound into the uterus, but no obstruction was felt. After the ether I succeeded in making her comparatively comfortable with subcutaneous injections of morphia and suppositories of opium, belladonna, and assafoetida.

After seeing her at this menstruation it was evident to me that the uterus was making an effort to expel something. I proposed dilating the uterus, to which she agreed.

October 17th Dr. Baker kindly saw her in consultation, and agreed with me that exploratory dilatation was the best treatment. On that occasion the cervix was soft and somewhat open. The uterus when felt bimanually seemed enlarged, but the uterine cavity measured only two and one half inches. This discrepancy suggested a new growth at the very fundus. The sounding caused pain and a flow of blood. This vascular condition of the cavity suggested a fibroid.

October 18th a tupelo tent was placed in the cervix uteri. It caused great pain, which was partially quieted by morphia, etc. The next day the tent was removed at nine A. M., and replaced by another larger one. At four P. M. ether was given by Dr. Morse. The tent was found to have been partially forced out, therefore the uterus was not sufficiently dilated. One large and three small tupelo tents were then introduced. The next morning (October 20th) the patient was again etherized by Dr. Morse, who also rendered me most valuable assistance. The vagina being irrigated with carbolic water the tents were removed. The uterus was then drawn down to the vulva with double hooks, and washed out with carbolic water. The finger being passed in to explore the cavity, I was barely able to touch with the tip of my finger an evenly rounded mass of dense tissue slightly bulging toward the uterine cavity. This I recognized to be a myoma. The uterus was then further dilated with hard rubber plugs and my fingers, in order to make more room to work in. The tumor being seized with double hooks was dragged forcibly downwards, while it was torn loose from the surrounding tissues by the finger-nail and the blunt end of a pair of long, curved scissors. It was with some diffi-

culty shelled out and delivered, and proved to be a fibro-myoma about the size of an English walnut. It was lying embedded in the posterior uterine wall at the fundus; another one, the size of a pea, was found near it. There was no bleeding, and no shreds of tissue were left, therefore a drainage tube was thought unnecessary. The genital tract being again irrigated with carbolic water, the patient was put to bed. She did perfectly well, the temperature being normal after the first day, when it was 100.8° F.

On October 28th catamenia occurred with the same old pain, which was almost as severe as before. The patient was in a very nervous and discouraged condition. I therefore kept her in bed, and fed her with as much food as I could force her to take for the next three months.

On November 28th, about six weeks after the operation, the catamenia occurred with considerable pain.

December 30th, two months after the operation, catamenia occurred without any of the old severe pain. She had only a slight pain in the back. No medicine whatever was given.

Her convalescence was interrupted by an attack of dysentery; nevertheless she has gained much in strength, and her general nervous condition is greatly improved. She now menstruates regularly and without pain.

The diagnosis was extremely difficult, because the uterus was not sufficiently enlarged to suggest a new growth, because the most common prominent symptom (menorrhagia) was absent, and because the neurasthenic and hysterical conditions might well have accounted for the dysmenorrhœa.

Without attempting to go over the field of pathology and surgery of myomata of the uterus, I will call your attention to and invite your discussion on a few points suggested by this case.

The first practical point is that having found one myoma you should make careful search for more, because as a matter of experience it is not uncommon to find two and even three or more, as in this case. Thus, having found one near the os internum, don't neglect to explore the whole interior of the uterus.

As giving some idea of the frequency of the multiplicity of myomata, I will quote Winckel, who found in three hundred and eighty-two autopsies where myomata existed, that in thirty-nine per cent. there was more than one.

In removing these tumors I consider all the antiseptic precautions to be of the most vital importance, because, as a matter of fact, most of the fatal results come from septic poisoning, and because, theoretically there are also most urgent reasons. We find the smaller tumors situated at various depths in the uterine wall, and often extending even to the peritoneal surface (as shown in Winckel's Pathological Atlas). Thus there is always the chance of necessarily opening the peritoneal cavity. The larger tumors often contain large, gaping veins which open immediately into the uterine plexus, a most favorable condition for septic thrombo-phlebitis. Besides these natural dangers the operator is working under great disadvantages. The seat of operation being out of sight, the instruments can only be guided by touch. The manipulation is greatly embarrassed by the necessity of working through a small hole at the os internum. Under these circumstances the peritoneal cavity may be accidentally opened. Besides, after the tumor has been successfully removed, there often remains a jagged

wound, with shreds of tissue, which eventually slough. Here is a favorable seat for a septic process. Under these conditions, then, all will agree that there is an especial danger of septic poisoning. This brings me to the consideration of what are the important antiseptic precautions to be taken in this operation. Besides the ordinary precautions which are to be taken in every surgical operation, the question here arises, How shall we dilate the uterus? I say most emphatically not with sponge tents, for one of the first principles of antiseptic surgery is to have the field of the operation thoroughly cleaned and antiseptic. Who ever removed a sponge tent which did not stink? Certainly, every sponge tent, however carefully prepared, which has been in the uterus sufficient time to dilate, comes out with a putrid smell. I have had occasion, recently, to remove some bits of compressed sponge which had been but a short time in the vagina, and it was noticeable that wherever the sponge had been in contact with the vaginal mucous membrane there was a deep gangrenous ulcer. The meshes of the sponge tent work themselves into the uterine tissue, and when it is removed there are left erosions filled with bad-smelling pus. This certainly is not a proper field for an antiseptic operation which may open the peritoneal cavity or a large uterine sinus. For these reasons Schroeder has become so disgusted with the use of tents that he prefers to split the cervix uteri down to the vaginal junction, and force his finger into the fundus. Of all the methods yet proposed the use of the tupelo tent seems to me the most satisfactory and safest way of dilating. Tupelo tents are made by compressing smooth, clean pieces of a particular kind of South American wood (*Nyssa aquatica*).<sup>1</sup> I have never known a bad result to follow their use. They accomplish dilatation and come out perfectly sweet even after twelve or twenty-four hours retention. After dilating with tupelo we can then begin the operation under much more favorable conditions.

The symptoms in this case were somewhat peculiar in that fibroids at the fundus are usually supposed to cause hæmorrhage without dysmenorrhœa, while fibroids at the os internum usually cause dysmenorrhœa. In our case the tumor was at the fundus; there was no hæmorrhage but excessive dysmenorrhœa. This opens the question of what is the cause of the hæmorrhage in these cases, the more interesting because hæmorrhages occur from other mucous membranes (as, for instance, the intestines) under similar circumstances.

In a general way the presence of the tumor is undoubtedly an active irritation which causes congestion of the parts, and its pressure on vessels can cause venous stasis and hæmorrhage. Fibroid tumors themselves are usually poorly supplied with blood, nevertheless the sudden, profuse, alarming hæmorrhages usually come from the tumor, the immediate cause being the opening of a vessel either by an ulceration or by some injury, such as tearing open a venous sinus by uterine contractions, etc. The ordinary oozing and profuse menstruation is most common with the sub-mucous and interstitial varieties, and seems to come from the mucous membrane either of the tumor or of the uterine cavity. If the tumor is pediculated, its pedicle may become so compressed by the uterus as to cause a venous stasis in the mucous membrane of the tumor, which would cause hæmorrhage even if the tumor were not ulcerating. In the large, broad-based

<sup>1</sup> Volkman's Vortrage, No. 187. Leopold, London.

submucous and interstitial varieties Atlee and others suppose the mucous membrane stretched out so thin over the tumor that the vessels are easily ruptured, but according to Gusserow<sup>1</sup> there is no proof of this, and it seems to him an improbable explanation for the majority of cases. He finds, however, that when the mucous membrane is so tightly stretched over the tumor the rest of the uterine mucous membrane is in a state of collateral venous stasis, that is, it is swollen, softened, full of blood, and easily bleeding. Probably many different principles play a more or less important rôle in causing the hæmorrhages, but the most plausible explanation seems to me to be that the combination of rubbing and chafing of the mucous surfaces with the venous stasis causes the mucous membrane either of the uterus or the tumor alone or of both together to become chronically inflamed and thickened, and in a condition like the so-called fungoid degeneration, which is a common form of endometritis, where the mucous membrane is thickened and contains numerous newly-formed glands and blood-vessels, which constantly rupture, giving rise to persistent hæmorrhage. Dr. Gamett tells me that he has found this condition of the mucous membrane on polyp<sup>i</sup> which have been sent to him for examination.

It seems, then, that the tumor in this case did not protrude enough into the cavity to cause a chafing or to become strangulated by uterine contraction, and was too small to cause a collateral venous stasis, hence we did not have hæmorrhage as a symptom.

#### ELEPHANTIASIS ARABUM IN THE SAMOAN ISLANDS.

BY ARTHUR C. HEFFINGER, M. D.,  
Passed Assistant Surgeon, United States Navy.

ONE can scarcely realize the paucity of literature upon Elephantiasis Arabum till one has looked in vain through the vast field of medical writings for even a passable description of the disease. In some of our leading works upon the practice of medicine no mention whatever is accorded the malady, their eminent authors evidently considering it a surgical one; while, turning to surgical treatises, we find that the majority of them simply give a brief description of *lymphæ scroto* and the operation for its removal. There is really little, however, about the disease that is not already known to the profession, though in no one book have I seen it fully considered.

This form of elephantiasis is chiefly found in the torrid zone, but has no longitudinal boundaries. It occasionally occurs in temperate climates, though to a much less extent than true leprosy, and may be considered as essentially a tropical disease. The Barbales leg of the Antilles, Cochim leg of China and India, Yava skin of Polynesia, and Fêfê of Samoa are all elephantiasis Arabum, and all present essentially the same characteristics. As the theories of causation advanced thus far have been contradictory and incomplete, it was a great disappointment to me that the flying cruise I made through the Samoan group did not offer the opportunity for as careful and extended investigation into its etiology as I could have desired.

The disease is very common in all of the South Sea Islands, and in the Samoan — from the rough statistics

I could gather — about one per centum of the total number of inhabitants are affected by it. Men are more frequently attacked than women, in the ratio of five to one, the disease rarely manifesting itself in either sex before the age of sixteen years. Children are said to enjoy complete immunity from it, and I could find none affected in the towns and villages I visited. Race seems to exert a certain predisposition, the dark Polynesians and coal-black negroes from the New Hebrides being more prone to attack than the white man. Of the seventy-five whites living in the town of Apia, and fifty more scattered over the different islands of the group, not a single woman and only one man had contracted fêfê. This man had a lymphæ scrotum, and ascribed it to careless exposure by sleeping on the ground, after the native style, while trading through the various islands of the South Pacific.

Neither Dr. Wise's theory of diseased veins, nor Mr. Day's of malarial fever, nor Mr. Dalton's of a constitutional origin for elephantiasis Arabum seem to be borne out by a study of the disease as seen in Samoa. Dr. Carnochan's view of enlarged arterial trunks appears more nearly correct than any yet put forward, for whether the arteries of the affected parts are enlarged prior to the first inflammatory attack or not, they certainly are during the course of the disease, being at the same time greatly increased in number. The veins are also augmented, both in size and number, and as their walls are closely adherent to the gristly mass through which they run, they appear much like the sinuses of a gravid uterus, the cut ends always remaining perfectly patulous. These veins cannot be called diseased in a causative light, for they are simply enlarged in calibre and multiplied to accommodate the extra arterial flow. The occasional febrile movement which has been noticed at the beginning of the inflammatory attacks, together with the epochal character of these onsets, may have given rise to the idea of a malarial origin for this variety of elephantiasis, but in Samoa at least, malarial influence can have no effect upon it. This group of islands is of volcanic formation, all its members are high, rocky, and precipitous, and are swept constantly by the strong southeast trade winds. Periodical fevers are unknown, and I should unhesitatingly pronounce them as thoroughly salubrious and free from miasmatic influence as any vegetative tract in the world.

The local nature of the affection in Samoa would appear to be explained by the manner in which it is probably contracted. The natives all live in low, thatched huts, the floors of which are covered with gravel to the depth of three or four inches. Upon this floor small mats are placed, and the native sits cross-legged, smoking, three fourths of the day. At night several mats are thrown together upon the damp, gravel floor for a bed, and with a section of bamboo for a pillow and a piece of *tapa* cloth (beaten from the bark of the paper mulberry) for a covering, the Samoan makes himself snug till morning. As he wears only a *lava-lava*, or breech clout, of course when he sits, the legs, thighs, nates, and scrotum are in contact with the thin mat which covers the gravel floor, and the constant chilling and irritation of the exposed skin and subjacent tissues produced by the dampness and changeable temperature of the earth, aided no doubt by the uneven floor, cause, after a certain length of time, a slight erythematous swelling of one or more of the parts, attended by a feeling of heat and itching, and now and then a little fever.

<sup>1</sup> Handbuch der Frauenkrankheiten, redigirt v. Billroth. Vierte Abtheilung.

This first attack can scarcely be called inflammatory in the great majority of cases, and, as a rule, no physical change remains which is apparent to the eye; but the part or parts are undoubtedly rendered much more sensitive to exciting causes, for soon another congestion sets in, this time becoming a *bond fide* inflammation, which after its subsidence leaves the region uniformly enlarged, the skin feeling thick and brawny, showing a hyperplasia of the cutis vera and subcutaneous connective tissue. These inflammatory attacks recur from time to time, each recurrence adding more plastic material, which gradually undergoes morphological changes. The parts generally affected are the extremities and scrotum in the male and lower extremities in the female. Disease of the arms and genitalia of women is only now and then encountered. As the disease progresses the skin is thrown into large folds at the flexures of the extremities, and between these folds deep fissures often form and obstinate ulcerations occur. Sometimes this hypertrophy, once fairly under way, steadily advances without apparent inflammatory epochs. The enlarged limbs seem to give no trouble aside from the mechanical obstruction of bodily movements. The enormous scroti make micturition difficult and render walking all but impossible, and it is curious to see the novel suspensory devices resorted to by the natives to get them out of the way of the thighs.

I have never seen a real case of false leprosy attacking the head, neck, or face, and when the disease is mingled with the true variety, — as, for instance, in Honolulu, — this fact, together with the absence of anæsthetic spots, is considered of great diagnostic value during the early stages of the two diseases by experienced physicians of the Sandwich Islands. I can recall several cases exhibited to the class during my student days as elephantiasis Arabum affecting the face, tongue, and fauces, in one case the larynx also being diseased and requiring the use of a tracheotomy tube to breathe, but I am satisfied now that all these cases were really elephantiasis Græcorum.

The disease progresses slowly, and only proves fatal by interfering with healthy nutrition, thus exhausting the patient's forces and rendering him liable to attacks of inter-current diseases, especially pulmonary phthisis, which is very prevalent and very fatal in the Islands.

The only treatment which has been attempted so far in Samoa has been directed to the scrotum, the excision of which is a common operation with visiting American naval surgeons, and most popular among the natives. As soon as an American war vessel anchors in any of the Samoan ports the medical officer — *famai* — is beset on all sides by the relatives of the afflicted, and ere a day has passed he has sufficient material to keep him busy for a month. In the harbor of Pago Pago I improvised a crude hospital on shore in one of the native huts, and held daily clinics. In this hospital, upon the hewn trunk of a tree but four feet long and two high, and with the assistance only of an officer friend, I removed a lymph scrotum of thirty-five pounds weight. The man was placed upon his back on the hewn block, with his buttocks brought well to the edge, and the tumor supported upon a small box. Ether was given, and when the patient was thoroughly under its influence a stick was put between the teeth on one side, which, together with the ether cone, was held during the operation by an intelligent native. The penis was exposed by laying open the superincumbent tissue upon a director, after which

it was rapidly dissected from its bed — care being taken to avoid wounding the frenum and suspensory ligament, — and reflected upon the abdomen. An incision was next made downward, outward, and backward, from the bed previously occupied by the penis, and carried to a depth of two inches through the thick, gristly tissue without revealing the tunica vaginalis. The hemorrhage was so extensive from both arteries and veins, and the difficulty in tying the vessels, owing to the close union of their walls to the stroma of the tumor, caused such delay that it was deemed safest to tie each important vessel as cut, and continue the search for the testicle by shallow incisions of half an inch depth. Six or eight of these exploratory cuts were made before the tunica was opened, and found to contain a large gelatinous hydrocele. The testis lay at a depth of six inches from the surface, and it was not without much time and care that, with its cord, it was detached and reflected on to the abdomen. Profiting by the experience gained in searching for the right gland, the left was much sooner reached, dissected from its attachments, and reflected. The entire hypertrophied mass was finally removed by two transverse incisions; the first half severing the mass, when the great arterial and venous hemorrhage made it necessary to stop and catch up the bleeding vessels with forceps, and the second completely detaching the tumor from the body. The operation lasted an hour and a half, during which time the patient lost much blood, though he still had a fair pulse at the conclusion. The only knife used was a stout, straight, sharp-pointed bistoury, which was found to answer all requirements admirably. There was a little uncertainty about the soundness of the left testis, but the man was given the benefit of the doubt, and the two glands were brought together and held in apposition by oiled silk dipped in carbolic oil, the dressing completely surrounding and separating them from the wound below. Over the oiled silk several layers of lint saturated with the carbolic oil were placed, and finally over the lint a couple of thicknesses of dry cotton batting. The penis was put up separately in oiled silk and lint, and, with the testes, was supported by a T handkerchief bandage.

The patient rapidly returned to consciousness after stopping the ether, and expressed himself as quite comfortable. A good dose of morphia was given, and he was not seen again till the next day, when he was found in an excellent condition, having no fever or pain. The glands had closely adhered, and presented the appearance of a scrotum from which the skin had been removed by blistering. There was a little fever on the second and third days after the operation, but it caused no uneasiness, and the case progressed so nicely that the man was allowed to sit up on the fifth day, and when the ship left, on the seventh, granulation and cicatrization were rapidly advancing.

This man had elephantiasis of the right lower extremity also, and, had the ship remained a few weeks longer, I designed delegating the femoral artery after the manner of Carnochan, which seems to offer the only remedial hope when the disease attacks the extremities.

Out of seven scrotal excisions done in Pago Pago by our naval surgeons only one death ensued, and that was due entirely to the patient's neglect in not carrying out the surgeon's orders after the ship had sailed. The operation, though tedious, is neither difficult

nor dangerous, and were it not for the excessive immediate bleeding and a certain liability to secondary hæmorrhage, would give the surgeon no anxiety.

Several specimens of lymph scrotum were examined under the microscope, and the presence of parasitic forms carefully searched for, though not, perhaps, with the acuteness of a specialist's eye. Mr. Manson, of Amoy, states that the *Filaria sanguinis hominis* plays an important part both in true and false leprosy; but not a trace of this organism could be found in the specimens examined, nor could any other form of organic life be detected. The great bulk of the new structure seemed to be made up of a stroma of very dense connective tissue, in the meshes of which were held blood-vessels, nerves (?), lymphatics, and masses of connective-tissue cells. The exudation of coagulable lymph described by Mr. Manson was noticed, but to a very limited extent.

## REPORT OF THREE CASES OF ABSCESS OF THE BRAIN.<sup>1</sup>

BY J. T. ESKRIDGE, M. D.,

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### CASE II. Abscess of the Brain following Chronic Meningitis; Sudden Death.

On the notes of Dr. Dennis the history of the following case is based:—

Mr. G. S., aged fifty-six, German, shoemaker, served in the German army, and when a young man led an irregular life. He presented no marks of syphilis, and no history of his having suffered from that disease could be ascertained. He had always been a moderate drinker of beer, but never indulged in the stronger alcoholic liquors.

He was a large, heavily built man, and, with the exception of occasional headaches, had enjoyed good health until the latter part of the year 1880, when the loss of his wife, followed by other domestic unhappiness, seemed sufficient to disarrange an already ill-arranged nervous system. His temper had been irritable for many years, but now he became subject to frequent outbursts of passion, during which he would vent his spleen on any one who chanced to be near him. His memory became very treacherous, often getting confused in his business, and even at times being unable to remember the day of the week. His headache became constant and more severe.

During the spring and early part of the summer of 1881, he had what he called "rheumatic attacks," during which, while attending to his usual duties, he would be seized suddenly by a sharp pain in the course of the left sciatic nerve, followed by immediate paralysis of the left arm and leg, compelling him to sit down to save himself from falling. During the attacks he did not lose consciousness. The paralysis never lasted longer than a few minutes, power of motion returning and seeming to be as good as before the shock. The frequency of the hemiplegic seizures, two or three attacks often occurring weekly, depended upon causes giving rise to outbursts of passion. Sudden changes of weather were apparently associated with the nervous disturbance.

His symptoms remained unchanged until the latter part of October, when, in a fit of anger, he fell to the

floor, frothed at the mouth, and became convulsed. No paralysis followed the convulsion, but the headache steadily increased, compelling him to take to his bed. As on this, so on every succeeding day during his entire illness, he remained in bed only a portion of the day.

The head-pain, now constant, was so severe that it prevented continuous sleep, and from short naps which he would occasionally get he would be awakened suddenly by violent exacerbations of pain.

He was attended by homeopathic physicians until November 12th, two weeks before his death, when Dr. Dennis was requested to take charge of the case. His temperature at this time was 99.5° F.; pulse 70 per minute, full and strong; respirations natural; appetite capricious, tongue coated, stomach intolerant, and bowels obstinately constipated. Urine scanty, high colored, and free from albumen, was voided voluntarily until a short time before his death, when it was occasionally passed involuntarily. The skin was slightly jaundiced. He complained of occasional chills, and was very sensitive to changes in the atmosphere. Nocturnal delirium soon began. He was very restless, saw strange things and people in his room, and would occasionally rise during the middle of the night and awake the whole family, telling them that it was time to get up for the day. At times his mind seemed to be a blank; he could not tell the day of the week, and would frequently be unable to distinguish day from night. On other occasions his mind was clear, but during these lucid intervals he could converse intelligently and connectedly for a few minutes only, thought suddenly ceasing to be generated, when a vacant stare would be his only reply to questions which a few minutes before he had answered promptly and correctly. Impressions were persistently and obstinately adhered to, and any attempt at persuasion to the contrary was not calmly received. His headache, principally frontal, and right-sided, was now sharp and lancinating, requiring hypodermic injections of morphia and atropia to relieve it. The orbital and other branches of the fifth nerves were very sensitive to pressure. His temperature during Dr. Dennis's attendance, though usually above the normal, reached 100° F. only on two or three occasions. The muscles of the left arm and leg were decidedly weaker than those of the right, yet sufficiently strong in the leg to support his weight for a short time. Turning in bed was difficult. When the left arm unaided was held at right angles with the body a decided muscular twitching began. Occasional muscular twitchings took place when the arm was passive.

He thus continued, gradually getting worse, until November 25th, about five weeks after his giving up work, when Dr. Dennis requested me to see him in consultation.

When I first entered the room he seemed bright, and conversed intelligently. He had not talked long, however, before he began to hesitate in his answers, appearing to have difficulty in understanding me, and being more puzzled in framing answers to my questions. Soon he was unable to form more than one or two words of a sentence, and finally uttered a meaningless "yes" or "no," or stared vacantly, when spoken to. Pupils were small and equal in size, brows were contracted, and he complained of great pain in his head. The eyes were very sensitive to light, making it extremely difficult to make an accurate or satisfac-

<sup>1</sup> Concluded from page 125.



tory ophthalmoscopic examination. The acuteness of vision and the condition of the other special senses could not be ascertained. The retina were found to be slightly hyperemic, and the optic disks somewhat swollen. No muscle or groups of muscles were paralyzed, but those of the left arm and leg were weak, and an attempt at coordination produced a muscular tremor. The left side of the face was apparently less expressive than the right. The heart, lungs, liver and kidneys showed no evidence of disease. Temperature was 100° F.; pulse 68, and full; respirations 16 per minute.

An opinion was given that the man was suffering from chronic meningitis of months' duration, and that a recent complication of softening or abscess of the brain had taken place.

As Dr. Dennis had enjoined rest in bed, and was doing everything necessary for the comfort and welfare of his patient, no change in treatment was made.

The next day Mr. S. was feeling so comfortable that he got up, dressed himself, and without assistance went down stairs from the third to the first floor to

FIG. 5.

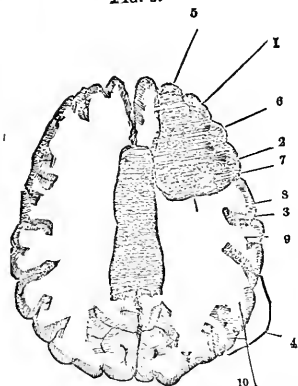


FIG. 5. Abscess as seen by a longitudino-horizonal section on a level with the corpus callosum. The numbers represent the same parts as in Fig. 3.

dinner. After eating he was helped to his third story room. He expressed himself as feeling tired and sleepy, and lay down to rest. He was left alone about one hour, when one of his daughters looking in his room found him on the floor, where he had fallen in getting out of bed. The left side was now found to be entirely paralyzed. He was placed in bed and left alone. Shortly after this, when looked after, he was found asleep and snoring loudly. As his repose was supposed to be a natural one, he was not immediately disturbed. About six P. M. the daughter, thinking it strange that nothing was heard from her father, went into his room and endeavored to arouse him, but to her surprise found him dead.

Post-mortem examination thirty-six hours after death.

**Brain.** The dura mater over the entire extent of its bony attachment, was inflamed and firmly adherent to its osseous envelope. At the base of the external membrane was so closely attached that it could be separated from the bone only in piecemeal by the scalpel.

The cranial nerves were apparently uninvolved in the diseased process. No abnormal quantities of fluid were found in the subarachnoid space. The blood-vessels of the pia mater were engorged, and the membrane was slightly adherent to the brain substance. The entire external surface of the brain appeared nearly normal, presenting no gross lesions of softening. Superficial portions of convolutions in the neighborhood of the greatest amount of inflammation were examined under the microscope, and found to be in nearly a normal condition.

An abscess was found on the right side involving chiefly the centrum ovale of the pre-frontal region, but also to some extent, in its middle part, the inner layers

FIG. 6.

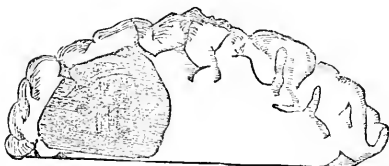


FIG. 6. Abscess (shaded) as seen by a vertico-longitudinal section made a little externally to the basal ganglia through the cortical substance and centrum ovale of the right hemisphere.

of gray matter of the first, second, and third frontal convolutions. On attempting to localize exactly the posterior limits of the abscess, it was found that a vertico-transverse section through the anterior lobe made just in front of the pre-central fissure externally, and striking the anterior extremities of the ganglia internally, just grazed its posterior limits. The abscess extended forward to within one inch of the anterior extremity of the lobe. Very few, if any, of the white fibres from the ascending frontal convolutions were involved. At the posterior and interior boundaries of the abscess a bloody nodulated mass two thirds of an inch in its greatest dimensions was found. Other portions of the brain were apparently healthy. No emboli or thrombi were found.

The abscess did not communicate with the lateral ventricle, nor open upon the external surface of the brain to account for sudden death.

Microscopic examination of the nodulated mass and adjacent parts showed no new cell formation tissue; the nodule and the parts around exhibited nothing besides disintegrating brain tissue with its blood-vessels, and a few blood corpuscles.

**Remarks.** We cannot boast of our knowledge of the functions of the antero-frontal lobes, yet pathology, and, later, physiology, have from time to time thrown some light on this obscure subject. The "crow-bar case" of Bigelow, the bullet wound related by Trouseau (quoted by Ferrier), the other cases mentioned, analyzed by Charcot and Pitres,<sup>1</sup> the tumor of the right antero-frontal lobe presented to the Pathological Society of Philadelphia by Dr. C. K. Mills,<sup>2</sup> and the lesion just described in connection with Case II. of this paper, in all of which the antero-frontal lobe was destroyed to a greater or less extent without any paraly-

<sup>1</sup> Reviewed by Ferrier and quoted by Mills, Philadelphia Medical Times, January 18, 1879.

<sup>2</sup> Transactions of Philadelphia Pathological Society, vol. ix., p. 106.

sis attributable to the lesion in this region, lead us to accept the conclusions of Charcot and Pitres, that motor disturbances of the slightest character do not necessarily follow lesions in the antero-frontal regions.

For the light physiology has shed upon the function of this region of the brain I quote from Dr. Mills's article on tumor of the brain:<sup>1</sup> "Ferrier,<sup>2</sup> in his experiments on the antero-frontal regions of the brain of the monkey, generally obtained negative results. Electrical irritation usually caused no special manifestations. Removal or destruction was not followed by any definite physiological results. The animals operated on, however, while not actually deprived of intelligence had apparently lost the faculty of attentive and intelligent observations. When considering the hemispheres physiologically, Ferrier argues also that the power of fixing the attention and concentrating consciousness depends on inhibition. He shows that if the centres of inhibition, and thereby the faculty of attention, are weak, or present impulses unusually strong, volition becomes impulsive rather than deliberate."

It will be remembered that the patient in Case II., where the lesion was in the antero-frontal lobe, presented symptoms in accord mainly with the physiological experiments of Ferrier. The man was emotional and passionate, and his power of attention was weak and of short duration. He seemed at times to lose will power. Only temporary paralysis was observed, and this always after some fatigue, which may have induced some restraining influence from other portions of the brain, or, what is probably more correct, as some of the fibres connecting the motor region of the brain with the muscles of the arm and leg were destroyed, the remaining healthy fibres became exhausted from overwork.

Among the other interesting features of the second case are the sudden death and the patient's ability at times to walk well, although at others the paralysis was so extensive that he was not able to stand.

That he was able to walk at all was apparently due to the fact, sustained by the post-mortem examination, that not all of the fibres through which motor impulses passed from the brain to the muscles of the leg were involved in the destructive process. When he was resting a few fibres, for a short time, could do the work of a greater number.

If this view be correct it will enable us to explain the cause of sudden death, although there was neither hemorrhagic apoplexy nor bursting of the abscess into the ventricles or on the surface of the brain. The unusual strain that he put upon his crippled brain a few hours before his death in descending and ascending two flights of stairs, and in sitting up to eat his dinner, so exhausted his nerve centres that its effects came like a shock from a severe cerebral hemorrhage. The occurrence of the hemiplegic seizures may be accounted for, probably, by the sudden overloading of the congested vessels of the brain during his fits of anger.

CASE III. Abscess of the brain; gangrenous inflammation of the right sylvian artery; and occlusion of some of its branches; facial erysipelas; pneumonia in the left lung.

J. R., male, aged about forty, laborer in a sugar refinery, had been sick and delirious for several days, was brought into the St. Mary's Hospital during the

past winter in an unconscious condition. His previous history could not be ascertained. His respirations were rapid and abdominal; pulse small, weak, and irregular; temperature not taken. No urine was obtained for examination. His face was swollen and of a dark erysipelatous hue. The swelling around the eyes was too great to admit of an examination of the pupils. The facial swelling and comatose condition prevented the detection of local palsies, if such existed. He did not regain consciousness, but died about six hours after his admission.

*Autopsy eight hours after death.* The abdominal cavity was not opened. The entire left lung was in the second stage of pneumonia; the right lung and the heart were in nearly normal conditions. Only slight quantities of serous fluid were found in the pericardium and right pleural sac; considerable fibro-serous effusion was found in the left pleura.

*Brain.* The dura mater was slightly congested, but there were no evidences of decided inflammation in it. The pia mater covering the convex surfaces of both hemispheres and that beneath the right was opaque. Its blood-vessels were highly engorged, and deposits of lymph and pus were found. At and just posterior to the right sylvian fissure there was a considerable quantity of pus, and sufficient lymph to so mask the structures at this point as to make them look like one mass of inflammatory products. The trunk of the sylvian artery was almost black, its calibre lessened, but apparently not entirely obliterated. Some of its secondary branches, especially the lower ones from the parieto-sphenoidal and sphenoidal arteries, were occluded and seemingly gangrenous (Fig. 7). After

FIG. 7.

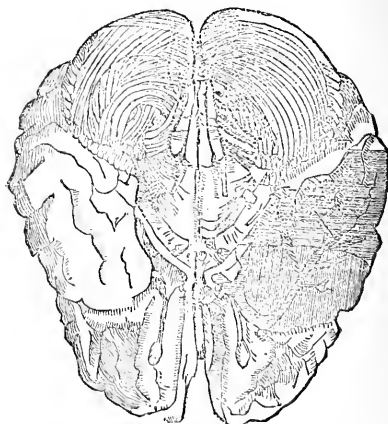


FIG. 7. The dark portion of the right temporo-sphenoidal lobe denotes the seat of the abscess, the shaded portion of the same lobe the softened (superficial) surface.

carefully removing the pia mater the convolutions and brain substance of the left hemisphere appeared nearly normal. The under and external surfaces of the right temporo-sphenoidal lobe from its anterior tip to its junction with the occipito-parietal lobes were softened to the depth of about an eighth of an inch. A superficial abscess or a mass of softened brain substance, about one inch in all its dimensions, occupied the an-

<sup>1</sup> Philadelphia Medical Times, January 18, 1879.

<sup>2</sup> Functions of the Brain, page 230.

terior extremities of the first, second, and third temporo-sphenoidal lobules. The contents of the abscess were, in the centre, a watery fluid, surrounded by broken down brain substance and blood constituents, and on the outside a thick layer of pus and other exudative matter.

The cranial nerves were but little encroached upon by the inflammatory deposits. Nothing special was noticed in the sinuses of the brain besides their blackened and engorged appearance. The ganglia were apparently normal.

The patient was not seen by me during life, and he was under the observation of Dr. Strittmatter, the resident physician of the Hospital, only six hours before his death. The circumstance of his death was investigated by the coroner, which necessitated great hurry in examining the brain and its membranes and sinuses. The consideration of the cause of the abscess and meningitis, and the nature of the cyrsipelas, I shall leave for those who may take part in the discussion.

[After the reading of the preceding paper, Dr. CHARLES K. MILLS said:—]

A careful examination of the cerebral sinuses might have thrown some additional light upon the third case. It was of great importance in all cases of abscess of the brain to investigate the condition of the sinuses of the dura mater. Abscess and thrombosis were not infrequently associated, and sometimes held to each other a causative relation. In the account of the condition of the patient (Case III.) it was stated that his face was swollen, and of a dark erysipelatous hue, the swelling around the eyes being too great to admit of an examination of the pupils or of the interior of the eyes. The erysipelatous appearance may have been the pseudo-erysipelatous which accompanies some form of cerebral thrombosis. The ophthalmic veins end in the cavernous sinuses. These veins have also a communication with the veins of the face. The facial vein, beginning on the anterior portion of the head, descends about the middle of the forehead, as the frontal vein, to the root of the nose, and then is continued downwards around the angle of the eye, under the name of the angular vein.

This angular vein communicates with the ophthalmic vein. Hence it will be seen how swelling of those veins outside of the skull, which insinuate with the sinuses within, may become the most striking and positive signs of obstruction of the sinuses. (Edema of the eyelids and face, and congestion of the eyes, mean venous stasis in the parts drained by the ophthalmic veins.

These phenomena were present in Dr. Eskridge's third case.

These three cases of abscess of the brain, well studied and described, constitute a valuable addition to the literature of intra-cranial diseases.

## Reports of Societies.

### PROCEEDINGS OF THE SURGICAL SECTION OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

H. C. HAVEN, M. D., SECRETARY.

MAY 20, 1882. DR. R. M. HODGES, presiding.

#### FIBRO-MYOMA UTERI.<sup>1</sup>

DR. J. W. ELLIOT read a paper entitled Fibro-myoma Uteri; Dysmenorrhœa for fifteen years; Enucleation; Recovery.

DR. G. H. LYMAN opened the discussion by mentioning a case where a small fibroid of the cervix had given rise to intense pain during menstruation. Entire relief followed its removal and pregnancy soon ensued. Dr. Lyman also spoke of the connection between the relation of the tumor to the uterine walls, and the amount of hæmorrhage, the nearer to the peritonæum, the less the hæmorrhage. Dr. Lyman had for some time held the theory that the hæmorrhage was largely due to a venous stasis caused by the contraction of the internal os; he had previously called the attention of the Society to the great value of dilatation of the cervix as a means of arresting hæmorrhage, and had since found no reason for abandoning his theory.

In regard to the use of sponge tents Dr. Lyman had not supposed they were still in use in this locality; they are to be condemned as a general rule, sea tangle or tupelo tents being preferable.

DR. BAKER thought the only criticism that could be made on the reader's management of a very difficult case was in regard to the use of a third series of tents. It was Dr. Baker's custom, if a sufficient dilatation was not gained by the second series, to wait a few days, and commence again; but never to introduce a third series. A point to be remembered in the use of tents was the tendency on the part of the uterus to force it out beyond the internal os; it was often necessary either to tampon or to fasten the tent by a stitch through the cervix. Dr. Baker advised strongly against the method of treatment by ergot, and frequent dilatation with incision of the cervix, as compared with the operation employed by Dr. Elliot.

The difficulties of removing a small tumor from the fundus of the uterus are very great, and can only be appreciated by one who has tried it.

DR. ELLIOT agreed with Dr. Lyman in regard to hæmorrhage being often caused by venous stasis, but thought it was also often due to a hyperplastic degeneration of the mucous membrane, in which case he would hardly expect a cure from dividing the cervix.

With regard to laminaria, Professor Schultze, of Jena, has used them with antiseptic precautions in one thousand cases, with only five resulting cases of parametritis. Cohn objects to their use because the fresh weed easily putrefies, and that they do occasionally become septic in water.

In reply to Dr. Baker, Dr. Elliot thought the great danger in the use of tents was from septic poisoning. The mere dilatation of the uterus is physiological. The danger comes from using septic materials in tents which is taken up by the veins and lymphatics with the result of septicæmia or parametritis, which may be slight, or may go to septicæmia or pyæmia, or may not be severe enough to bring about a general septic condition

GRAD. graduates! They realize  
Our Tennyson's old fancies,  
And, winning academic prize,  
They scorn seductive dances.  
Here come the feminine M. D.'s,  
Of phisic fair concoters,  
Who write prescriptions with such ease,  
The "violet-hooded doctors." *Punch.*

<sup>1</sup> Vide page 151 of this number of the JOURNAL.

or even local suppuration. If then, the tents are thoroughly aseptic, what harm in using a third or a fourth series or enough to dilate sufficiently? It is not of course a thing to do rashly, but it does not seem to Dr. Elliot a thing to shrink from if dilatation were necessary. Dr. Baker's dread of dilating is perhaps founded on experience from sponge tents. If the dilatation had been performed by sponge tents, Dr. Elliot would agree. But Dr. Elliot objected to the use of sponge tents for reasons given in the paper.

After a general discussion as to the relative meaning of the words parametritis and cellulitis, Dr. F. B. GREENOUGH presented a paper entitled

#### THE RATIONAL AND ROUTINE TREATMENT OF VENEREAL DISEASE.<sup>1</sup>

Dr. POST asked if the reader would include excision of the primary lesion with the cauterization.

Dr. GREENOUGH answered yes.

Dr. POST mentioned that of the large number of cases seen by him at Chelsea, the character of the primary sore was almost always masked by the use of "blue-stone," which is so universal among seamen.

Dr. LANGMAID expressed his surprise at the sweeping strictures of the reader on caustics, for while agreeing in the main, his own experience had given him great faith in the application of nitric acid and acid nitrate of mercury. He believed he secured better results with iodoform, and avoided the disagreeable smell of the latter, often a matter of great importance. The pain from the application of the acid nitrate of mercury was at first severe, but could be very much controlled by the preliminary application of carbolic acid.

In regard to the so-called secondary and tertiary ulcerations of the mouth and throat, Dr. Langmaid dissented from Dr. Greenough. He found in these cases great good to result from the occasional application of acid nitrate of mercury, together with constitutional treatment. He had seen the most obstinate ulcers heal repeatedly under this method of treatment, and even the perforations of the hard palate, which are usually considered as hopeless.

In regard to the question of marriage, Dr. GREENOUGH said that while he could not conceive of any combination of circumstances which would justify a physician in guaranteeing a patient who had had syphilis from the possibility of future relapses, he did think that in cases where treatment had been kept up for two years, and another year had elapsed without any relapse, the chances were decidedly against any manifestations of a specific nature either in the patient or his progeny. He thought that the number of cases of patients who, having had an attack of syphilis, went through life without ever hearing from it again, must be greater than formerly. Where, on the other hand, a patient has had relapses, he never can feel safe as to the future.

Dr. PARKS asked if Dr. Greenough believed in a sympathetic gonorrheal disease of the eyes that is not due to infection. The reader had never seen such a case, but it was described by older writers.

Dr. WALLERMAN asked if Dr. Greenough could give any statistics as to the spontaneous cure of syphilis.

The reader could not, but thought there must be quite a large number, judging from the very slight amount of treatment that many cases receive. In dispensary

practice a large proportion of patients cease their attendance as soon as their symptoms have disappeared. He had known of cases where, from recklessness or carelessness, practically no systematic treatment had been followed out, and yet the disease seems to have been entirely eradicated.

### Recent Literature.

*Contributions to Practical Gynecology.* By S. JAMES DONALDSON, M. D. Trow's Printing and Book-Binding Company. Pages 130.

This little book contains two essays, written for the New York Medico-Chirurgical Society.

Part I. Practical Observations upon Uterine Flexions. The first chapter contains a sharp criticism of the plates of the pelvic organs which are found in our text-books. Donaldson says with truth: "In many of these diagrams it would appear that the design was to adapt the pelvic organs to the conformation of some instrument."

Some of the diagrams in Thomas's book he finds especially incorrect and misleading.

Then follows a very good diagram by Donaldson, showing the various relations of the pelvic organs.

He next discusses prolapse and retroversion, for the treatment of which conditions he uses a modification of Cutter's external pessary, which is to be removed at night by the patient. He disposes of internal pessaries by saying: "Every physician is well aware of the uselessness of expecting any restorative benefits from an internal pessary worn constantly."

He offers no convincing evidence that this statement is true. He has, however, hit on a most interesting point; for now that gynecologists can successfully relieve grave symptoms by the use of pessaries, the next problem is to get rid of the pessary without a return of the deformity. Their efforts, we think, are now aimed in the right direction, and we find skillful gynecologists more and more successful in gradually diminishing the size of, and in finally removing, their pessaries. Next follows a very full discussion of uterine flexions, in which it seems to us that he attributes undue importance to them. In their treatment he uses an elastic intra-uterine stem, which is attached to a hard rubber vaginal part by an elastic band. The idea is by no means new, but his pessary seems more complicated and less possible of being kept clean than any we have seen. Donaldson seems to meet more cases requiring the stem than we are in the habit of seeing. We consider it necessary that a flexion should give rise to marked symptoms to require the use of an instrument in treatment which may cause most disastrous results.

External pessaries seem to us objectionable where internal can be used. The indications for stem pessaries are not yet clearly defined; but it is certain that they should be used with great caution.

Part II. Practical Observations upon Dysmenorrhea.

This is the most valuable part of the book, and contains an interesting and full discussion of the causes and treatment of dysmenorrhea. In cases due to flexions he strongly recommends the use of his stem pessary, and the article closes with careful directions for its use.

<sup>1</sup> Vide page 145.

## Medical and Surgical Journal.

THURSDAY, AUGUST 17, 1882.

A Journal of Medicine, Surgery, and Allied Sciences, published weekly by HOUGHTON, MIFFLIN AND COMPANY, Boston. Price, 15 cents a number; \$5.00 a year, including postage.

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No. 4 PARK STREET, BOSTON, MASS.

## THE PREVENTION OF SYPHILIS.

It is somewhat singular that in this country there should be carefully exempted from all regulation or repressive measures a single disease, or rather a set of diseases, and this not because of their insignificance, but simply because of their mode of communication. If a man have small-pox, he is hurriedly isolated, and all possible danger to his neighbors is carefully prevented. If he have the greater disease, he is at liberty to spread it as his ignorance or his wickedness may direct.

An important distinction between the two diseases lies in the fact that one is infectious and the other contagious; and the fact that the latter, being propagated only by contact, is most frequently transferred in the act of sexual connection, makes of it so low a thing that an American community cannot recognize its existence. But, unfortunately, shutting the eyes is not an effectual way of combating an evil; while the farmer slept, the weeds grew; and we do more than sleep. By positively ignoring the existence of syphilis we actually encourage its growth. If a woman have become diseased, we almost force her to infect others by denying facilities for treatment, and by exemption from hospital privileges, which, with equal persistency, we force upon others.

The more the disease is studied, the more numerous appear the ways in which it may be propagated. Cases of non-venereal syphilis may be said to be of every-day occurrence. Anything which is passed from one man to another, particularly anything which may be passed from one person's mouth to another's, may be the vehicle of contagion. The limit to the contagious powers of a syphilitic are by no means definitely settled. The difficulties in the way of its regulation are numerous, lying partially in the nature of the subject, but in great measure in the delicate sensibilities of the religious world, which refuses to consider so unsavory a subject. In this connection it is with especial pleasure that we mention the address of Dr. Gibon, of the United States Navy, on the prevention of venereal disease by legislation, read before the Medico-Legal Society last April. To it is appended the proposed act entitled An Act to prevent the Spread of Contagious Diseases, which we published on July 20th. Its noticeable feature was contained in the following:—

ART. III. That the State Board of Health, with the approval of the Governor, and the Health Board of the city of ———

with the approval of the mayor of said city, shall have power to institute and carry out all suitable measures to prevent the spread of diseases of a contagious character, and may, if deemed advisable, remove to proper hospitals selected by them all persons suffering from contagious diseases, who, neglecting proper precautions, imperil the health of the community.

Firmly as we may believe in the curability of syphilis, its increasing mildness, or the gradual syphilization of the race, it is still a serious disease, and deserves serious attention. The proposed legislative control mentioned above we have little expectation of seeing adopted; at present such an attempt at regulation would probably be a failure, but as a contribution to the discussion of the subject it is an exceedingly wise one, drawing attention to the parallels between venereal and other contagious diseases. We know of no better way to attract the attention of thinking people.

## OBSERVATIONS ON AN EPIDEMIC OF RELAPSING FEVER.

An account is given in Virchow's Archives (vol. lxxvii., Part 3), by Dr. Meschede, of an epidemic of relapsing fever which manifested itself in Königsberg, and lasted about fifteen months, — from the middle of March, 1879, till June, 1880. The account deals simply with the cases received at the Königsberg hospital and embraces 360 cases, of which 305 were men and 55 women, that is, about eighty-five per cent. men, and fifteen per cent. women. This is about the relative proportion of the sexes attacked in epidemics of this disease, as previously observed in Germany. An epidemic in Breslau gave eighty-three per cent. of cases of males, and seventeen per cent. of cases of females; and one in Danzig — both of these records, like that at Königsberg, being among hospital patients — gave eighty-seven per cent. among males, and thirteen per cent. among females. The far greater proportion of men than women attacked by relapsing fever is readily explainable by their greater exposure to sources of contagion as tramps in the country in search of work, and in the towns and cities, in the cheap lodging-houses, and especially in the police stations and prisons, which Meschede regards as the genuine breeding grounds of this disease in Germany. The term famine fever is not especially applicable to the disease, and only indirectly indicates its origin.

Of the total number attacked 133 were laborers, 113 apprentices, 23 servant girls, 18 messengers, etc., etc. The laborers and apprentices belonged, as a rule, to the peripatetic class. Two hundred and sixty-five of the whole number were unmarried, and more than half were utterly homeless. Half of the cases were between 18 and 30 years of age, and none of the patients were under 10 or more than 64 years of age. In other words the years of greatest vigor furnished the largest number of cases. Meschede concludes from his observations, therefore, that it is not deficient nutrition nor other deteriorating influences tending to lower the tone of the system, which cause relapsing fever, but solely and simply the contagium

absorbed either by the respiratory tract, by cutaneous infection of excoriated surfaces, or conveyed by spirochæta taken with food and drink.

The discovery of the spirochæta by Obermeier put an end really to the old idea of a famine fever. But though no longer to be regarded as immediate causes, want and filth, by preparing a favorable soil, are allies of the causative germ. Relapsing fever is rarely met with except among the ill fed and ill housed, but it can be even more positively asserted that relapsing fever is synonymous with the presence in the blood, at least at some stage of the disease, of the spirochæta of Obermeier, by inoculation of which the disease has been conveyed both to men and to animals. In evidence of the contagiousness of the disease even among the well-to-do, is cited its contraction by the physician, three nurses, and an attendant at the hospital at Freiburg, in Saxony, during an epidemic in 1879; by five out of eleven nurses at the Danzig hospital; and by two physicians and three nurses at the Königsberg hospital.

During the height of the epidemic of relapsing fever typhus fever broke out among the Königsberg patients, and attacked, among others, four of the convalescents in the hospital from relapsing fever; the latter disease, on the other hand, attacking two patients just convalescent from typhus fever.

The general features of the malady, as observed by Meschede, reproduced very accurately the excellent descriptions of Griesinger and Obermeier. The number of relapses were as follows in these cases: 5 relapses in 2 cases, 4 in 7 cases, 3 in 107, 2 in 120, 1 in 58 cases; the balance of the cases took a very mild or abortive course, except 14, which are reported under the head of bilious typhoid, a term which we regret Griesinger should have introduced, believing it to be simply relapsing fever with hepatic complications. The mortality was seven per cent., about an average mortality, and in most cases death was preceded by some serious complications, pneumonia being especially common. Death most frequently occurred in the remission following the second attack. Lebert, in his article in Ziemssen's Cyclopadia, places it usually during the second attack itself. The average duration of the various attacks were as follows: first attack, seven to six days; second, five to four days; third, four to three days; fourth, two to one day; fifth, one day. The average duration of the intermissions were, first intermission, seven to eight days; second, nine to ten days; third, eleven to twelve days. The attacks decrease, and the intermissions increase in duration as the disease progresses. On these points Meschede coincides with previous observers. In sixty-four per cent. of his cases the highest temperature was observed at the end of the second attack, just before the second intermission.

The spirochæta was almost constantly found in all the attacks, though only by the use of powers magnifying five hundred to one thousand times; in some preparations the spirochæta remained alive for days, continuing their movements; in all cases of bilious typhoid without exception the spirochæta were en-

countered, and in several of these cases a very large spleen was found. Meschede does not say how many, if any, of his cases were distinct repetitions of the disease.

Relapsing fever has never succeeded in gaining a foothold in America, its rare invasions of our Atlantic seaports having been of temporary duration, but we are liable to a repetition of them at any time in a more serious form, and we should be familiar with the latest observations of those, unfortunately, compelled to be better acquainted with this disease. Moreover, the discovery and thorough authentication of the spirillum or spirochæta as a prominent feature, and, without much doubt, the immediate cause of the symptoms, render it an especially interesting malady in this germ-seeking age.

#### MEDICAL NOTES.

— Amongst the ample stores to be sent from England to Egypt are four steam ice-machines, the use of which will be taught to members of the hospital corps. Every field hospital will have its ice box, which will be filled with fresh ice every day.

— The New Sydenham Society announces for publication a translation of Billroth's Clinical Surgery: Extracts from the reports of Surgical Practice between the years 1860 and 1876.

— The following item makes us fear that the *Boston Advertiser* is lacking in faith: "The young woman of Lawrence who was reported cured of hip disease by prayer at Old Orchard last week is still obliged to use a crutch."

— The remains of the anatomical subjects of Paris are hereafter to be cremated.

— Among the inducements to subscribers in the *Strict Constructionist* is the following: "To physicians: No medical advertisement will be received into these columns, either of books, drugs, or doctors; furthermore, as the proprietor has been through the regular Harvard medical course, it need not be said that the paper will be able to see both sides of certain unpopular controverted topics."

— At a meeting of the Medico-Chirurgical Society of Montreal, Dr. Shepherd, Demonstrator of Anatomy at McGill College, read a paper on a hitherto undescribed fracture of the astragalus, and exhibited three specimens from dissecting-room subjects. The portion fractured was the process external to the groove of the flexor longus pollicis muscle, to which the posterior fasciculus of the external lateral ligament of the ankle-joint is attached. Dr. Shepherd thought that it was produced by extreme flexion of the ankle with a twist of the foot outwards, and was probably one of the lesions which occurred in severe sprain. He suggested that it might account for some of the cases of severe sprain which recovered with impaired movement of the joint. The union was fibrous. He had not been able to produce the fracture experimentally. At a subsequent meeting, Dr. Shepherd showed a fourth specimen in which there was bony union. There was no history to any of these cases. — *Philadelphia Medical News*, June 10th.

—The *British Medical Journal* relates a novel method of assault upon a member of the profession. At about eleven o'clock at night, a respectably dressed woman called at the residence of Dr. Whitelaw, and stated that he was wanted professionally half a mile beyond the burgh. After interrogating the woman, Dr. Whitelaw, of Kirkintilloch, at once accompanied her. On approaching a secluded part of the road, he was suddenly set upon by two men and knocked down, one of them inflicting a severe kick upon the ankle, splintering the bone and dislocating the ankle-joint. His assailants at once proceeded to rifle his pockets, the woman assisting to hold him down. Fortunately, the only property Dr. Whitelaw had about him was a pocket-thermometer, a pocket-knife, and 7½d. in cash, as he had fortunately laid aside his gold watch and chain. When the thieves discovered that this was all that he had, they threatened to shoot him, but finally decamped, leaving their victim lying in the road. After a time, he managed to crawl a distance of about three hundred yards, where he got assistance and was carried home. Much sympathy is naturally felt for Dr. Whitelaw, who is highly esteemed in the locality. How much sympathy he would have received had he refused to take such a walk with a stranger can well be imagined.

—The Report of the Select Committee of the House of Lords to inquire into the state of the law relating to the Protection of Young Girls, establishes the fact of the existence of a trade in girls between England and Belgium for immoral purposes. The committee also prove that juvenile immorality is alarmingly on the increase, and that cases are known of children following the profession of prostitutes from an incredibly early age. They recommend that the age of irresponsibility in girls should be raised; that persons shall be guilty of a misdemeanor who harbor girls under seventeen for immoral purposes; that girls under sixteen soliciting in the public streets shall be sent to industrial schools; and that the enforcement of the law shall be more rigorous in the case of street-walking.

—Professor Walley, of Edinburgh, addressing a veterinary association in a northern county (*Veterinarian*, July, 1882), related the following instance of the milking qualities of a cow well advanced in tuberculosis: "During the course of my periodical inspection of the Edinburgh byres, I observed in one of them a short-horn cow showing unmistakable symptoms of advanced pulmonary tuberculosis, with extensive tubercular mammitis. I asked incidentally if the cow gave any milk, and was told that she gave three quarts at each meal; and on trying the udder I found it was then tolerable full. A few days after I again visited this cow, and found her almost in *extremis* from dyspnoea, induced by concurrent emphysema pulmonum, still giving, however, a large quantity of milk. The owner, acting on my advice, had her slaughtered; and the autopsy revealed almost universal tubercular invasion of both lungs, and of the left half of the udder."

## NEW YORK.

—The recent hot weather, as was naturally to be expected, has been telling very materially on the death-rate of the city. During the week ending July 29th, the mortality reached the high figure of 1217 (the majority of the deaths occurring in children under five years of age); and this was the greatest during any one week since the summer of 1872, when in that ending July 6th, there were 1591 deaths, 212 of which were from sun-stroke. Small-pox was also epidemic in the city at that time. In the last week of July for the past five years the death-rate was in 1881, 882; 1880, 654; 1879, 636; 1878, 732; and 1877, 650. The highest mortality in any one week in 1881 was during the week ending August 9th, when the number of deaths was 1144. During the month of July just past the total deaths were 3893.

It is unfortunate that the appropriation made for the expenses of the extra corps of physicians who systematically visit the tenement-house districts with a view of alleviating the condition of the poor, and especially of looking after the health of the children during the hot weather, is not sufficient to keep them on duty during the entire months of July and August, instead of for only five weeks, as is at present the case.

This year they did not commence their work until the first of August. The general report of the physicians at the end of the first week of their work was that they had found the sanitary condition of the city better this year than for some time before, and that the population of the tenement districts were more alive to the necessity of cleanliness. There were also fewer cases of contagious disease than usual discovered. Most of those met with were in the southeastern portion of the city, in the vicinity of the Bowery, and the appointment of a special inspector for this district was urged by the physician in charge.

## Miscellany.

## GAETANO VALERJ.

AMONG the star-bearing names in the annual record of the Massachusetts Medical Society, just published, is that of Gaetano Valerj, of Rome, Italy, an honorary member of the Society.

Though late, it is still fitting that this distinguished physician and eminent man should receive here and now our tribute of affection, and that a short sketch of his life and character should be presented to his many and grateful friends in this country.

Professor Commendatore Gaetano Valerj, M. D., for such were his principal titles, was born in Loreto, Northern Italy, January 18, 1818.—the son of Cavaliere Domenico Valerj, a noted civil engineer of that city. He died at Rome, after a short illness, February 12, 1882, "fra i conforti della Religione."

In his first studies young Valerj was educated at Osimo, in a college conducted by free secular priests, a body of men whose large and liberal spirit accorded well with the tendencies of the times, and assisted much

in making Osimo a centre of attraction to men of learning and science.

Thence, leaving college with high reputation, Valerj went to Rome to devote himself to medical studies at the University and clinics of that city. At Rome he greatly distinguished himself, carrying off the "laurea honorifica," and gaining, by *concours*, the post of assistant in the Faculty.

Having completed his university course, Dr. Valerj went to France and to England, where he assiduously attended the hospitals and clinics, especially at Paris and London, for nearly two years; and gained the permanent personal friendship of Trousseau, Nélaton, Bright, Watson, Brodie, and other eminent men. In this, and in two subsequent similar visits, he showed his ever ardent desire to keep himself fully abreast with the most recent advancements in science and practice.

Among his earlier appointments was that of physician-in-chief to St. Spirito Hospital; and when, after twenty-five years of service there, he felt compelled, on account of enfeebled health, to send in his resignation, the place was kept open for him for two years, in the hope that he might be able to again resume it.

Through the efforts of Dr. Valerj a chair of pathological anatomy was established in the University, and he was chosen its first professor. After twenty-four years he gave up this professorship for that of clinical medicine, and a few years later passed to that of hygiene, which also he had instituted.

As a teacher he was at once learned and truly popular; and in all matters of medical science, ancient and modern, he was looked up to as authority by professors, students, and practitioners.

As a medical man, thorough investigation, unsparing labor, and extreme caution, were his leading characteristics in solving the mysteries of disease. He belonged to the observant, progressive, expectant class, somewhat "nihilistic," perhaps, in full agreement with his favorite author, Baglivi, whom he calls the Roman Hippocrates, and whom he quotes as saying that "Nature, not drugs, cures diseases," that "physicians and remedies, to be useful, must accord with Nature," and that "by neglect of this doctrine patients are now martyrs to drugs and medicines." He had rivals, opponents rather, some not over scrupulous, as every man actively independent of traditional dogmas must have, but never a personal enemy. He put a high estimate on his calling, and felt the degradation brought upon the profession by the mercenary methods of some practitioners, in view of it declaring to a friend that he regretted that the duty of providing for his own ever compelled him to accept pecuniary compensation.

As a practitioner he was considered eminently successful, and had the unreserved confidence of his fellow-citizens and foreigners alike. In a marked degree the poor and the oppressed always found in him a benefactor, friend, and cheering attendant.

With Americans visiting Rome Dr. Valerj was an especial favorite and a greatly beloved physician. Nor was this partiality unreciprocated. Many, very many, can attest to his unselfish devotion and constancy.

He was made a member of the Philadelphia Medical Society at the instance of a prominent physician of that city, who had in his own person experienced the kind offices and skillful attendance of Dr. Valerj. In 1860 he was chosen honorary member of the Massachusetts Medical Society, a compliment which he greatly valued, and which he responded to in a learned

exposition of his faith and practice. Having himself translated this paper into English, it was published in the Boston Medical and Surgical Journal.

Professor Valerj was unanimously chosen Rector of the University of Rome, and repeatedly re-chosen until ill health obliged him to decline further reelection. On one occasion he was also elected President of the Faculty, an office which, being already Rector, he could not accept.

The King of Italy honored Professor Valerj, at first with the insignia of the "Croce d'Italia," and then with the order of "SS. Maurizio e Lazzaro." After this the higher title of *Commendatore*, with its broad ribbon, was conferred upon him.

In the many difficult positions which these honors and appointments, especially that of Rector, placed him, Professor Commendatore Valerj acquitted himself with marked success and approbation, harmonizing, by his prudent acts and apt words, conflicting elements, which, on various occasions, notably that on the death of King Victor Emmanuel, might have endangered the public peace.

In a word, ever wise and kind, Valerj was a true and faithful son, a most perfect and loving husband, a devoted father, an exemplary citizen, a true friend and benefactor of the race. His death, sudden and unlooked for, was publicly announced as "a great grief in Rome;" and the municipality of Loretto, his birth-place, sent up a most touching telegram of sorrow and affectionate regard.

His funeral, it is written, was a splendid ovation of love and esteem. He was followed by men of all nations and creeds, and deeply lamented by all classes who, from the highest to the lowest, had known and admired his beautiful character, his Christian benevolence, his love of labor and science. The cords of the hearse were held by the Minister of Public Instruction, a Senator, a colleague, and the Rector of the University. At the cemetery several addresses were made. Professor Mazzoni, the eminent surgeon, a friend and colleague, spoke, as translated from the Italian, the following words over the grave: "Before the earth covers you from sight, accept, gentle spirit, the affectionate but heart-rending farewell of friendship. Let me recall, to myself and the many who stand around, your great virtues. Illustrious and learned in your teachings, successful and most sympathetic when by the pillow of suffering, you leave among your colleagues and disciples the longing after your advice and instruction. By a unanimous vote of the Faculty, Rector for many years of the University of Rome, you bore the name of 'Magnifico.' By quieting all discord you initiated an epoch of peace. To all who made appeal to your justice and goodness you were ever wisest and most kind. Most affectionate of fathers, sparing neither fatigue nor sacrifice for the education of your sons, they, with your bereaved wife, your afflicted young daughter, and the saddened and venerable grandmother, cannot console themselves, — remembering your constant care, your tender voice, your unflinching love, and knowing that your fond heart will never again in this world respond to theirs. And Rome herself in your death deplores the loss of a most intelligent, upright, and beneficent citizen. Dead, no! You are not dead! The remembrance of your excellent virtues will ever remain deeply engraved on our hearts. We will guard it as a treasure, that it may stand as a noble incentive to posterity."

B. E. C.



## LETTER FROM PORTLAND.

MR. EDITOR, — Though the medical history of this State presents nothing very startling for the past six months, there have been several events which are not unworthy of record in the *JOURNAL*.

Early in the year Dr. Harlow, who has been superintendent of the Maine Insane Hospital at Augusta for many years, presented his resignation. The propriety of this step need not be discussed here, as this question was considered in these columns a year ago; but it may be said that the resignation was accepted, and the grief expressed by the public and the profession was not of the kind that findeth no consolation. Immediately applications for the vacant position began to pour in, — some from men who have devoted themselves to the study and treatment of mental disease for years; some from physicians whose acquaintance with insanity is of the scantiest. There was no immediate appointment, however; but it was given out that a final selection would be made at the quarterly meeting of the trustees in June. Expectation in the profession was on tiptoe to know just what would be done, for the affairs of the Hospital have been so much talked about for a few years past that the interest in the election was quite general. Great, therefore, was the amazement of doctors and doctored at reading in the papers the morning after the trustees' meeting the dispatch from our capital announcing that the choice had fallen on a gentleman who had never been thought of as even a possible candidate; one whose taste and talent had for a generation found grateful scope in the practice and teaching of general medicine, and whose abandonment of a pleasant and extremely lucrative business for what most consider a disagreeable specialty, with a meagre salary, would be regarded by many as sufficient evidence that he should be admitted to the hospital as a patient. His prompt declination and public statement that his name had been used without his knowledge or consent relieved the anxieties of his patients, who were greatly agitated at the thought of losing his ministrations, but naturally subjected the board of trustees to an amount and kind of criticism which cannot have been altogether gratifying. It was evident that the action was taken that the trustees might seem to have done something, — they elected an eminent practitioner who, as they very well knew, would not take the place on any consideration, and thus hoped to gain time without appearing chargeable with inaction. Just why they did not settle the business has not transpired publicly; but there are rumors that two of the trustees wanted the superintendency, and that, on this account, a sufficiency of votes could not be concentrated on any one applicant, although an altruist of character, ability, learning, and experience, was available. The action at the next quarterly meeting, in September, will be awaited with much concern by the profession, and the community, too, is keenly alive to the necessity of making the change a real improvement. The position is too important to be bandied about among politicians as a reward for party service, or to be bestowed upon any one who has not shown a special fitness for such a place.

The Medical School of Maine has had a season of great prosperity. The term was opened with an address by Professor Alfred Mitchell, who spoke very interestingly in defense of the American system of medical education, making a valiant stand for a method

which of late has received some righteous and terrific drubbing. More than a hundred students were in attendance during the term, and twenty-eight were graduated. At the closing exercises a fine portrait of the late Professor Greene was given to the college by former pupils, Dr. J. R. Kimball, of Saco, N. H., making an admirable presentation speech. Judge Symonds, of the Supreme Court of the State, made the closing address to the class, taking for his subject a comparison between the development of law and medicine, and treating the topic in a scholarly and charming manner all his own. The following changes have been made in the faculty: Prof. Stephen H. Weeks is transferred from the chair of anatomy to that of surgery; Prof. Frederic H. Gerrish will teach anatomy instead of materia medica and therapeutics; and Dr. Charles O. Hunt, superintendent of the Maine General Hospital, is elected professor of materia medica and therapeutics.

The Maine Medical Association held its thirtieth annual meeting in this city in June, the president, Dr. A. K. P. Meserve, occupying the chair most acceptably. There was a very fair attendance, some interesting papers were read, the hospitalities of the Portland members were never more generally extended, and the weather was beautiful all through the three days' session, and yet there was a wide-spread impression that the meeting was not a success. Several reasons have been suggested for this result, and each doubtless is entitled to consideration. The programme was not thought to be as attractive as usual, and really there did seem to be some force in the criticism. Very many were of opinion that too much time was devoted to certain specialties; and one could not regard the comment as altogether unjust, considering that, of sixteen reports and papers on medical topics, five were about the eye or ear. Another reason which probably served to keep away some who had hitherto been active and influential was the fact that, for some years past, certain members have persistently endeavored to drag their personal quarrels into the public meetings of the association, and have succeeded to such an extent as to waste a great deal of the valuable time of the Society, and to disgust those who want to devote the meetings to the legitimate objects of the organization. This year an effort was made to stir up strife, but it met with a cold reception.

The principal officers for the ensuing year are as follows: —

President, George E. Brickett, of Augusta; recording secretary, Charles D. Smith, of Portland; treasurer, Augustus S. Thayer, of Portland; chairman of the board of censors, Horatio N. Small, of Portland. Dr. Charles O. Hunt, who has served as secretary for the past fourteen years, declined a reelection. Under his supervision almost everything that the Association has ever had printed has been published, and the annual volumes of the Transactions are lasting evidences of his fidelity and skill as recording officer and editor. In accepting his resignation, the Association tendered him its sincere thanks for his remarkably efficient services, and expressed much regret at losing him from his long-accustomed post. As one of the older members expressed it, "I shall feel homesick to see anybody but Dr. Hunt in the secretary's chair."

A resolution denouncing the new code of the New York State Society was passed with enthusiasm, the vote being taken by rising. But it is easy enough to

call the devil a thief when a lot of fellows are around, less easy to decline his money when it is offered privately; and there are not a very few members of the Society in good standing who meet irregularly in consultation, apparently without compunction. Still, it is well that the immorality of those doctors in another State should be frowned upon as it was; vice which pays a tribute to virtue is not beyond salvation.

### MALARIAL DISEASES.

THE last monthly report of the Connecticut Board of Health contains the following on malarial diseases:—

The most interesting feature in the renewed prevalence of malarial diseases is the difference of behavior in regions lately invaded and in those where it has been prevalent for some years. In the former the cases are quite often more numerous, and are clear cut cases of chills and fever, lasting a few days, and recovery complete, until, after a longer or shorter interval, another similar attack occurs. In the latter generally the cases are much less in number, but of a severer type or of a more chronic nature; the types are constant here if the frequency be nearly the same. Thus, in Hartford, we have one death from congestive chill, three from typhoid-malarial fever, a blending of the newer malaria with the indigenous typhoid, which form of malarial disease, although sometimes the first that appears, is more often an indication of the increasing strength of the typhoid type, and the decrease of the malarial. The variety called malarial fever is still a farther weakening of the distinctive periodic type; two deaths are reported from this form in New Haven, while in Meriden two deaths are reported from congestive chill, one from malaria, and one from typhoid fever. The increased frequency of typhoid fever has already been discussed, still its appearance side by side of malarial fevers of marked type is very peculiar.

The spread into new territory is steady, but not rapid nor uniform. It is interesting to watch the repetition of the now familiar phenomena which are characteristic of the appearance of malaria in new fields, and the processes by which it becomes established. There is no more interesting and important question for this part of the country than the ultimate cause of malaria.

Congestive chills are reported also from several other localities where malarial diseases have been prevalent for years, but the prevalent types in these regions are typhoid, malarial fever, dumb ague, and chronic malaria. These varieties are quite often reported as less amenable to treatment than formerly, more persistent, oftener fatal. The neuralgic complications are peculiarly obstinate, although rheumatic affections are about as intractable. The only consolation is that there is apparently a fading out of the type, and a slow but significant movement in the direction of an entire cessation of the disease.

There is no question in the causation of disease as yet unsolved of more practical importance than that relating to the agencies which cause malaria, although the theory of its production by minute organisms—bacteria of one or more varieties—is exceedingly plausible, and very probably true. Still it is not yet proven, and so we are as yet uncertain whether the first cause

is of a chemical nature, a liquid or gaseous poison, the result of putrefactive decay, with a certain degree of moisture and temperature, or minute microscopical living germs. The cessation of the systematic study of this subject by all the aids modern science affords, just inaugurated by the National Board of Health, in connection with our own State Board of Health and those of New York and Massachusetts, rendered necessary by the recent action of Congress restricting the work of the Board to yellow fever, small-pox, and cholera, is very unfortunate, to say the least. The need of a central power to collate and compare the different results of individual work, sift out the crudities, and complete the work by the accumulated results from each field, is very evident. Such work cannot be done by coordinate powers, there must be a head.

### DR. KINLOCH ON A SUPPOSED DEATH BY CHLOROFORM.

DR. KINLOCH, of Charleston, S. C., had, not long since, the misfortune to lose a patient during chloroform narcosis. We append Dr. Kinloch's own account of the case. Our views, steadily and persistently advocated for many years, and reiterated in an editorial but a few weeks since, upon the relative merits and safety of ether and chloroform, are too well known to need repetition. We should say, however, in contradistinction to Dr. Kinloch, that the one great recommendation of chloroform is its less tendency to produce nausea, and that a person who uses chloroform when ether can be had should be prepared for the consequences.

It is desirable that there should be recorded every death attributable to either of the anæsthetic agents in use, for it has hardly been settled that one of these agents should be universally employed because of its immunity from danger. In certain sections of our country and of Europe, chloroform is still the favorite article used, for its general adaptability and because in the largest experience it has proved safe as well as satisfactory. In other sections there is a strong prejudice against chloroform, and a belief that ether is entirely free from danger. I have, in an experience of over thirty years, never had occasion to distrust chloroform, and have never until now seen a death attributable to its administration. From very many experiments and observations, however, I have been led to believe that ether is less apt to be followed by nausea or by great depression of vital power. My rule of practice, then, in late years, has been to employ chloroform in surgical and obstetrical practice, except in operations necessarily protracted, or where nausea and vomiting would be prejudicial to the condition of the patient. I am inclined to doubt if the death, in the case which follows, can be attributed solely to chloroform. Fright, terrible anxiety, a peculiar nervous organization, and an exalted moral sensibility, may have had much to do with the sad termination. But I prefer reporting the case and leaving it to the verdict of the profession.

June 19th was appointed for the operation. Mrs. R. had always been exceedingly sensitive as to the matter of personal exposure, and I readily consented to give the chloroform only in the presence of female attendants. When the request was made for the patient to get upon the table, she became much excited, and could scarcely be comforted and assured. She shrank back as one having a feeling of impending danger. I subsequently learned that she had had a presentiment of death, and went so far as to write out requests she wished fulfilled after death. I mention these facts to illustrate the nervous condition of the subject, as with many it may be considered as having something to do with her sad end. The chloroform was given upon a towel folded funnel-fashion. The towel was at first held a little distance from the face, until the patient grew accustomed to the vapor and was habituated to the proper inhalation. The usual period of excitement came on, with some struggling of the arms and rolling of the body. One of the female attendants helped to control these movements, and in a short time re-

laxation began to be evident, with the slightest stertor of breathing. Less than three drachms of chloroform had been used. I at once suspended the chloroform, passed the towel over to the nurse, who was at the bedside, and a little removed, and asked her to hold it where she was. I felt no apprehension about the patient, and moved to the door separating the chamber from the parlor, and called to Drs. Simons and Pelzer, my assistants, to enter. I now took my position at the foot of the table, while my assistants remained at the side, and began to put the patient into the semi-prone and lateral position for operation. I little thought that during the few seconds of absence the cumulative effects of the drug would be exhibited. Glancing at the face of the patient, I suddenly discovered that it was cyanosed, and the eyes staring and fixed. I called to Dr. Simons to notice if the breathing was right, and almost simultaneously we both advanced to the patient's head. I saw that the respiration was embarrassed, and heard a gurgling noise coming from the

presence of mucous secretions in the bronchi. Dr. Simons raised the head of the patient, and turned the body partly over into the supine position. I threw up the windows, dashed cold water upon the face and chest, slapped the surface smartly, depressed the head, while the body and lower extremities were raised, injected brandy, and subsequently liquor ammonia and brandy, subcutaneously. Towels were wrung out of very hot water and applied over cardiac region. Used galvanic battery as soon as this could be secured. Finally, noticing that the respiratory movements were now entirely arrested, also the action of the heart, while the veins of the neck were greatly distended. I opened, first, a vein at the bend of the arm, and afterwards the right external jugular, hoping that, by removing some of the dark blood from the cavities of the heart, this organ would have a better chance for contracting. All to no purpose, — the heart remained paralyzed, and we had soon to realize the fearful fact that death had supervened.

## REPORTED MORTALITY FOR THE WEEK ENDING AUGUST 5, 1882.

| Cities.                             | Population by Census of 1880. | Reported Deaths in each. | Deaths under Five Years. | Percentage of Deaths from         |                |                     |                       |                |
|-------------------------------------|-------------------------------|--------------------------|--------------------------|-----------------------------------|----------------|---------------------|-----------------------|----------------|
|                                     |                               |                          |                          | The Principal "Zymotic" Diseases. | Lung Diseases. | Diarrheal Diseases. | Diphtheria and Croup. | Typhoid Fever. |
| New York.....                       | 1,205,590                     | 934                      | 508                      | 45.80                             | 4.50           | 38.63               | 2.25                  | .75            |
| Philadelphia.....                   | 846,984                       | 540                      | 290                      | 6.48                              | 1.48           | —                   | 1.85                  | 2.78           |
| Brooklyn.....                       | 566,689                       | 377                      | 279                      | 57.51                             | 5.83           | 47.97               | 3.45                  | —              |
| Chicago.....                        | 503,304                       | 373                      | 276                      | 49.65                             | 2.94           | 40.47               | 2.68                  | 2.04           |
| Boston.....                         | 362,535                       | 263                      | 128                      | 32.76                             | 4.10           | 27.57               | 1.64                  | 1.64           |
| St. Louis.....                      | 350,522                       | —                        | —                        | —                                 | —              | —                   | —                     | —              |
| Baltimore.....                      | 332,190                       | 170                      | 83                       | 37.63                             | 1.76           | 21.76               | 6.47                  | 1.76           |
| Cincinnati.....                     | 255,708                       | 142                      | 80                       | 42.94                             | 7.04           | 20.42               | 2.11                  | 1.41           |
| New Orleans.....                    | 216,140                       | —                        | —                        | —                                 | —              | —                   | —                     | —              |
| District of Columbia.....           | 177,638                       | 71                       | 28                       | 39.42                             | 7.04           | 14.08               | 1.41                  | 5.63           |
| Pittsburgh.....                     | 156,381                       | 97                       | 66                       | 46.38                             | 4.12           | 27.83               | 3.48                  | 4.12           |
| Buffalo.....                        | 155,337                       | 115                      | 81                       | 57.35                             | 3.48           | 43.45               | 5.15                  | —              |
| Milwaukee.....                      | 115,578                       | 62                       | 43                       | 32.24                             | 1.61           | 27.40               | 3.22                  | —              |
| Providence.....                     | 104,857                       | 51                       | 28                       | 56.84                             | —              | 52.92               | —                     | —              |
| New Haven.....                      | 62,882                        | —                        | —                        | —                                 | —              | —                   | —                     | —              |
| Charleston.....                     | 49,909                        | 35                       | 17                       | 28.57                             | 2.86           | 8.57                | 5.71                  | 8.57           |
| Nashville.....                      | 43,461                        | 23                       | 11                       | 51.08                             | —              | 17.36               | 8.68                  | 4.34           |
| Lowell.....                         | 59,485                        | 39                       | 26                       | 58.88                             | —              | 53.76               | —                     | —              |
| Worcester.....                      | 58,295                        | 36                       | 20                       | 66.48                             | 2.77           | 60.94               | —                     | —              |
| Cambridge.....                      | 52,740                        | 24                       | 10                       | 41.58                             | —              | 37.42               | 4.16                  | —              |
| Fall River.....                     | 49,006                        | 49                       | 35                       | 59.16                             | —              | 59.16               | —                     | —              |
| Lawrence.....                       | 39,178                        | 38                       | —                        | 60.49                             | —              | 52.60               | 2.63                  | —              |
| Lynn.....                           | 38,284                        | 6                        | 4                        | 50.00                             | —              | 33.33               | —                     | —              |
| Springfield.....                    | 33,340                        | 12                       | 6                        | 50.00                             | —              | 33.33               | —                     | —              |
| Salem.....                          | 22,598                        | 22                       | 14                       | —                                 | —              | —                   | —                     | —              |
| New Bedford.....                    | 26,875                        | 13                       | 8                        | 69.21                             | 7.69           | 61.52               | —                     | —              |
| Somerville.....                     | 24,985                        | —                        | —                        | —                                 | —              | —                   | —                     | —              |
| Holyoke.....                        | 21,831                        | 15                       | 8                        | 53.25                             | —              | 46.66               | —                     | 6.66           |
| Chelsea.....                        | 21,785                        | 14                       | 7                        | 42.84                             | —              | 14.28               | 14.28                 | —              |
| Taunton.....                        | 21,213                        | 8                        | 2                        | —                                 | —              | —                   | —                     | —              |
| Gloucester.....                     | 19,329                        | 9                        | 4                        | —                                 | —              | —                   | —                     | —              |
| Haverhill.....                      | 18,475                        | 7                        | 5                        | 42.84                             | —              | 42.84               | —                     | —              |
| Newton.....                         | 16,995                        | 6                        | 2                        | 33.33                             | —              | —                   | 33.33                 | —              |
| Brockton.....                       | 15,608                        | 3                        | 1                        | 66.66                             | —              | —                   | 66.66                 | —              |
| Newburyport.....                    | 15,537                        | 6                        | 3                        | —                                 | —              | 33.33               | —                     | —              |
| Fitchburg.....                      | 12,405                        | 3                        | 0                        | 33.33                             | 66.66          | 33.33               | —                     | —              |
| Malden.....                         | 12,017                        | 4                        | 1                        | 25.00                             | —              | 25.00               | —                     | —              |
| Twenty-one Massachusetts towns..... | 161,793                       | 80                       | 42                       | 43.75                             | 3.75           | 35.00               | 6.25                  | 1.25           |

Deaths reported 3587 (no reports from St. Louis and New Orleans): 2036 under five years of age: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and fevers) 1510, consumption 299, lung diseases 136, diarrheal diseases 1168, diphtheria and croup 106, typhoid fever 51, scarlet fever 50, whooping-cough 37, measles 28, malarial fever 24, small-pox 23, cerebro-spinal meningitis 16, puerperal fever eight, erysipelas two, typhus fever one. From scarlet fever, New York 12, Cincinnati 10, Buffalo seven, Philadelphia and Baltimore five each, Brooklyn three, Chicago and Pittsburgh two each, Boston, Worcester, Chelsea, and Waltham one each. From whooping-cough, New York nine, Chicago four, Brooklyn six, Philadelphia and Cincinnati three each, Boston, Providence, and Charleston two each, Pittsburgh, Buffalo, and Nashville each one. From measles, New

York six, Baltimore, Pittsburgh, and Buffalo four each, Brooklyn and Chicago three each, Lawrence two, Boston and Cincinnati one each. From malarial fever, New York nine, Chicago five, Brooklyn four, District of Columbia three, Nashville two, Baltimore one. From small-pox, Cincinnati 13, Chicago three, Philadelphia, Baltimore, and Nashville two each, Pittsburgh one. From cerebro-spinal meningitis, Brooklyn five, Chicago three, Springfield two, New York, Boston, Baltimore, Pittsburgh, Milwaukee, and New Bedford, one each. From puerperal fever, Brooklyn and Lowell two each, New York, Boston, Lynn, and Chelsea one each. From erysipelas, Boston and Worcester one each. From typhus fever, New York one.

Forty-four cases of small-pox were reported in Cincinnati, Baltimore 31, Pittsburgh and Nashville each one; diphtheria 16,

scarlet fever 13, typhoid fever 10, in Boston; diphtheria five, and scarlet fever four, in Milwaukee.

In 40 cities and towns of Massachusetts, with a population of 1,041,166 (population of the State 1,783,086), the total death-rate for the week was 30.73, against 32.02 and 21 for the previous two weeks.

For the week ending July 15th, in 173 German cities and towns, with an estimated population of 8,495,842, the death-rate was 27.1. Deaths reported 4434; under five 2588; pulmonary consumption 487, diarrhoeal diseases 367, acute diseases of the respiratory organs 338, diphtheria and croup 150, scarlet fever 87, whooping-cough 65, measles and rubella 47, typhoid fever 44, puerperal fever 16, small-pox (Breslau, Beuthen, Cologne, and Koblenz each one) five, typhus fever (Königsberg, Danzig, and Posen each one) three. The death-rates ranged from 14.7 in Würzburg to 38.7 in Posen; Königsberg 34.7; Breslau 37.6; Munich 24.5; Dresden 28.2; Berlin 36; Leipzig 20.1; Hamburg 24.7; Cologne 28; Frankfurt a. M. 21.2; Strassburg 27.3.

In the 28 English towns, with an estimated population of 8,469,571, for the week ending July 15th, the death-rate was 19. Deaths reported 3090: acute diseases of the respiratory organs (London) 157, diarrhoea 282, whooping-cough 102, measles 66, scarlet fever 57, fever 34, diphtheria 20, small-pox (London four) nine. The death-rates ranged from 8.1 in Derby to 39.4 in Preston; Birmingham 16.1; London 17.7; Birkenhead 18.1; Newcastle-on-Tyne 21.2; Manchester 22.2; Liverpool 22.7; Leeds 23.1; Sunderland 25. In Edinburgh 21.3; Glasgow 22.3; Dublin 21.9.

For the week ending July 15th, in the Swiss towns, population 494,390, there were 25 deaths from consumption, diarrhoeal diseases 15, acute diseases of the respiratory organs eight, typhoid fever five, scarlet fever four, diphtheria and croup two, whooping-cough and erysipelas each one. The death-rates were, at Geneva 7.2; Zurich 8.1; Basle 14.7; Berne 19.6.

The meteorological record for the week ending August 5th in Boston, was as follows, according to observations furnished by Sergt. O. B. Cole, of the U. S. Signal Corps:—

| Date.              | Barom-eter. | Thermom-eter. |             |          |          | Relative Humidity. |            |             |             | Direcion of Wind. |            |             | Velocity of Wind. |            |             | State of Weather. <sup>1</sup> |            |             | Rainfall.             |                   |
|--------------------|-------------|---------------|-------------|----------|----------|--------------------|------------|-------------|-------------|-------------------|------------|-------------|-------------------|------------|-------------|--------------------------------|------------|-------------|-----------------------|-------------------|
|                    |             | Daily Mean.   | Daily Mean. | Maximum. | Minimum. | 7.23 A. M.         | 3.23 P. M. | 11.23 P. M. | Daily Mean. | 7.23 A. M.        | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.        | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.                     | 3.23 P. M. | 11.23 P. M. | Duration, Hrs. & Min. | Amount in inches. |
| July-August, 1882. |             |               |             |          |          |                    |            |             |             |                   |            |             |                   |            |             |                                |            |             |                       |                   |
| Sun., 30           | 30.128      | 67            | 76          | 64       | 61       | 66                 | 68         | 65          | NW          | E                 | SW         | 6           | 8                 | 1          | C           | C                              | O          | F           | —                     | —                 |
| Mon., 31           | 30.512      | 67            | 75          | 64       | 66       | 76                 | 78         | 73          | SE          | E                 | SW         | 1           | 11                | 5          | F           | C                              | O          | F           | —                     | —                 |
| Tues., 1           | 30.258      | 70            | 82          | 61       | 61       | 84                 | 49         | 68          | SW          | S                 | SW         | 4           | 10                | 12         | F           | O                              | O          | O           | —                     | —                 |
| Wed., 2            | 30.046      | 73            | 89          | 62       | 78       | 34                 | 66         | 59          | W           | W                 | W          | 10          | 7                 | 8          | O           | O                              | C          | O           | —                     | —                 |
| Thurs., 3          | 30.010      | 71            | 87          | 63       | 70       | 52                 | 84         | 69          | W           | SE                | Calm       | 5           | 4                 | 0          | F           | O                              | C          | O           | —                     | —                 |
| Fri., 4            | 30.071      | 74            | 84          | 75       | 71       | 41                 | 62         | 58          | Calm        | E                 | SW         | 0           | 9                 | 3          | F           | O                              | C          | O           | —                     | —                 |
| Sat., 5            | 30.105      | 75            | 88          | 66       | 73       | 55                 | 80         | 69          | SW          | SW                | SW         | 4           | 3                 | 12         | F           | O                              | C          | C           | —                     | —                 |
| Means, the week.   | 30.139      | 71            | 89          | 61       |          |                    |            | 66          |             |                   |            |             |                   |            |             |                                |            |             | 00                    | 00                |

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; X., clearing.

#### DR. FRANCIS ATWOOD.

St. Paul, August 10, 1882.

To the Editor of the Medical and Surgical Journal.

DR. FRANCIS ATWOOD died in this city, the 5th inst., of typho-malarial fever, at the age of thirty-six. He had practiced here eight years, and at the time of his death was unquestionably the leading oculist of the Northwest.

Dr. Atwood was a graduate of Harvard College and of the Harvard Medical School, and studied his specialty with Williams and Von Graefe.

The following resolutions have been adopted by the Ramsey County Medical Society:—

*Whereas*, In the providence of God our friend and associate, Francis Atwood, has been called away from us in the height of his usefulness,

*To be read*, That as a Society we hereby place on record our deep sense of the rare combination of qualities which endeared Dr. Atwood to us as a man and commanded our confidence in him as a physician.

*Resolved*, That, fully sensible of the loss that both our profession and the public have sustained in the death of Dr. Atwood, we deplore the event which has removed from us one so worthy in every way of the respect and esteem which he always inspired.

*Resolved*, That we tender to the wife and family of our friend our heartfelt sympathy in their great sorrow, and commend them for consolation to Him who is the only source of all true comfort.

*Resolved*, That a copy of these resolutions be sent to the family of Dr. Atwood, and that they be entered upon the minutes of this Society, and be furnished for publication to the daily press of this city, to the *Boston Medical and Surgical Journal*, and to the *New York Medical Record*.

D. W. HAND, President.

C. B. WHEELER, Secretary.

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM AUGUST 5, 1882, TO AUGUST 11, 1882.

##### PROMOTIONS.

COLONEL CHARLES H. CRANE, assistant surgeon-general, promoted surgeon-general, with the rank of brigadier-general, to date from July 3, 1882, *vice* Barnes, retired.

Lieutenant-colonel CHARLES C. KENEY, surgeon, promoted colonel, to date from June 30, 1882.

Lieutenant-colonel JOHN F. HEAD, surgeon, promoted colonel, to date from June 30, 1882.

Major JOSEPH B. BROWN, surgeon, promoted lieutenant-colonel, to date from June 30, 1882.

Major DAVID L. MAGREIDER, surgeon, promoted lieutenant-colonel, to date from June 30, 1882.

Major CHARLES PAGE, surgeon, promoted lieutenant-colonel, to date from June 30, 1882.

Captain JOHN BROOKE, assistant surgeon, promoted surgeon, with the rank of major, to date from March 2, 1882.

Captain WILLIAM H. GARDNER, assistant surgeon, promoted surgeon, with the rank of major, to date from June 23, 1882.

Captain CHARLES SMART, assistant surgeon, promoted surgeon, with the rank of major, to date from June 30, 1882.

Captain WILLIAM S. TREMAINE, assistant surgeon, promoted surgeon, with the rank of major, to date from June 30, 1882.

Captain MORIS K. TAYLOR, assistant surgeon, promoted surgeon, with the rank of major, to date from June 30, 1882.

BOOKS AND PAMPHLETS RECEIVED. — Proceedings of the Connecticut Medical Society, 1882. Ninety-First Annual Convention. New Series, Vol. II., No. 3. Hartford, Conn.

Combined Intra Uterine and Extra-Uterine Twin Pregnancy, with an Analysis of Twenty-Four Cases, etc. By B. B. Browne, M. D., Baltimore, Md. (Reprint.)

## Accures.

### ADDRESS IN SURGERY BEFORE THE BRITISH MEDICAL ASSOCIATION AT WORCESTER, AUGUST 10, 1882.<sup>1</sup>

BY WILLIAM STOKES, M. D., F. R. C. S., I.,

Professor of Surgery in the Royal College of Surgeons, Ireland.

AFTER an introduction which contained very interesting remarks upon preliminary and early medical education, and a brief mention of the numerous late advances in surgery, Mr. Stokes continued:—

Memorable as these advances would make any era in the history of surgery, they all pale before three I have yet to mention—advances which the surgical historian will doubtless point to and emphasize as the three giant strides that the past half century has witnessed. I allude first to the discovery of the means of banishing pain during the performance of surgical operations; secondly, to the restoration of diseased or injured bones and joints necessitating resection; and, thirdly, the enunciation of the principle and establishment of the practice by Pasteur and Lister of antisepticism in the treatment of wounds. When we reflect that so large a part of these changes in surgical principles and practice has been due to the genius and honest labor of so many workers in the United Kingdom, we may feel a pardonable pride in British surgery, and confidence in the coming triumphs of our art.

To anesthetics, antiseptics, and osteogenesis, together with a few cognate topics, I would therefore now invite attention.

Whatever anæsthetic the surgeon selects—whether it be chloroform, ether, or both combined, bichloride of methylene, or nitrous oxide gas—we must admit that even with the most careful precautions as regards the condition of the patient generally, the anæsthetic selected, the amount of it used, and the mode of its administration, the gauntlet of peril is still to be run. In truth, it is hardly to be expected that an agent which can so rapidly and completely paralyze our senses should not be attended with peril. Of the two anæsthetics that surgeons as a rule mainly rely on—ether and chloroform—much has of late been done to diminish risk by limitation of the amount of the anæsthetic used; by the gradual introduction of it into the system; by the avoidance of ether in infancy and extreme age; in the puerperal state; in hysteria, and also when there is reason to suspect the existence of any acute or chronic form of renal or pulmonary disease.

In the use of chloroform the ever-present risk of cardiac paralysis appears to be increased when any functional or organic disease of the heart is present, and it is, therefore, in such cases distinctly contra-indicated.

Although the number of accidents connected with the use of anesthetics is fortunately very limited, still I feel sure that by more accurate knowledge of the facts I have mentioned, by intrusting the duty of administering anesthetics solely to persons of experience and judgment, and by a stricter adoption of the rule so happily formulated by Mr. Jonathan Hutchinson in reference to the desirability of using chloroform in cases below six and above sixty years of age, the number of these regrettable accidents would be still further

<sup>1</sup> From advance sheets.

largely diminished. In the majority of cases, however, I would unhesitatingly prefer ether. In using it there is greater economy of time; it is, with the necessary precautions taken, safer; there is, as a rule, less sickness, and return to sensibility is slower. To obtain these advantages—which, with others, have been so well and systematically formulated by Mr. Teale,<sup>2</sup> regard must be largely had to the method employed of administering it; and I am of opinion that one in which the air is rebreathed by the patient, as in the inhalers of Morgan, Ormsby, and Clover, should be preferred, as so great an economy is effected thereby, not alone of ether, but of what is of far greater importance, of heat in the air-passages, the inspiration of a large quantity of cold ether vapor tending to induce respiratory syncope.

In these instruments the inhalation of a combination of ether vapor and carbonic acid gas occurs. It does not, however, appear to be clearly ascertained whether in this fact there is the introduction of an additional element of danger or not. Opinion on this point is still greatly divided. One would say, *a priori*, that there was, but experience has not established the fact.

Of the countless benefits conferred on man by anæsthetics, of the suffering prevented, of the absence of all anticipatory fear of suffering, of the happy subsequent oblivion of all the horrors and details of the operation, and of the diminution of shock, it is unnecessary to speak. To these must be added the advantages which enable the operator to act with a deliberation and calmness, enjoying freedom from anxiety and care. Advantages such as these cannot be overestimated, being as signal to the patient and the operator as they are to surgery.

Although there is traditional evidence that the anæsthetic properties of certain plants—notably the mandragora—were known to the physicians of ancient Greece and Rome, and that in 1800 our distinguished countryman, Sir Humphrey Davy, mentioned that nitrous oxide was “capable of destroying physical pain, and may be used with advantage during surgical operations,” still it was not until 1846 that anæsthetics came properly within the domain of practical surgery, when Morton, in the Massachusetts General Hospital, first demonstrated the possibility of inducing anæsthesia by the inhalation of ether.

To Simpson is undoubtedly due the credit of discovering, in 1848, the anæsthetic properties of chloroform, and in giving an impulse to its adoption, such as his brilliant intellect alone could give; but still we must cordially, willingly, and gratefully indorse the opinion of Professor Gross, that “If America had contributed nothing more to the stock of human happiness than anæsthetics, the world would owe her an everlasting debt of gratitude.”

Considering that the treatment of wounds is, in Professor Humphry's words, not merely “the first stone but also the corner-stone of surgery,” antiseptic practice should rank, in my opinion, as the greatest of the surgical advances that the past half century has witnessed. It deserves a special attention, not merely on account of the results of its adoption, but also because surgical opinion is still so divided about it, an unsettlement to which an impulse has been given by Mr. Savory's remarkable address at Cork, and by the observations on the value of carbolic spray made by Mr. Lister

himself at the International Medical Congress last year. As regards Mr. Savory's denunciation of Listerism, I would say that after reading it, and also the able reply to it by my colleague, Dr. Thomson, one cannot but come to the conclusion that when the address is stripped of all its brilliant eloquence and rhetorical decoration, two facts are to our surprise brought clearly to light. One is the admission of the germ theory of putrefaction, and the other that the method of dressing employed by Mr. Savory is essentially antiseptic, consisting as it does of many of the features that characterize Listerian dressings. For example, carbolized catgut ligatures, carbolized oil, drainage, and washing the wound with a weak permanganate of potash lotion, or "some other potent antiseptic." Now, as the author of the reply to which I have referred properly asks, "Is this method fittingly characterized by its simplicity and the entire absence of all novelty?"

In reference to Mr. Lister's statement on the value of carbolic spray, about which there has been so much unfortunate misconstruction and misunderstanding, I would certainly say he did not surrender his position in any way. He did not, as was said to me, in terms more picturesque than accurate, by an eminent surgical friend on that occasion, "inter antiseptic surgery and then sing a dirge over it." On the contrary, he stated that he looked forward to obtaining a more perfect and convenient mode of asepticism than that afforded by carbolic spray.

Considering the subject from a purely practical point of view, it appears of little consequence whether we accept the views recently discussed by Dr. Burdon Sanderson or those of Ogston and Huetter, the former maintaining that the inflammatory exudates of a wound do not depend primarily on the contact with them of atmospheric organisms, but that their secondarily infective character does: in other words, that atmospheric organisms *per se* are not necessarily a source of danger, nor do they predispose to the formation of inflammatory exudates, but that they do exercise a baneful influence on the latter by rendering them infective. To quote his words, "they are not so much mischief-makers as mischief-spreaders." Two distinct functions are attributed by Burdon Sanderson to these organisms; one "of developing what may be called the phlogogenic infection, and that of conveying it to all parts of the body." Ogston and Huetter, on the other hand, maintain, and furnish strong arguments for their views, that septic organisms are primarily the sources of all the inflammatory and other troubles to which wounds are liable, and that under aseptic conditions these dangers can be avoided. It is not my purpose to discuss which of these theories is likely to be correct; for whichever view we adopt, the necessity for thorough antiseptic precautions remains the same. Assuming that Burdon Sanderson's theory be correct, and that inflammatory exudation is the physiological and harmless outcome of a traumatism, can we say how long it will remain so? How long or how short a time it may take to become infective, whether days, hours, minutes, or seconds? Is it not in accordance with all reasonable probability that the time must be ever varying, and assured of this, should we not take every precaution to prevent the entrance, neutralize or destroy the *poison* or septic agency? Have we any means of estimating the power of resistance to the action of septic agencies, or of telling when will commence those chemical putrefactive changes, the sources

of the disasters of surgery which antiseptics so powerfully strike at, prevent, and destroy.

The essentially weak point in the persistent and obstinate opposition to Listerism is the almost universal admission of the truth of the germ theory of putrefaction. If the fantastic theory of heterogenesis had not long since been swept into the deserved limbo of other exploded doctrines, there would be some scientific stand-point for those opposed to Lister's theory and practice. But not having this, and admitting the truth of the germ theory of putrefaction, they surrender their position. An attempt has been made by Mr. Lawson Tait to draw a distinction between the effects of germs on dead and living tissues, the only serious consequences being, it is alleged, those which result from their introduction into the system through the medium of dead tissue. Such is the contention. In a word, it comes simply to this, that if the dead tissue factor were non-existent the organisms would remain harmless; if, on the other hand, it be present they become hurtful. But those who hold this view ignore the elementary fact that there never was a wound, and especially one in which vessels are tied or twisted, in which dead and living tissues were not at once brought into contact. Assuming, however, that this was not the case, has it not been shown on clear evidence by Dr. Burdon Sanderson that septic agencies generated in the organism may induce idiopathic inflammation without the medium of dead tissue? Also that in acute peritonitis septic organisms can, through the medium of the lymphatic vessels, be conveyed into the blood streams, and, to use his words, "carry with them a phlogogenic virus, by virtue of which, wherever they lodge, they become the starting-points of infective abscesses." Again, that similar phenomena are observed in connection with ulcerative endocarditis, confirming the observations of Weigert, that in variola they find their way "in myriads" into the circulation, and eventually find a resting-place in the capillaries of the internal organs, where they become nuclei of infective abscesses.<sup>1</sup>

If such phenomena are capable of being produced in the organism without the intervention of dead tissue, which appears to stimulate septic agencies to such pernicious activity, there is certainly all the more reason for using means to neutralize or destroy them, when, as in all wounds, dead and living tissues are brought into contact.

Those who advocate and practice what they term a "modified" antiseptic system, attempt, in fact, in a roundabout, clumsy, inefficient way, to do precisely what those who practice Listerism achieve by means which are the outcome of accurate scientific research.

The aim in both cases is to neutralize or destroy the agencies which predispose to and produce the *materies septicæ*: in the one instance by numerous uncertain and often inefficient methods, and in the other by the unerring artillery of chemical agency.

Among many depreciatory remarks that have been made in reference to Listerism is one based on its alleged want of originality. It has been stated that both antiseptic principles and practice were understood, recognized, and appreciated by many of Mr. Lister's predecessors and contemporaries. Foremost among the latter M. Maisonneuve has been mentioned. Having attended the clinique of that eminent surgeon for two sessions in 1861-60, I am in a position to mention the

<sup>1</sup> Brit. Med. Journal, April 15, 1882.

nature of the wound dressings then employed by him. With a large syringe a quantity of a weak solution of "acide phenique" was applied to the wound, then a piece of linen or cloth, perforated with numerous openings, and covered with a yellow-colored grease, was placed on the wound, secured by a dry compress and bandage. Such were the antiseptic dressings of which Lister's, it is alleged, are only a somewhat complicated, expensive, and, in many cases, dangerous reproduction!

It has been stated that ovariectomy should be considered the touchstone of the efficacy of the antiseptic treatment of wounds. I do not think so (although my successes in ovariectomy date from the time I adopted the system), and for the reasons given by Professor Lister. First, the disposition of a large serous membrane to absorb rapidly the plasma from the cut surface, the absence of tension, the high vital power of the peritoneum in uniting after being wounded, and, lastly, that bloody serum is an unfavorable medium for the growth of micro-organisms, a fact directly at variance with the dictum of Keith, that it is the "enemy of the ovariectomist." One of the best tests, if not the best, for the value of antiseptic practice is resection of the knee-joint, as there are so many circumstances that militate against immediate union being obtained after it. In the first place, the cases requiring so formidable an operation are, as a rule, in a condition of great physical exhaustion consequent on long confinement, and probably protracted suffering of mind and body. The wound is of necessity a large one; the operation occupies a considerable time; two large freshly-cut bone surfaces are made, between which union is to take place; and, lastly, there is the great difficulty of keeping, no matter what appliance be adopted, the limb absolutely at rest during the process of union. Before the adoption of Listerism the surgeon anticipated that four, six, or eight months, or longer, would elapse before union took place, and it was always a subject discussed at consultations on these cases, previously to operation, whether the patient would have strength to endure so protracted a suppuration. As an illustration of how changed matters are now, in a series of fourteen of my cases of excision of the knee-joint, the wounds in nine of them united without a trace of pus production, and in the last of them only two dressings were required subsequent to the one applied at the time of the operation, and in seven weeks after the patient was up and going about. Another antiseptic triumph was the case of a boy with extensive necrosis of the fibula, sinuses, and suppuration existing at the time of the operation. I excised subperiosteally the diaphysis of the fibula, and the case pursued a perfectly aseptic course, the evidence of new bone formation being also incontrovertible. From the fact of there being no pus production subsequent to the operation, notwithstanding the pre-existence of suppurating sinuses, a special interest attaches itself to this case. I can only account for this exceptional circumstance as a result of the careful washing of the sinuses by carbolic acid and zinc chloride solutions. A still more remarkable case was that of a youth who was under my care last November. He trod on a triangular piece of glass, which, having passed deeply into the sole of his foot, was with difficulty extracted. An acute suppurative inflammation, involving the ankle-joint and extending as far as the knee, was the outcome of the injury. There was indicated by both pulse and temperature very high fever,

and the condition of the patient was most critical. I made free incisions under the spray on both sides of the ankle-joint, and gave exit to pus and synovia in large quantity. Into these openings I injected a weak solution of eucalyptol, and inserted Neuber's drainage tubes. Next day I found pulse and temperature normal, and from this the case pursued an aseptic course, and in less than a month after the patient left the hospital, the foot being in a perfectly normal condition, all motions of its joints being free and unattended with the slightest stiffness or pain. In another case I cut down on an anchylosed hip (the limb being so flexed as to be perfectly useless to the patient), and divided the neck of the femur with an osteotome, and straightened the limb. The wound healed without pus production, and a freely movable false joint was formed, and the patient is able to walk several miles without inconvenience.

Another antiseptic triumph was obtained in two cases of amputation at the hip-joint. In one of these there were preëxisting sinuses and profuse suppuration, and, notwithstanding, I succeeded for eight days, during the most critical period of the patient's convalescence, in keeping the wound aseptic, and preventing the occurrence of surgical fever. The result in the second case was more remarkable, not only during the healing of the wound was there no pus production but pulse and temperature hardly ever rose beyond the normal standard. The skin was unbroken, and on the evening previous to, and also on the morning of, the operation the patient had a eucalyptol bath. Looking at these few cases—few, not because I could not largely supplement them, but because they are sufficient for my present purpose—I would ask, could such results have been obtained previous to the Listerian teachings of the principles and practice of antiseptic surgery? There can be but one reply—impossible.

In giving the details of these antiseptic triumphs I may be considered dogmatic and egotistical. If so, I regret it, for nothing could be further from my desire; still less would I seem captious or actuated by any partisan spirit. I have mentioned them solely through a desire of having the truth recognized and established, and because personal experience is the soundest basis for honest conviction.

As regards the hygienic effects of the practice, I may mention some facts of interest noticed by me and my colleagues in the hospital to which I am attached. The building is a very old one, and was not constructed originally for a hospital. None of the more modern arrangements, now considered so essential, as regards heating, light, ventilation, etc., exist. It is situated in a poor, very densely populated part of the city, with tenement houses, dairy yards, cattle sheds, and stables in its neighborhood; and some of the houses in its immediate vicinity have been designated by the Medical Officers of Health as "fever nests." When I was a student there, erysipelas and pyæmia were not infrequently observed after operations even of no great magnitude; hospital gangrene too, I have seen several instances of—in fact, these three diseases constituted a grim trio, of which the surgeons had not unnaturally a dread. Let it not be thought that the occurrence of these was in any way to be attributed to want of care and attention to cleanliness. No cases could in this respect be more conscientiously or carefully managed. What now exists? Hospital gangrene is an extinct disease, nor have we observed during a period extend-

ing over six years a single case of erysipelas, septicaemia, or pyaemia following an operation in which the practice of Lister was accurately carried out; *accurately*, for everything depends on that. The practice has been well compared to a coat of mail which secures the wearer so long as it is perfect, but any missing link in which may admit the *lethalis arundo*.

Similar testimony to what I and my colleagues can state has been given by many foreign surgeons of eminence, among whom I may mention Von Nussbaum, Burdeleben, Thiersch, Von Langenbeck, Volkmann, Esmarch, Saxtorff, Champonniere, and many others.

Much blame has been cast on Professor Lister and his followers for not having had recourse more largely than they have done to statistics, to prove the superiority of antiseptic practice over the older and alleged simpler methods of wound dressing, and to show that by the use of the former we are more independent of those epidemic influences that have hitherto been so pregnant with disaster in operative surgery. It is not my purpose here to discuss the value of the surgical statistics that have been adduced to prove that the alleged simpler methods of wound dressing are of equal efficacy to those of Lister, especially as most of them have a strange family resemblance to the latter; but this I will say, that whatever value is to be ascribed to accumulated figures—often sadly fallacious—that value is not to my mind greater, or at all so great, as the often repeated occurrence of test cases, recorded daily, not alone in a particular hospital, town, or country, but in hospitals in all climates and conditions, where the hygienic surroundings are brought to the highest known degree of perfection, as well as where they are in a condition the most deplorable. Such records carry more weight with me than the inflated statistics from any particular hospital, or the alleged results obtained without antiseptics after any special operation or group of similar operations.

Mr. Savory dwelt at great length on the statistics of operations at St. Bartholomew's Hospital. These were, no doubt, very important, and probably carried conviction as to the soundness of the conclusions drawn from them to the minds of most of his hearers. In various points, however, they were unsatisfactory to me. For example, among others, no mention whatever was made of the operation of ovariectomy, in which procedure, although some regard Listerism positively injurious, still many others take an opposite view, and think with myself that it has probably done more than anything else to diminish the mortality of the operation. It was unfortunate, in my opinion, that the facts in respect of this particular operation at St. Bartholomew's Hospital, before and after the introduction of Listerian antiseptic practice, were not stated.

Although I do not regard surgical statistics with the reverential awe that some do, who look upon them, in fact, as a sort of tribunal beyond which there can be no appeal, I observe that in a record of upwards of six hundred operations performed by myself and my colleagues at the Richmond Surgical Hospital during the past three years, an institution which I have already spoken of as being hygienically in so unsatisfactory a condition, the mortality was 25.6 per cent, and there was not a single case in which Listerism was accurately employed that was followed by any infective disease.

The discovery of anaesthesia, and the means of inducing a regeneia, have largely widened the field of practical surgery. When we consider the revolution

that has taken place since the introduction of antiseptics in the treatment of compound fracture, of abscesses—especially those symptomatic of bone disease,—of bursal tumors, of congenital as well as acquired osseous deformity, of ununited fractures, including those of the patella and olecranon, of foreign bodies in joints, of hamorrhage and aneurism by antiseptic ligature, and of various diseases and injuries of the abdominal organs indicating the operations already mentioned, this may, I think, be said with even greater truth. To these may also be added certain thoracic affections such as empyema, pericardial effusion, and pulmonary abscess, by which the wide gulf that so long existed between medicine and surgery has been to a great extent bridged over, uniting them together firmly, strongly, and forever.

It is a subject of regret to me that so many surgeons of long experience, and of great and deserved eminence, have been found who have either been disposed to discredit a thorough antiseptic practice altogether, or have given but a very lukewarm adherence to it. Much allowance, however, must be made for the well-known and not unnatural dislike to change on the part of those, many perhaps advanced in life, whose early training has been so different to that now available. With their successors, more fortunately circumstanced in this respect, the case is different. Their condemnation has, I fear, been the result of apathy, and, in some instances, indolence, preventing them taking the trouble to learn either the principles or the details of the practice.

Representatives of what may be termed a Rip Van Winkle school of surgery, they differ in one respect from the mythical personage just alluded to. His ignorance of what was going on about him was the result of involuntary unconsciousness. But his surgical analogues, I fear, willfully refuse to see, willfully refuse to acknowledge, and willfully refuse to recognize what has been and is being done. Strangely unmindful of the fact that honest scientific toil has never yet proved other than fruitful of good, they promulgate views acceptable to ignorance and indolence, and make the land ring with the false and cruel tale that the value of Listerism is a delusion, a bubble, a shadow, and a myth, at once expensive, complicated, and poisonous. If, on this latter account, it is to be rejected, then may we, with equal justice, say, "Away with anaesthetics, away with opium, mercury, belladonna, with more than half the means at our disposal for alleviating human suffering and prolonging life."

In the interests and for the credit of British surgery it is time so unrighteous a warfare should cease. It is time that the irritating dust of an unreasoning prejudice should be swept away. It is time that one of the greatest discoveries and boons to surgery this century has produced should be universally recognized. It is time that its discoverer and exponent should be acknowledged as one of whom it may well be said:—

"With Genius Nature joins in everlasting covenant still,  
The promises of one, the other fails not to fulfill."

The methods adopted for bringing about a regeneration of bones and joints necessitating resection on account of injury or disease constitute an advance in surgery of such interest and practical importance as to distinctly merit special consideration. To adopt a measure by which the main support of a limb, when diseased, and not only rendering that limb useless, but also perhaps imperilling life by pain and exhaustive suppuration, can be removed, with not a mere probab-



ity, but, in many instances, almost a certain confidence that it will be restored to the patient, is a triumph than which it is hard to conceive one of greater importance among the developments of modern surgery. The subject has been of keen interest to me for many years, since the time, when, in 1865, I witnessed in Lyons many of M. Ollier's experiments and subsequently repeated them. Strongly impressed by what I then learned, I have since in practice, as suitable cases presented themselves, adopted periosteal preservation in various operations on bones and joints, a procedure with which the names of the eminent surgical trio, Syme, Langenbeck, and Ollier, must forever be associated. The operative measures on which my experience is based are resections of the elbow, shoulder, and ankle-joints; resection of the diaphysis of the fibula in its entirety; resection of the greater portion of the ulna; of metatarsal and metacarpal bones; and, lastly, of transplantation of periosteum, as a part of the so-called Indian rhinoplastic operation. Still, though the good results obtained by this practice are, in properly selected cases, not open to question, there can be no doubt as to the existing unsettled condition of surgical opinion in reference to the value of the procedure. This, I believe, arises from a twofold cause: one being traumatic, from insufficient care being taken during the detachment of the membrane, and the second, the non-differentiation by surgeons of the cases likely to be benefited, and those in which the adoption of the practice is, as a rule, attended with disappointing results. As to its value, when the membrane is comparatively healthy, and the patient young, there can be no question. The activity of bone production and other signally gratifying results of the practice must be acknowledged when performed under these circumstances. These results, however, are not so striking when the patient is an adult. In some cases no bone production whatever is observed, and in others the osteogenic process is slow, the product weak and liable to become absorbed. It should also be borne in mind that in early life the membrane has a dual function, one, that of increasing the thickness of bone, and the other the repair of waste. In adult life it is mainly confined to the latter. This rule, however, is not without exception. One instance I can recall of a man aged forty-two on whom I performed a resection of the upper end of the humerus on account of carious disease. The result was eminently satisfactory; not only was there a reformation of the bone removed, as evidenced by comparative measurement, but also a pseudo-arthritis so perfect as to enable him now, as I have recently learned, to use his spade, to plow, and perform with efficiency all the ordinary duties of an agricultural laborer.

Another point worthy of consideration is the value of the practice in adults and children when the membrane is found to be thickened and pulpy. Among the former, as mentioned by McEwen, the osteogenic layer is, as a rule, found to be destroyed, the outer layer thickened, vascular, and lined with granulation tissue which soon undergoes fatty degeneration. From such a condition no bone production could possibly be anticipated. On the other hand, a thickened, vascular, cell infiltrated, softened condition is not incompatible with its osteogenic layer being intact, and its activity in bone production unimpaired. In truth not unimpaired but exalted, as we observe in acute necrosis, and also in the development of syphilitic nodes. The con-

dition of fatty degeneration of the osteogenic layer is found among both adults and children, but more frequently among the former. When found among the latter the cases are, as a rule, badly nourished, anemic, weakly, and scrofulous. The thickened vascular but intact condition of the membrane is what is observed among young persons, and its preservation, therefore, is obviously indicated. In adults it is rarely observed.

The efforts to produce bone in experiments on the lower animals by periosteal transplantation have not been attended with any very marked success, nor have similar attempts in man been specially encouraging. In only one instance did Ollier obtain distinct evidence of bone formation from grafted periosteum. In the Indian rhinoplastic operation I have undoubtedly succeeded after transplanting the membrane from the frontal bone in satisfying myself of the existence of bone reproduction. When left attached to bone, as in Von Langenbeck's modification of this operation, the result has not been so good, owing to the liability to necrosis of the transplanted or detached portions of bone.

As regards bone transplantation I cannot speak from any personal experience; but, in connection with this all-important subject, I must allude to the great stride made in this direction by Dr. McEwen, of Glasgow. The case of inter-human osseous transplantation in which over two thirds of the shaft of a humerus was restored, and an account of which was communicated to the Royal Society last year, is one which must stand out in bold relief in the history of this new departure in operative surgery — one which is with many others an outcome, indirectly perhaps, but not the less a result, of antiseptic surgery. For the experience derived from observing the progress towards good union and without pus production of had compound comminuted fractures when pieces of bone completely separated, and even detached from periosteum, have, after being antiseptized, been replaced, lived, and eventually united to the neighboring osseous structures, tends, as McEwen has pointed out, to show the probability of transplanted bone living. The practice of interhuman osseous transplantation is one which of necessity is applicable to only a very limited number of cases, and the means of carrying it out must rarely be available as fresh, human, healthy osseous transplants cannot often be obtained. The case, however, which I had an opportunity of examining, is so pregnant of interest, and so suggestive, that it must serve as an incentive to further effort to guide and encourage those working in this direction.

The subject of periosteal preservation naturally leads to that of joint resection, in which it has played so important a rôle. The resection, however, I wish more particularly to allude to, namely, that of the knee, is less associated with periosteal preservation than the other excisions. The surgical merits of this operation being so important and so vexed a question make it worthy of special notice. I will not, however, dwell at any length on the subject, having regard to the fact of its having been recently so ably handled by Mr. Holmes at the meeting of the Association at Cambridge.

It is not surprising that its position as one of the resources of surgery is not yet generally appreciated, and that controversy should still so hotly rage about it, when we reflect that the majority of surgeons have hitherto regarded it in the light of a substitute for

amputation. In doing so a grave error has been committed, for the indications for one of these operations should never be those for the other. If we accept the view that tuberculosis, more particularly as regards its articular manifestations, is primarily local, but, as shown by Klebs, like cancer or syphilis, transmissible and capable of producing a general infection, a view that mainly from a clinical stand-point I accept, then the question of the importance of early resection at once comes to the front. But it may and has been said, notably by Mr. Maenamar, of London, that in the early stages of strumous articular disease, affecting mainly the synovial membrane, that rest, good diet, and convalescent "homes" will suffice to cure the disease at this period of its development. I admit they may, but in a very small proportion of cases. I would be equally ready to admit that in a small proportion of cases intermittent fever may get well without quinine, syphilis without mercury, iritis without belladonna, and primary union without antiseptics. Who, however, would maintain that because in a small minority of cases the desired results are obtained without such aids, that therefore it was open to discussion whether they should not be abandoned altogether? In dealing with a broad question, such as the surgical merits of knee resection, the question as to a treatment that is only applicable to a small, fortunately-circumstanced minority, and the advantages of which are very problematical, should scarcely be mentioned when a practice is under discussion applicable to the masses of mankind in all countries, climates, and conditions, without convalescent homes at their disposal or ways of getting constant skilled aid in carrying out an "expectant" treatment for two or three years, — a treatment from which no better result than ankylosis can be expected. In patients, too, with a pre-disposition to secondary tuberculous deposits, the probability of the recurrence of the disease after "expectant" treatment must be borne in mind.

From my experience I believe that excision of the knee should not be looked on as a last resource, but that the operation should be performed before any profound organic changes take place, when also the following conditions are fulfilled: An unbroken skin, an all-important factor; the disease limited, and to the soft structures an efficient method of fixation applied, and a rigid system of anti-septic dressing of the wound adopted, primary union may in the great majority of cases confidently be anticipated. The alleged unfavorable results of the operation, especially in early life, are distinctly opposed to my clinical experience.

In another group of operations — namely, in amputations, the preservation of periosteum is, according to Von Langenbeck, Trélat, and others, attended with advantage. The formation of a periosteal curtain to cover the cut surface of the bone and its medullary canal is believed to act as a shield or barrier against septic agencies, and diminish the chance of the occurrence of some of the secondary calamities, notably osteomyelitis, following amputations. The method I have in some instances adopted, and with success, is, making a cone what quadrilateral-shaped flap at the membrane and letting it fall over the cut surface of the bone.

Another method, that of M. Trélat, is to detach the membrane all round the bone for fully an inch below the point where the bone had to be divided, making, in fact, a cone-shaped flap. This plan must, however, necessarily protect the operation.

This leads me to consider some other comparatively recent improvements in the operation of amputation, and to bear my testimony to the great advantage to be derived from the adoption of the principle of long anterior flaps, the chief credit for establishing which belongs to the late Mr. Teale, of Leeds, and it is a source of pleasure to me that the advantages from his method of amputation were so soon, and continue to be so fully, recognized and appreciated in Dublin. In reference more particularly to thigh amputation, I cannot refrain from noticing the procedure in which the principle of the long anterior flap is embodied — namely, the "single flap" or "single-skin flap" operation of the late Mr. Carden of this city. In introducing this operation he won for himself a lasting repute for originality, ingenuity, and skill, and I am sure that in expressing a deep regret at the absence from among us this day of so accomplished and able a surgeon, so wise in council and full of resource, in whom, in truth, were to be found all the qualities of a great surgeon, I only feebly, perhaps, give utterance to the thoughts of all those who knew him, appreciated him, and had the privilege of his friendship.

Gritti's operation undoubtedly owes its parentage to that of Carden; but, although the retaining of the patella and consequent preservation of the normal attachments of the extensors of the leg is a plan as good as it was original with Gritti, still the details of this method prevented the realization of those advantages which in principle it embodied. Hence the modification which I have ventured to term "supracondyloid amputation," an operation which, retaining the advantages of Gritti's method, eliminates its defects by lengthening the anterior flap, forming a posterior flap one third in length of the anterior one, suturing the patella and femur together, and lastly, and most important of all, by making a high femoral section, but one not involving the medullary canal.

The special advantages that may be claimed for supracondyloid amputation are: —

- (1.) That the posterior surface of the anterior flap being covered with a natural synovial membrane the chances of suppuration and purulent absorption are diminished.
- (2.) Any possibility of the split patella shifting from its place on the cut surface of the femur is prevented by the high femoral section, and by suturing the two bones together.
- (3.) The vessels are divided at right angles to their continuity and not obliquely, as in other flap operations.
- (4.) The existence of a posterior flap diminishes the chances of any wide gaping of the wound, while the anterior flap being oval increases the chances of the stump tapering gradually towards its extremity and assuming the form of a rounded cone.
- (5.) The preservation of the normal attachments of the extensors of the leg.

These advantages embody those of both flap and circular amputation of the thigh, and at the same time eliminate their defects.

Although there are many other surgical topics of interest and importance I should wish to discuss, did time permit, there is one bearing directly on surgical progress which, though it must be briefly alluded to, I wish particularly to mention. Recently all who have at heart the progress of scientific medicine and surgery must have rejoiced at the formation of the "Associa-

tion for the Advancement of Medicine by Research." This step augurs well for the future of physiology—the science which is not alone the foundation, but also the frame-work of medicine, surgery, and pathology.

At the opening meeting of the Association, Sir George Jessel<sup>1</sup> well remarked that there are two things the public require to be instructed in—one, that the future progress of medicine must rest on science; and the other, the necessity for experiments on animals. The great practical difficulty, however—one which, I hope, in time will be overcome—is that the Association will have to deal with a section of the public who refuse to be instructed; refuse to recognize established facts; refuse to weigh evidence; substitute groundless assertion for argument, and willfully and deliberately accuse the scientific physiologist of a selfishness and cruelty as heartless as it is cowardly. In creating so unjust a prejudice there is in some instances, doubtless, an unconscious, but in many others, I fear, a willful perversion of the moral sense of the public. It will be no light task for the Association to instruct such persons, whose wrath is reserved—not for the sportsman, gourmet, or military tyrant, but for the physiologist, who is outlived if he does not fulfill all the vexatious conditions of an extraordinary Act, the passing of which was simply an insult to our profession, whose aim is ever, not to cause suffering, but to relieve it—not to destroy life but to save it, and who are ever ready willingly to imperil, and often do, with true heroism, lay down their own lives to save one that is, perhaps, worthless to all but the possessor of it. If in this contention a heartless cruelty is found, on which side is it? Is it with those whose objects I have indicated, or with those who hinder and thwart the realization of them?

It has been stated with the inaccuracy that, as a rule, characterizes the utterances of the, in many instances, perhaps, well-meaning, but not the less essentially mischievous, section of the community, that takes so keen a pleasure in discrediting experimental physiology, that no practical benefit has accrued to medicine or surgery from it. I would, leaving what has been done in this direction in medicine to other and abler hands, suggest to their consideration a study of Mr. Gamgee's recently published and able work on *The Influence of Vivisection on Human Surgery*. In this it will be seen that many of the most important developments of surgery are the direct outcome of physiological experiment, as, for example, subcutaneous surgery, arterial ligation, torsion, transfusion, the introduction of the écraseur, periosteal preservation, artificial respiration, and, among others, such operations as nephrectomy, ovariectomy, excision of pylorus, and amputation at the hip-joint, and last, but not least, the introduction of the hypodermic injection of various medicinal agents.

It seems, however, and with shame we must confess it, that we are living in an epoch in which the labors and achievements of the greatest physiologists and surgeons, both living and dead, are forgotten and ignored; and for those who endeavor, even at a long interval, to follow their steps, the statute, which is a blot in the history of scientific progress in England, has been enacted, and enacted by those who are every day only too willing to avail themselves of the great advantages resulting from labors which now cannot be continued save under restrictions which are well nigh intolerable. Professor Tyndall has well said that "however noisy the fanaticism of the moment may be,

the common-sense of Englishmen will not, in the long run, permit it to enact cruelty in the name of tenderness, or to debar us from the light and leading of such investigations." The great fact to be taught, the great fact to be learned, is, that to experimental physiology must we chiefly look for the means of lighting the paths traversed by those who work in the van of medical and surgical progress; who work conscious that, compared to what may be hoped for in the future, the advances already made are only—as Newton said of his greatest achievements—like those of a child playing with the waves as they break upon the sand. But,

. . . "Strong in will,  
To strive, to seek, to find, and not to yield,"

they still labor to realize the fair aspiration that the book of Life may yet be read, not by the dim and flickering rays of opinion, but by the clear and steady light of ascertained fact.

I have mentioned many achievements in surgery the past half century has witnessed. Fifty years hence this great Association will, I hope, meet here again to celebrate its centenary, and my successor will, I trust, with greater ability and eloquence than I can command, tell of as great or greater triumphs than I have done. To enable him to do so we can all aid, some powerfully, others feebly; but still every unit in this great brotherhood can assist, and it should be our ambition as well as our prayer that, when the hour arrives for us to cease from our work, we may all feel on looking back on our lives that we have done something to that end: something—be it great or small—in the interests of our common humanity, in the interests of our country, and of a pure devotion to truth, to render the science to which we have devoted our lives, nobler and fairer than before.

## Original Articles.

### THE ROUTINE TREATMENT OF VENEREAL DISEASES.<sup>2</sup>

F. B. GREENOUGH, M. D.

ONE other disease of those classed as venereal remains to be spoken of, and it is the one which in point of frequency of occurrence stands at the head of the list. I refer to gonorrhœa. Undoubtedly many physicians look upon a mere case of clap as being of very little importance to the patient, and certainly of not much interest to the doctor. My experience has led me to believe that a smart case of clap is very likely to be a pretty serious matter for the possessor, and the fact that a disease differs decidedly from others of the same inflammatory type, and is extremely obstinate to treatment, ought to make it interesting to the student. We have in gonorrhœa an inflammation of the mucous membrane lining the urethra, which membrane, from its anatomical situation, occupies an exceptional position, in respect to being of necessity subjected to sources of irritation. Several times during the course of each twenty-four hours it is washed over by a fluid,—the urine,—which is acid in its reaction and holds various salts in solution, the irritating action of which is most conclusively proved by the excruciating pain caused by the act of micturition when the inflammation is at its height. In the conjunctiva we have a mucous membrane which, under exceptional circum-

<sup>1</sup> The Master of the Rolls.

<sup>2</sup> Continued from page 149.

stances, that is, during the act of weeping, is bathed by a fluid of somewhat the same nature, but less heavily charged with irritating salts; and yet the inflammatory result of a fit of crying on that membrane is well known to everybody. Besides being subjected to this special source of irritation, the mucous membrane lining the urethra has the peculiarity of being in direct continuity with that of the prostate gland, the bladder, and the convolutions of the epididymis of the testicles, so that the inflammatory process may, and in point of fact not unfrequently does, by simple extension, affect more important organs, producing troublesome and painful complications. As additional points of interest in the disease, I will merely refer to the fact that in some cases it seems to be brought forth by secretions which do not contain any specific virus, and to the mysterious sympathy which in some individuals exists between the urethra and the synovial membrane of certain joints, especially the knee, as a result of which an inflammation of the former will call forth an affection of the latter, subacute it is true, but very obstinate and annoying. Last, but not least, as a claim to the interest of the student and observer, is the fact that while the indications for treatment are very evident the results thereof are far from satisfactory. I am convinced that, unlike most inflammatory affections, that of gonorrhoea does not in the majority of cases tend to resolution and a return to a healthy and normal condition. Some time ago, at the Dispensary, for quite a time I treated all cases of gonorrhoea that had no complications calling for special relief in as near an expectant manner as was consistent with having them continue under observation; that is to say, with quite small doses of a simple diuretic, and quite a large proportion of them resulted in chronic affections. The endoscope has been the means of demonstrating to us how this takes place. As a result of long-continued suppurative inflammation the mucous membrane at a certain point loses its normal epithelial layer, and in its place we find a red, rough, pus-secreting surface, which consists of celluloso-vascular granulations of exactly the same nature as those which we see in any lesion of continuity of the cutis or mucous membranes resulting from a wound, burn, or any other cause. The moment we get an irregularity in the lining of the urethra we have the retention of a small amount of the urine behind it, which keeps up the irritation. The result of this granular condition in the urethra is, as elsewhere, the production of fibrous or cicatricial tissues, the tendency of which to contract is one of the best-known facts in pathological anatomy. Hence the marked influence of chronic urethral trouble in causing stricture. Exactly the same process goes on in plain sight of the oculist in those cases of chronic inflammation of the palpebral conjunctiva which result in "granular lids." We see there, in the first place, the conjunctiva become granular, then the granulations change into fibrous tissue, which, by contracting, pulls the lid inwards, so that the eyelashes actually press and rub against the eyeball. We have, then, in gonorrhoea, a disease which not only may by simple extension of the inflammatory process affect such important organs as the testicles and bladder, but has a tendency to result in certain structural changes of the urethra, the gravity of which is appreciated by every surgeon. One would think that, such being the case, the least that could be expected of the practitioner would be to carefully avoid doing anything that could aggravate

matters, and yet a large proportion of cases of gonorrhoea are put on a course of urethral injections without any regard to the amount of inflammation which exists. Fully aware as I am of the benefit to be got from injections used properly, and they are invaluable, I thoroughly believe that had a urethral syringe, even so perfect an instrument as the Royal Excelsior P, never been manufactured, the mass of urethral patients would be better off than they are. The bad effect of injections is most especially to be noticed in the class of ignorant and stupid patients that we have to treat in the various out-patient services, and so frequently have I had reason to think that treatment by injections was absolutely doing harm in my service at the Dispensary that for some time I have all but dispensed with them except in chronic cases. Even theoretically I have never been able to understand how an astringent solution applied to an inflamed and highly congested membrane is supposed to reduce the inflammation. It is true that temporarily it causes a contraction of the capillaries, but if I remember my physiology correctly this is followed by a reaction, in which they are distended even more than previously. Of course, where for some length of time the astringent action of cold can be obtained by means of constant bathing or cold compresses, we can conceive of keeping this action up long enough to prove beneficial. In the conjunctiva we have a mucous membrane, the action on which of local applications can be watched, and our colleagues the oculists, or at least a great many of them, have come to the conclusion that the result of the use of strong astringent collyria during the acute stage of inflammation of that membrane is not satisfactory. In an acute case of clap we do have certain perfectly evident indications for treatment. Quiet and rest, in a recumbent position if possible, are important, and the diet should be such as will avoid increasing the irritating character of the urine. As this irritating action of the urine on the inflamed membrane is one of the chief sources of keeping up this inflammation, we should of course modify it if possible. This end may be accomplished in two ways: either by the exhibition of an alkali, and thus chemically neutralizing the acidity, or by increasing the watery constituents of the fluid, rendering it more dilute and consequently less irritating. In the alkaline diuretics we have the means of obtaining both of these desired results. They are best given in flax-seed tea, barley-water, or any other demulcent drink. The anti-blennorrhagies, copaiba and cubeba, have a very varying effect in different cases. In some they seem to have a marked action in cutting down the discharge, in others the action is not appreciable. The oil of sandal wood is even more uncertain, but in my experience it rarely does much good during the earlier stages of the disease; later, at times its action is little short of marvelous. As the inflammatory symptoms disappear we can begin cautiously with a mild injection, the sensations of the patient being a very reliable guide as to the propriety of going on with them or not. I believe that if the injection causes anything like real pain or scalding it will be worse than useless. One other point with regard to urethral injections should not be lost sight of, and that is, that in the same way that a lesion of the skin or mucous membrane cannot heal if constantly characterized, so no urethra can return to its normal state of dryness while astringent solutions are being squirted into it three or four times a day.

I should be very sorry to be understood to claim that even by using the greatest possible caution and care in treatment we can be sure of escaping the complications by extension of inflammation which I have spoken of. On the contrary, some of the cases that have followed all directions in the most conscientious manner will have as serious a time as those that have kept up drinking and every sort of imprudence, or who have been treated by too strong injections. But it certainly must be a comfort to the conscientious practitioner to feel, when he sees his patient suffering the tortures which a smart combination of cystitis and prostatitis is accompanied by, that his treatment cannot have been the means of producing this condition. Under the most careful treatment cases of gonorrhoea often are very obstinate and troublesome. We hear of a certain method of treatment curing all cases in a few days, and perfectly honest gentlemen will tell you of cases that they have had no trouble in discharging well in a week or two. It is impossible for me to reconcile such statements with my personal experience without some means of explaining the apparent direct contradiction of facts. This explanation, I think, may be made in two ways. In the first place, many patients are undoubtedly discharged as well when they have by no means arrived at that condition. They are told that the slight discharge that they find, especially in the morning, does not amount to anything, and that it will in time wear away, which it sometimes does, and then again not unfrequently it does not. Again, there exists in the community quite a large class of men who will tell you that they never "can see a woman even" without getting caught. Such cases are generally cured very quickly, and the chances are that some friend of theirs to whom they have given the prescription which worked so well with them is much disgusted to find that it has no effect, or certainly not a beneficial one, in his first case of gonorrhoea. The fact is that these patients do not get infected each time, but that they have a chronic urethral trouble from which they never are free. This may during quiet life be in such a quiescent state as not to cause any appreciable amount of discharge, but the excitement of the sexual act will start it up, and it merely requires abstinence from alcohol and an astringent injection to put it back into its latent condition. If you examine the urine of such cases you will find several long shreddy filaments floating in it. The importance of these filaments, by the bye, as a means of diagnosis, is not sufficiently referred to in the books. On introducing an olivary instrument you may or may not get a little hitch on passing by a certain point; but you will be pretty sure, unless there is a decided hitch, showing that fibrous tissue has already formed, to find that a drop or two of blood will follow the instrument. In short, they have chronic trouble of the urethra, which is aggravated by coitus, and this aggravation is a very different affair from a smart fresh case of gonorrhoea. I will not enter into the misery which attends the treatment of many of these chronic cases, and merely refer to the importance and interest which they possess for the surgeon when they have gone on to the point where contraction begins; in other words, have become cases of stricture. It is too soon yet to speak with any confidence, but I hope that in the soluble gelatine bougies we may have an important agent in treating chronic cases. The irrigator described by Dr. Harrison, of Liverpool, is of great value in some cases,

but like every other method of instrumental interference with the urethra it sometimes starts up an acute exacerbation. It consists in simply a velvet-eyed soft catheter of three or four sizes smaller calibre than the meatus, which is introduced beyond the seat of urethral trouble, and by means of a bulb syringe a stream of medicated fluid is gently washed from behind forwards.

The nature and magnitude of the subject I have attempted to treat of is such that, even after having abused your patience to the extent which I have, I have merely been able to skim from the surface the froth, as it were, of the main points of interest in the indications for treatment of venereal disease. What I have more especially endeavored to do, however, is to call attention to some of what seem to me to be decided and not uncommon mistakes in treatment, which I have taken the liberty of calling routine, and these are the use of caustics on chancrels or chancres, herpetic abrasions, or other local lesions of the penis, the prescribing specific treatment in cases where a doubt exists as to the diagnosis, and the abuse of astringent injections during the inflammatory stage of gonorrhoea.

I should be very sorry to be thought to have been pleading for the need of special treatment in venereal diseases generally. On the contrary, there is nothing in the great majority of cases which the general practitioner should not be perfectly able to see to, but I do think that the patient has the right to expect the same amount of interest in his case, as well as of knowledge, experience, and common sense, that he would if he were being seen through a case of typhoid fever or treated for a fractured thigh.

#### REPORT ON PROGRESS IN THE TREATMENT OF DISEASES OF THE THROAT.

BY FREDERICK L. KNIGHT, M. D.

##### OPERATION FOR A RECTIFICATION OF A DEFLECTION OF THE NASAL SEPTUM.

DR. W. C. GLASGOW<sup>1</sup> objects to the removal of a portion of the septum by punch or scissors, or otherwise, as likely to produce deformity of the nose, and advocates an operation (a modification of Mr. Adams') proposed by Dr. Steele, of St. Louis. In many cases the resiliency of the septum is so great that Mr. Adams' method will not suffice. Dr. Steele's modification consists in making a stellated division through the mucous membranes and cartilage, and a forcible reposition of the divided septum, which is retained in position by plugs. The division of the cartilage destroys, in a great measure, its resiliency, and the plugs are more to give support than to exert pressure. The instruments necessary for the operation are stout forceps shod on one blade with knives set in a stellate form. The two blades are united after the manner of obstetrical forceps, to facilitate the introduction and withdrawal. The cutting blade is covered with a thin sliding shield to protect the nostril from laceration during insertion. Any strong, stout blade, or Mr. Adams' septum forceps, may be used to push back the divided septum to the natural line. The plugs are made of ebony or ivory, and must be made to suit each individual case. They should be made thick enough to give support to the replaced septum, and sufficiently long to reach from the inferior meatus to the tip of the nose. An important feature of the plug lies in the pointed

<sup>1</sup> Archives of Laryngology, January 1, 1882.

shoulder which is inserted in the sulcus at the tip of the nose. It is thus retained safely in position; it is concealed from view, and can easily be withdrawn by the patient. The patient should be etherized, or put under the influence of nitrous oxide. The cutting blade of the forceps, covered by the shield, is introduced into the *unobstructed* nostril, and the shield withdrawn; the second blade is then introduced into the closed nostril, and the blades securely locked; forcible pressure is brought to bear and the cartilage divided; after unlocking, the blades are withdrawn; the septum is then forcibly crowded back and a proper plug immediately inserted. As a rule the plugs should be retained in place four days. Afterwards they need be worn at night for five nights. The plugs should excite little or no pain if properly fitted. If they are too long, they press on the turbinated bone, and give rise to pain. They are completely hidden within the nostril, producing slight distention with little deformity.

#### LARYNGEAL WHISTLING.

Dr. G. O. Roe reports the very interesting case of a young lady who possessed the power of whistling tunes with the larynx without the aid of the lips. The tune was perfectly produced in quite a low key, and sounded as if the young lady were at a distance. The following laryngoscopic appearances were noted by Dr. Roe as she whistled "Yankee Doodle" in this manner. On producing the whistle, the vocal cords were drawn tense, and the chink of the glottis nearly closed. The ventricular bands were approximated and puckered up, leaving an elliptical opening in the centre through which the vocal cords could be seen with their thin edges vibrating. The contraction of the ventricular bands was assisted by the contraction of the thyro-ary-epiglotticus, as the epiglottis and arytenoid cartilages were more or less approximated; but on producing high tones the arytenoid cartilages were drawn up under the epiglottis instead of the epiglottis being drawn downward.

Thus it could be directly seen that the fundamental tones of the laryngeal whistle were produced by the vibrations of the edges of the vocal cords, the tone being modulated by the minute adjustment of the ventricular bands, which regulated the laryngeal opening above the cords.

In addition to the assistance of the ventricular bands in modulating the tone, they also pressed firmly down on the vocal cords, closed the ventricles, and acted as a damper in preventing the cords from vibrating except for about one third of their length in the centre.

This young lady had also some ventriloquial powers. This led Dr. Roe to examine the larynx of a professional ventriloquist. He discovered that this gentleman produced the primary ventriloquial tones in precisely the same manner, that is, the larynx assumed exactly the same shape that the young lady's did while whistling. He was unable to produce a laryngeal whistle, but he told of two other ventriloquists who were able to whistle very loudly with the larynx alone, the mouth being closed, and who could give beautiful imitations of canaries, and other whistling birds.

#### THE QUESTION OF HÆMORRHAGE AFTER TONSILLOMOTOMY.

Dr. George M. Lefferts gives us an instructive arti-

cle upon this subject.<sup>1</sup> Referring to the great diversity of opinion on this subject among the profession, so great that one man hesitates to operate at all, while another says there is no danger, Dr. Lefferts says the truth lies between the two extremes, and may be summarized thus:—

(1.) A fatal hæmorrhage after the operation of tonsillotomy is very rare.

(2.) A dangerous hæmorrhage may occasionally occur.

(3.) A serious one, serious as regards both possible, immediate, and remote results, is not very unusual; and

(4.) A moderate one, requiring direct pressure, or strong astringents to check it, is commonly met with.

Still in a large percentage of cases, certainly a majority, no trouble after the operation is experienced, the bleeding quickly ceasing, either spontaneously or by the use of a little ice.

Taking up these classes of cases seriatim, Dr. Lefferts remarks in regard to the first, that fatal or uncontrollable hæmorrhage from the internal carotid artery, the result of any direct surgical procedure, is very rare. At the present moment the majority of cases of this accident which are upon record, contrary to what is generally supposed, do not concern the operation of tonsillotomy, but have occurred during an operation upon the tonsil, or in its neighborhood, for other causes, such as the puncture of a retro-pharyngeal abscess, opening a pulsating tumor of the tonsil, opening of a supposed abscess, the operation for sarcoma of the tonsil, for malignant disease, etc. In those few cases where profuse hæmorrhage has occurred after the removal of a portion or of all of the tonsil with the knife, and where the common carotid artery has been tied to check it, the question is an open one (except perhaps in the instances reported in Velpen) whether the lesion was of the internal carotid and not of some other vessel. Hæmorrhage to an extent requiring operative interference for its arrest does not always proceed from the internal carotid after such accidents as the above. It may come likewise from the large tonsillar branches of the important ascending pharyngeal artery, or from this artery itself, and likewise in good quantity from the tonsillar branches of the facial (or external carotid), to say nothing of the venous hæmorrhage, profuse in its outset, which comes from the abnormally enlarged and dilated blood-vessels in an old hypertrophied and long-inflamed tonsil. The internal carotid artery has thus far never been wounded when the tonsillotomy has been used. If a hæmorrhage is from the internal carotid, it must of necessity be profuse, and will demand, primarily, immediate arrest, if possible, by direct pressure, or by hooking up the tissues by means of a tenaculum, and ligating them *en masse*, and, secondarily, if these means fail, ligation of the internal — *not* the common carotid. The most recent views are in favor of ligation of the internal carotid in such injuries, and this on both sides of the lesion.

Of the second class, that is, dangerous hæmorrhage, Dr. Lefferts gives two cases, one operated on with the bistoury and the other with the tonsillotomy. The hæmorrhage was profuse, and was finally checked in one case by pressure, and in the other by twisting a large bleeding artery. Dr. Lefferts thinks the source of the hæmorrhage must have been the ascending pharyngeal artery, a vessel of large calibre, and in in-

<sup>1</sup> Archives of Laryngology, January, 1882.

time relation to the tonsil, and one which on this account should receive more attention than is usually accorded it. Gray tells us that it ascends in the neck between the internal carotid and the side of the pharynx, and that the largest of its pharyngeal branches goes to the tonsil. It is given off directly from the main trunk of either the external or, more rarely, the internal carotid.

In regard to the third class the author says the hæmorrhage may come from the opening of a part of the rich venous plexus at the bottom of the tonsillar fossa, or from the section of an arterial branch in the tonsil. Pressure, or if possible, isolation and twisting the bleeding point is the treatment indicated. Should a hæmorrhage persist or be of more than the usual moderate amount, and should it specially occur from the face of the cut tonsil, a differential diagnosis must be made. Usually it will be found in a single bleeding point, and can then be appropriately treated. Above all, the patient should be kept under observation for a time, at least till the question of immediate recurrence is beyond doubt. If the throat is intolerant reliance may have to be made on pressure. The author places little reliance on the use of the persulphate of iron. In case it has been used without success in checking the bleeding, no time must be lost in removing the clots, etc., and seeking out the bleeding point.

In regard to the last class, moderate hæmorrhage — one requiring more than the ordinary means to control it, Dr. Lefferts calls attention to two causes, one of which, he believes, is not generally appreciated. An old, much indurated and hypertrophied tonsil, one long chronically inflamed, will have large nutrient vessels, and their section will be followed by an immediate, more or less profuse, flow of blood. This hæmorrhage is, commonly, mainly of venous blood, and, as a rule, quickly ceases. The second cause is more important. It is not an uncommon thing, when the tonsil is greatly hypertrophied, so that it fits with difficulty into the largest tonsillotomy, and the faucial pillars, especially the anterior, are tightly spread out over the surface of the gland, to cut away a portion of the latter (its anterior surface, or more rarely a portion of its edge) as you make the section. The tissues immediately retract, and the small arterial branch which runs in the faucial pillar is held open, giving rise to a persistent bleeding, small in amount, as a rule, though the author has seen it profuse, but enough to alarm the patient, and require direct treatment. This wounding of the anterior pillar is one of the commonest causes of *excessive* sore throat after the operation of tonsillotomy. To check this last form of hæmorrhage direct pressure, or application of silver nitrate in substance to the bleeding points, must be resorted to.

#### OBSTRUCTION OF THE NARES A CAUSE OF ASTHMA.

Dr. Wm. Porter, of St. Louis, says<sup>1</sup> that in not a few cases asthma is undoubtedly the result of nasal polypi, or more rarely of hypertrophy of the pituitary membrane. The literature upon this subject is both recent and meagre. Voltolini is credited by Fraenkel with the first observation (1871) of nasal polypus in relation to asthma.

Dr. Porter reports cases showing the relief from asthma by the removal of polypi or thickened pituitary membrane, which is not always permanent because

bronchial lesions may have been produced by the long continuance of the irritation.

Dr. Thos. F. Rumbold, in the same journal, reports similar cases, and goes so far as to say that every asthmatic patient whom he interrogated on the subject, over fifty in number, stated that he had been having severe colds in the head each fall and spring for a number of years previous to the first attack of asthma.

Pertinent in this connection is a paper of Dr. Wm. C. Glasgow's<sup>2</sup> on

#### LARYNGITIS AS A CAUSE OF BRONCHIAL SPASM.

This cause of reflex asthma the author fails to find recorded in any of the authorities. A number of cases are given showing the relief from asthma by local treatment of the larynx. In these cases no permanent relief is obtained till the laryngitis is cured.

It is interesting to call to mind in this connection the treatment of the larynx by Dr. H. I. Bowditch by local applications of iodine solution in cases of asthma in pre-laryngoscopic times. How well do we remember the picture of the doctor standing over his asthmatic patient, sponge-probing, moist with iodine, in hand, waiting for the finger of the patient to rise as a signal that inspiration was completed, and that the time for the application had arrived. If some of our laryngoscopists would observe this precaution more frequently, especially in applying silver nitrate solutions, their patients would suffer much less.

#### PREVENTION OF HAY ASTHMA BY LOCAL TREATMENT OF THE NASO-PHARYNX.

Dr. W. H. Daly<sup>3</sup> reports three cases in which the destruction of hypertrophied mucous membrane of the turbinated bones, removal of a nasal polyp, and other local treatment appropriate to a chronic catarrhal condition of these parts prevented the recurrence of hay asthma, although one of the patients had suffered previously every year for twenty-one years.

#### REMOVAL OF NASAL POLYPI.

Dr. Morell MacKenzie,<sup>4</sup> at the conclusion of an interesting chapter on nasal polypi, says that the mode of treatment which he generally adopts is to remove them with his punch-forceps, and then to apply electric cautery to the base of the growths. When recurrence repeatedly takes place, if the growth springs from one of the turbinated bones, he removes a portion of the bone by means of a special instrument devised for the purpose. It consists of fine, hollow forceps, having toothed edges on one side, and smooth edges on the other, whilst between the two a sharp cutting blade can be rammed down. If both blades of the forceps have cutting teeth the instrument cannot be easily removed after the bone has been cut through, hence a separate instrument is required for each side of the nose. The portion of turbinated bone required to be removed is seized by the forceps, the smooth blade being on the outer side. The knife is then pushed home, and the portion of the turbinated bone easily removed. Dr. MacKenzie says that while he considers the removal of a portion of one of the turbinated bones perfectly harmless, he regards it as an operation seldom required.

(To be concluded.)

<sup>2</sup> Archives of Laryngology, July 1, 1882.

<sup>3</sup> Archives of Laryngology, April 1, 1882.

<sup>4</sup> Archives of Laryngology, April 1, 1882.

<sup>1</sup> Archives of Laryngology, April 1, 1882.

## Hospital Practice and Clinical Memoranda.

### TREATMENT OF VOMITING BY ABSTINENCE FROM FOOD AND MEDICINE.

BY S. G. WEBBER, M. D.,

Visiting Physician Eastern City Hospital.

SOMETIMES vomiting is a very troublesome complication in disease of other organs than the stomach. In Bright's disease, in various functional as well as organic nervous disorders, in uterine affections, in cardiac and lung diseases, the physician is at times annoyed or becomes anxious as to the result on account of the obstinate vomiting; the derangement of the stomach becomes more important than the original disease. Effervescing drinks, oxalate of cerium, creosote, small doses of ipecac, hydrocyanic acid or tincture of nuxvomica, bismuth, and various other remedies do not give relief, but seem rather to aggravate the symptom by exciting the vomiting afresh.

It is not necessary to inquire now why vomiting is thus persistent; there seems from some cause to be an irritability of the nerve centres, such that the presence of anything, even water, in the stomach serves to excite the reflex act of vomiting, and the more frequently this happens the more is the irritability of these centres increased. This condition may be due to disease, primarily or secondarily, or it may be produced by unwise medication.

Often the best method of treating this complication is to give the stomach rest. Sometimes only a large amount of food taken at one time excites vomiting; then it is sufficient to resort to frequent feeding, giving a very small quantity each time, a mouthful, or a spoonful every fifteen to thirty minutes; thus the stomach never contains a large mass of food requiring considerable muscular exertion to roll it about and by its weight or bulk exciting the reflex irritability of the nerve centres. Many times, however, this is not enough, the stomach requires more complete rest, and the best treatment is to withhold all food and medicine; sometimes a few hours rest is enough, again it requires two or three days, as in one of the following cases; then it will be necessary to use nutrient enemata. Where there has been much vomiting thirst may be very annoying to the patient; small lumps of ice held in the mouth will relieve this, and generally do not cause vomiting. After the stomach has had sufficient rest it is best to commence feeding by the mouth with caution, giving a little frequently. Milk and lime water, equal parts, a teaspoonful every half hour, should be first tried; if well borne the amount can be increased gradually. It is a mistake to increase the quantity too rapidly. Some patients do better on soup, or Mellen's or Ridge's food, or on scraped raw beef. The following cases are a few from many which might be reported:—

Bella L., aged twenty-two, transferred to nervous and mental service from medical service August 25th. About one year previous was out in hot sun for a long time and next day did the week's washing; during these two days had headache, nausea, and vomiting, with dizziness; was confined to bed one day. Soon after had pain and weakness in both iliac regions, which increased in severity till Christmas. She seemed to be suffering from general nervous weakness, there being no organic

lesion. She had slight nausea at times, with dyspeptic symptoms till September 12th; there was so much nausea and vomiting that she was given only milk and lime water; on the 15th all medicine and the milk were omitted, and later in the day she was given scraped beef. The vomiting still continued, and on the 17th she was to have nothing by mouth, and to receive an enema of one egg beaten up with ten grains of pepsin every four hours. Four days later she was given every two hours a tablespoonful of chicken soup, and the alternate hours the same amount of Mellen's food. This diet was continued, the amounts given being increased till October 8th, when other articles were added to the diet. November 1st, it is recorded: "Not much nausea for some time; pain sometimes worse than at others. Can walk well for a few minutes, then is tired and has more pain. Has consciously been gaining strength. Feels much less nervous."

The treatment was at first directed to the condition of the nervous system; she received first ext. nuc. vomica, one third grain, ext. belladonna, one sixth grain, zinc. oxid., two grains, in pill, three times a day. When the stomach becomes irritable, bismuth and the hydrocyanic acid were used. Dry cups and iodine were applied to the back, but after the stomach showed so much irritability the measures used were directed to that.

Jane L. D., aged twenty-nine, entered December 15th. Had had about a year previously rheumatic pains in knees and calves of legs, which lasted all winter. Three weeks before entrance she began to have nausea and vomiting; the vomiting recurred daily; the vomitus was greenish and slimy; the vomiting occurred immediately after eating or drinking. There was great tenderness over the epigastrium. She had been working very hard, making long days at sewing. There was very slight oedema of feet; urine acid; 1020; trace of albumen; a few pus and a few blood globules; no casts.

All food was omitted for several hours, then milk and lime water was given in ounce doses every hour. She had no more nausea, and shortly after was able to take a reasonable amount of nourishment.

Delia L., aged thirty-four, married; has a history of syphilis; entered the hospital for a chronic ulcer of the leg. She had headache and vomiting, the latter being very obstinate. There was no albumen; no casts in urine. All medicine and food was stopped, and after some hours she was fed on a mixture of milk and lime water, equal parts, one teaspoonful every hour. The amount given was increased gradually and the proportion of lime water diminished. After three days she took three ounces of mixture, milk six parts, lime water one part, every hour, with a little bread; the next day she had half a pint of milk every two hours, and soon was able to take ordinary diet.

### TWO CASES OF EMPYEMA.<sup>1</sup>

BY H. E. MARION, M. D.

CASE I. Mrs. E. H., widow, forty-eight years of age, born in Nova Scotia; by occupation a seamstress. Has been under the care of a homoeopath for the past six weeks. Not improving and having asked assistance from the city, by direction of the Overseers of the

<sup>1</sup> Read before the Boston Society for Medical Observation, March 22, 1880.



Poor I saw her. The history of her sickness pointed directly to trouble within the thorax. Physical examination gave flatness from above the nipple on right side to the lower part of the chest, front and back. There was absence of respiration and vocal fremitus; agophony just at and above the line of dullness; also cough, frequent pulse, elevated temperature, loss of appetite, and extreme debility, not improving on generous diet, stimulants, and tonics. On the nineteenth day after I first saw her, I aspirated the chest between the eighth and ninth ribs midway between the axillary line and a line passing through the angle of scapula, using a medium-sized needle. Five hundred and forty grammes of thick pus was removed.

On the twenty-sixth day I removed four hundred and eighty grammes, using the largest needle I had. Accidentally considerable air entered the thoracic cavity. For several days after this operation she did not feel quite so well; chest wall was sore to touch.

On the thirty-third day she still had considerable cough, but the appetite was improving. Pulse 96 to 100; temperature 99° F. Line of flatness at angle of scapula or a little below.

Fifty-second day. Gradually improving. Pulse between 80 and 90; temperature from 98° to 100° F.; is now normal. Finger ends bulbous. Burning in palms of hands and soles of feet, face a little puffy. One foot swollen. Urine free from albumen and casts. Scarcely any respiration on right side. Apex beat to the left of its normal position. Absolutely no cough for some time past; appetite fair, and has been gaining flesh. Can walk some distance without fatigue. The heat prostrates her very much. Advised her to go into the country, and to call assistance or return home immediately she began to grow worse.

One hundred and forty-first day. Returned from the country very much improved in every respect. Has had severe attacks of coughing and vomiting of thick pus: "Just like what came out of my side." The first time it occurred was during a violent fit of coughing when she was almost strangled.

One hundred and fifty-third day. I called to see the patient and learned that she had resumed her work as seamstress in town. Two days previous while stooping to button her boots, suddenly and without warning, she vomited a large quantity of pus, almost choking her.

One year and seventeen days from the time I first saw her she called at my office, informing me that she had worked every day for the past eight months, but with more or less suffering.

CASE II. On March 26, 1881, I was called to see J. C., a strong, vigorous young man, sixteen and a half years of age, a student in the High School.

Five weeks previous to this visit I saw him suffering from an attack of acute tonsillitis; possibly he had not felt quite as strong since. The day before he attended his grandfather's funeral; after his return he had a severe chill followed by headache and pain in the side, increased by deep inspirations; he passed a feverish, restless night, and I saw him in the morning; besides the above symptoms he coughed, breathed rapidly, with frequent pulse, elevated temperature, and bloody sputa; there was dullness at both backs, just at the base on right side and extending to angle of scapula on the left with feeble respiration, and possibly very fine crepitant rales.

On the following day, the third of the illness, the

dullness on the left side was more marked, and fine rales could be heard over the whole lower lobe of left lung; resonance under left clavicle with no increase of dullness at right back; bronchial respiration followed; cough; rusty sputa, and herpes labialis; pulse ranged from 100 to 120; temperature from 102.5 to 104° F. These were the prominent symptoms until the eighth day, when I noticed the heart beating at the right of the sternum; his breathing had become more rapid with increasing dyspnoea; temperature the same; pulse more frequent.

On the ninth day pulse small, of unequal force, and at the rate of 120 to 140 in the minute; severe pain in left side with short, dry cough on expiration; apex beat still farther to the right; absence of respiration at lower part of chest with flatness on percussion. These symptoms increased in severity during the day and evening. At midnight the pulse was 150, threadlike and irregular; respiration very rapid and labored; skin cyanotic; absence of respiration and vocal fremitus over the entire left side; apex beat at right nipple; temperature 103.5° F.; patient bathed in cold perspiration.

Under these circumstances I proceeded to aspirate in axillary line between ninth and tenth ribs; two thousand four hundred grammes of serous fluid with a little pus was removed. The aspiration, which was somewhat delayed by plugs of fibrine in the needle of the aspirator, afforded great relief. Heart swung back beneath the sternum; pulse frequent but regular, with more force and volume; temperature the same.

The symptoms remained about the same during the tenth and eleventh days, temperature reaching 104.5° F. on the twelfth with cough and rusty sputa; these symptoms, coupled with a physical examination, gave evidence of a pneumonic process extending over middle and upper lobes of right lung; so that on the thirteenth day of his illness, and fourth day after aspiration, he exhibited the rational and physical signs of pneumonia of middle and upper lobes of right lung. There was feeble respiration just beneath the left clavicle and at the very base of right side.

Every day gave evidence of increasing effusion into left pleural cavity. Although the patient looked very badly I desisted from interfering until either resolution should be established in the right lung or the symptoms should point to a rapidly fatal termination.

On the evening of the seventeenth day of his illness, the eighth after the aspiration, his temperature fell to normal, pulse came down to 100, and he was bathed in a profuse perspiration; at this time the fluid had reached to the level of the nipple; heart again pushed to right of sternum.

On the eighteenth day, two days after resolution was established in right lung, he being much distressed as to his breathing, and the effusion rapidly increasing, I again aspirated, removing 1320 grammes of thin, odorless pus, with marked relief to patient.

On the twenty-second day symptoms again became aggravated; evening temperature 101° F.; pulse 120 to 140; respiration 32; more dyspnoea; hectic; bed sores over sacrum. He was anxious to be again aspirated. Agreeably to a promise made him at the previous aspiration, I used ether; it required but a little to make him unconscious. Patient was placed in a sitting position, and 570 grammes of odorless pus was removed with not a little trouble, caused by flakes of fibrine floating against the open end of the canula; more

doubtless might have been removed, but the exhaustion of the patient was so great, and his breathing under other being poor, I desisted.

On the evening after the operation the temperature was 99° F., pulse 110. He complained of pain in both sides.

On the twenty-seventh day of his illness my notes are as follows: Pulse has remained between 120 and 130; temperature from 100° F. to 101° F.; there has been considerable cellulitis around last puncture which has caused a good deal of annoyance; last night he had severe pain in right side; a dry friction sound or squeak can be heard at the lower part of right back; impulse of the heart can be seen just at the left of the sternum; other symptoms remain about the same. On the twenty-eighth day pleural friction could be heard over right back and side, below nipple; there was no evidence of air entering the left lung except, possibly, at the very apex; pulse 120; temperature 100.2° F.; respiration 26. Removed 2430 grammes of slightly offensive pus. Resonance from about four centimetres below the nipple upward.

Thirty-fourth day. During the past few days the pulse varied from 110 to 140 on slight exertion; temperature from 99° F. to 101° F.; the cavity has gradually filled; bed sores healed, and he can slip from bed to chair without assistance; perspires freely. Tapped the chest, using large-sized trocar with rubber tube attached, the distal end of tube being immersed in vessel of water placed on the floor, thus acting as a siphon; 1920 grammes of thick, offensive pus was removed; enlarged the opening, and washed out the cavity with solution of carbolic acid; introduced tent, and dressed with an oakum compress. He was very much exhausted by the operation, and looked badly for some time. Thirty-eighth day. Pulse 120; temperature 100.8° F.; respiration while sleeping 26; temperature reduced one half degree by usual operation of washing out the chest; pus thick and offensive; capillary circulation very poor; bed sores again troublesome.

Forty-eighth day. Pyæmic symptoms marked; pulse 120; temperature 99° F. to 100° F.; respiration 26, unilateral; abscesses and sloughing of tissue over back and sacrum wherever there is pressure from a fold in the clothing; emaciation extreme.

Seventy-ninth day. During the past month he has had his "ups and downs;" on the whole has been gradually improving; appetite better; his chief diet has been of late baked beans; he has gained, too, a little in flesh; can walk from one room to another; the pleural cavity has been washed out, at first daily and later every other day; right lung in good condition; the left lung has expanded a little; respiration fair at the upper part; dropping of fluid can be heard from within the pleural cavity; chest has fallen in.

One hundred and ninth day. Is now able to walk out, and is gaining rapidly. A tube inserted into the chest with a bottle attached, which he carried in his pocket, was substituted for the tent, and the cavity washed out daily. Chest much fallen in antero posteriorly; lung expanding; eats and sleeps better.

Two hundred and third day. Removed the tube; heart beat under and a little to the left of sternum; respiration can be heard about five centimetres below nipple.

Two hundred and eleventh day. No trouble has arisen from removing the tube, and no evidence of the

reaccumulation of fluid; has gained much in weight and strength.

It must be a source of profound satisfaction to those of our profession whose names I need not mention in this presence to review the various opinions expressed and compare the practice of to-day with that of comparatively a few years ago, when by their united efforts the science of medicine received a fresh impetus by their practicing and teaching paracentesis thoracis.

I purposely forbear repeating any part of the literature of empyema. I have reported these cases thinking they illustrate points of sufficient interest to engage the attention of this Society for a few moments. The case of Mrs. H. well illustrates the conservative treatment. Time was when the popular practice was to make a permanent opening at once, having demonstrated the presence of pus in the pleural cavity. In this case the patient was aspirated twice, and a large amount of pus was removed at both times. After the last operation the patient began to improve in every respect as to her general condition, still with a demonstrable amount of pus in the pleural cavity. The improvement was so marked that the operation was not again repeated, but she was sent away into the country, with directions to return or seek advice in case she did not continue to improve. Nature, in a short time, made a permanent opening into one of the bronchi, thus saving her the annoyance of a permanent opening through the thoracic wall, and reducing to a minimum the chances of septic infection.

In these days of antiseptic surgery we are taught to look with horror upon the admission of air to a fresh wound unless it be surcharged with some antiseptic material. In this case, as I then thought, carelessly on my part, air entered the chest freely at the second operation, but, apparently, no evil resulted therefrom.

In the second case the first question of interest is that of diagnosis.

During the first week, I have no doubt in my own mind, from the rational symptoms, chill, cough, rusty sputa, hurried and painful respiration, frequent pulse, and high temperature, herpes, severe pain in the side, together with the physical signs, dullness with subcrepitant rales, followed by flatness, dislocation of heart, and egophony, that it was a case of pleuro-pneumonia with effusion.

After the first week the patient was seen by Drs. I. L. Hildreth, E. H. Stevens, and Otis H. Marion at different times, so that every subsequent stage of the disease came under the observation of more than one individual. With pleuritis of the left side, and pneumonia of the lower lobe of the left lung, effusion came on gradually, rapidly increasing on the eighth and ninth days. A large amount of serum with some pus was removed. After an interval of twenty-four to forty eight hours the middle and upper lobes of the right lung became involved, showing all the rational and physical signs of pneumonia. This ran through its course in seven days, when resolution was established with colligative sweat, subsidence of temperature, falling from 101.5° F. to normal, and pulse from 110 and 150 to 100. Following the resolution of pneumonia of the right lung he was again aspirated, this time a large quantity of odorless pus being removed. In ten days after resolution of the pneumonia of the right lung he had a severe pleuritis of the right side, over the middle and lower lobes. During

those ten days he was aspirated twice. A permanent opening was not made until the pus was found to be offensive, and the patient had for three or four days shown unmistakable signs of pyæmia.

## Reports of Societies.

### PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL OBSERVATION.

BY M. H. RICHARDSON, M. D., SECRETARY.

#### REMOVAL OF NASO-PHARYNGEAL TUMOR.

JANUARY 2, 1882. DR. HOOPER said: At one of the recent meetings Dr. Knight explained the method of removing hypertrophied tissue of the turbinated bones by means of the Jarvis snare, and showed the instrument. In order to point out the usefulness of this instrument in operations about the post-nasal region I wish to show this tumor, which was removed from the naso-pharyngeal space with the Jarvis snare, and which I do not think could have been gotten rid of in any other manner more thoroughly or with less discomfort to the patient. The No. 5 piano wire, used in the snare, is elastic, yet so stiff that the snare does not get out of shape, which is the secret of being able to pass a snare through the anterior nares large enough to take in a tumor of this size. With the aid of the rhinoscopic mirror, and with gentle manipulation and coaxing for about three quarters of an hour, the tumor finally insinuated itself into the snare, and the wire was drawn up to its base and the tumor removed.

#### EMPHYEMA.

DR. MARION reported two cases of emphyema, which are published in full on page 180.

DR. BOWDITCH said that he felt great interest in this paper and subject. He was satisfied, thirty years ago, that it was at times not only unnecessary but wrong to make a permanent opening into the chest for the evacuation of pus. He had in mind the case of a little girl with a purulent effusion in the pleural cavity many years ago, who was aspirated twice without success. At the third operation the needle was introduced into the chest just below the axilla, and pus was withdrawn. The wound did perfectly well, and the child recovered without any further trouble. It is impossible to get out all the pus with an aspirator, and it is absurd to say that we can. Even where a free incision is made it cannot be done, a small amount remaining in the dependent parts of the cavity. The occurrence of pneumonia on one side and pleurisy on the other is very rare and interesting. It gives the impression of great skill and assiduous care on the part of the attending physician. The great success of the case was brought about by relieving one side with the aid of art and leaving the other to Nature.

DR. SUMNER asked Dr. Bowditch whether he would not try to remove all the pus from the chest.

DR. BOWDITCH replied that in case of aspiration it would be impossible, and he should not attempt its entire removal. There must be some matter left, because the opening is not at the bottom of the pleural sac. With regard to the use of antiseptic precautions, he thought he used to get just as good results without them where he used warm water merely.

DR. J. S. GREENE said he was at present attending

a case of emphyema in a child of four years. He had aspirated twice, at the first operation getting an ounce of pus, and at the second an ounce and a half. The pus was very thick indeed, and would not run through the needle, being stopped apparently by flocculi of some kind. He would ask Dr. Bowditch, or any other member of the Society, the best thing to do now.

DR. BOWDITCH replied that he should try a very neat apparatus devised by Dr. F. H. Williams for the washing out and evacuation of the bladder and other cavities of the body. He should also try injecting a little liquor sodæ chlorinatæ into the sac.

DR. POST said that he understood the reader to say that he considered an opening into the bronchi preferable to an opening through the chest wall, and asked him why he was of this opinion.

DR. MARION replied that he intended to say that it was less annoying to the patient than the external incision.

DR. BOWDITCH said he was taking care of a case now which he had thought was going to get well. The patient injured herself by falling on her side. No attention was paid to the complaint for five or six weeks, till she began to complain of dyspnea. On examination, flatness of one side was found. Evidently there was a collection of something in the chest. The attending physician wished to operate, but was dissuaded by two others who were called in consultation. About one month after this the patient suddenly vomited about a quart of pure pus. Later she had other similar attacks, raising considerable quantities of purulent matter. These attacks were preceded by fever, acceleration of pulse, and other signs of pus. In the early days of the case the heart was dislocated to the right. No operation was done till about two weeks ago, when Dr. Bowditch saw her, and advised tapping. The heart was to the right, and there was flatness of the left side. There was absence of respiratory murmur. No râles, and no evidence of a cavity. There was a little of the resonance, such as is seen in pleurisy, under the second and third ribs in front. Elsewhere the respiration was about *nil*. There was enlargement in front rather than behind or at the sides. The flatness was so great that he thought a large amount was in the pleura. He therefore advised a permanent opening to be made. Between that time and this there have been four aspirations. The first time the lung was tapped, and nothing but blood withdrawn. At that time he had come to the conclusion that the injury had caused an abscess of the lung which filled the whole chest.

Generally speaking, we can get a distant sound where the lung is anywhere near the ribs. But in this case there was complete absence of respiration, with very great dullness. Between the first and second aspirations (about a week) she began to improve. Aspiration was again tried; this time in the axilla, with the same result.

DR. BOWDITCH thought that the escape of pus, without an accompanying pneumo-thorax, indicated an inflammatory process, which cut off air from the rest of the pleural sac by the formation of thick membranes.

#### FIBROID TUMOR OF UTERUS.

DR. CHADWICK exhibited a specimen of fibroid tumor of the uterus, with the following history: The patient had been examined by Dr. Chadwick some

time ago, and he had found a tumor as large as a hen's egg. She had some little menorrhagia. Some five or six months after she came again, saying that her menstruation had ceased. It proved that she was pregnant. She went on to full term, and was confined December 8th. At the beginning of labor the tumor was projecting into the pelvis. Having dilated the os, Dr. Chadwick succeeded in getting his hand into the uterus, and delivered the child by turning. The tumor rose above the brim. On the eighth day after confinement had a severe chill. Dr. Chadwick was called to see her two or three days after this, and found the os occupied by a tumor, the lower end of which was as large as a child's head. The tumor rose up into the abdominal cavity above the umbilicus. There was no tenderness. Nothing to indicate an inflammatory process then. Pulse and temperature were very high; temperature 104.5° to 105° F.

The cause of death, or the main cause, was blood-poisoning. The indication was to prevent infection. The uterus was washed out two or three times daily by means of an elastic catheter, with much benefit. Autopsy made by Dr. Gannett.

Adjourned.

#### ANNUAL MEETING OF THE GYNÆCOLOGICAL SOCIETY OF BOSTON.

HENRY M. FILLIS, M. D., SECRETARY.

JANUARY 3, 1882. The secretary took the chair, and the president, WM. G. WHEELER, M. D., read the annual address prescribed by the constitution, announcing as his subject,

#### A BRIEF GLANCE AT SOME OF THE BORDER LINES IN THE GYNÆCIC MEDICINE AND SURGERY OF TODAY.

Certain older questions, remarked the speaker, are not yet set at rest; for example, Is torsion or the ligature the better means for arresting flow of blood? If the latter, from what source shall the ligature be obtained? Again, what is the best method of treating recent wounds? by wet or dry applications, by antiseptic measures, or otherwise? In connection with gynecology these and like questions bring both especial interest and obscurity, since this is one of the latest born departments of practical medicine.

This exceptional doubt and obscurity, both, may be traced back through the ages to the times of Hippocrates, who declared that the uterus exerted a paramount power over every other organ of the human body. Others, again, held that it possessed a separate and individual life, and was wholly independent of the laws which governed other portions of the system. Thus Aræteus asserts the womb to be an animal within an animal, possessed of power to traverse every portion of the body, and to take possession of whatever sense it pleased. In a later, but still distant age, Sydenham, Cullen, and others observed, it is true, wonderfully well, giving intelligent emphasis to the influence which the uterus exerts over the entire organism of the female, but they were deprived of the brighter light which recent years have shed upon our department. Peculiar difficulties await him at the very threshold who would give his attention to gynecology. To solve the *ære*, complexity, and activity of the nerve centre which preside over the reproductive organs of woman. Note also certain peculiarities impressed upon

woman herself, the quickness of her perceptions, rapidity of thought, brilliancy of imagination, etc. In an organization of such delicacy and complexity derangement and disease must always be more or less imminent.

"Reflex action," continued the speaker, "plays an important and varied part in the symptoms of most of the maladies of woman: for do we not observe predisposition to periodical headaches, delirium, insanity, and various perversions of the intellectual and moral powers so numerous and so remarkable that the most experienced physician, the most acute physiologist is unable to decide what is voluntary and what is involuntary, or where moral responsibility ceases and where insanity begins?" In the reproductive system we must place the point of departure of all that is peculiar to woman.

Why has gynecology been so slow in asserting its prominent and appropriate place as an essential part of medical practice? The intrinsic obstacles would appear to be twofold; we encounter the natural instincts of the sex, moreover, we have to contend with the outcome of education, the influences of social life. Unwilling to complain of that from the recognition and acknowledgement of which she shrinks, disease too often makes serious headway before the resources of medicine are called in to stay its progress.

The dividing line between obstetrics and gynecology is one both of interest and difficulty, but all know how often the perversions of the puerperal state contribute the varied accidents familiar to the practitioner of the latter department.

The advent of *anæsthesia* has done much to enlarge the domain of the gynaecic art. Prior to this "the peritoneal cavity remained the 'dark continent' upon our surgical atlas." Hereupon the author gave a rapid glance at the rapid progress of surgery in general since the times of its emancipation from the "unholy alliance" of the chirurgien and the barber. Gynecological surgery has already done something to pay the debt it owes to general surgery; as illustrative of this, note the improved methods for the restoration of the perineum and Emmets' operation upon the lacerated cervix. Above all, we must recognize the benefits accruing from the successful culture of ovariotomy. We are not to forget our indebtedness to the past; we should not ignore or condemn the lesson it has to teach. If it has much of mingled light and shadow, if the element of superstition is prominent, neither can we assert fixedness and certainty of the medicine of today; we have too frequent testimony to its error and vacillation.

The speaker emphatically protested in behalf of himself and of the Fellows of the Society against "all hobbyism or the arrogant assumption of a narrow specialism." Both our spirit and our work should show to the profession that the foundations of our department are as broad as are the sufferings of humanity. Moreover, the door to our special branch of medicine opens from the domain of general medicine, and we welcome to our ranks all honest workers, who, by predilection, incline to the department we chiefly cultivate, and who, qualified by liberal culture in collateral sciences, are willing to come in and coöperate with us in the effort to reach still higher attainments. The purpose of our corporate existence and our intention in coming together month after month is well expressed by Dr. Robert Barnes. He says: "The true

function of a medical society is to gather together and then diffuse knowledge, to encourage independent inquiry, to survey from time to time, by the light of mutual reflection, the position attained, and thus to seek sound guidance in the application of our knowledge to the practical duties of the bedside."

The president closed his address with a brief survey of the work which the Society had accomplished through the past year, and the expression of his confidence in the future usefulness and success of the organization.

The Society then went into executive session, whereupon the usual annual reports were offered, and elections made of officers for the ensuing year.

## Medical and Surgical Journal.

THURSDAY, AUGUST 24, 1882.

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### THE NATIONAL BOARD OF HEALTH.

THE National Board of Health has, to a certain extent, fallen a victim to the same influences which destroyed the State Board of Health in Massachusetts. In other words, the last Congress, of which few persons speak with unqualified respect, some of the members consciously and some unconsciously, has done just what our legislature did a few years ago. In spite of some mistakes which were to be more or less expected in a new and delicate, as well as difficult, work, the board possessed the confidence and support of nearly every sanitarian and sanitary organization in the country; and they wished for its continued existence with increased powers of usefulness, in spite of the evident necessity for some change in its organization and corresponding efficiency, such as experience might prove to be best, and for which they were willing to wait a reasonable length of time, but not indefinitely.

As was the case in Massachusetts, and also with Mr. Simon's splendid administration of the public health in England, the board had the good wishes of the medical profession and scientific men throughout the country. It was doing practical work of the greatest value; the civil and commercial interests of the whole region in danger from yellow fever quite depended upon it; the railroad and steamboat companies were heartily coöperating with it; and yet various influences, largely personal and political, were strong enough to deprive it of any appropriation for carrying on the extremely valuable scientific investigations which it has commenced. Moreover, the Assistant Secretary of the Treasury and the Supervising Surgeon-general of the Marine Hospital Service have received decisions from the President and from the Secretary of the Treasury, which will place

the management of the epidemic fund for the control of contagious diseases in the hands of the Marine Hospital Service. At the same time, the sum of money placed at the disposal of the board for its current expenses is so small that much of its office work even must be given up.

Without doubt, all this has not been accomplished from pure considerations of the good of the public service alone, although that feeling influenced a certain number of persons who, without knowing much about the National Board of Health, think it too unwieldy to have control over quarantine, in coöperation with State and local boards, or to disburse the money required for that purpose. It must be acknowledged, that there has been for two years a growing dissatisfaction with the organization of the board. Some, too, believe the Marine Hospital Service, under one head directly responsible to the Secretary of the Treasury, competent to deal with epidemics through its hospitals and physicians always on duty at the chief ports of entry in the country; but even if the National Board of Health is not the proper disbursing agent of money to assist local authorities, there is still an abundance of other work for it to do which will more than justify its existence.

Much has been accomplished in these few years of the existence of a national health organization, far more than could have been reasonably expected; many lessons have been learned, and much valuable experience has been gained. Unfortunately the mass of the people is not yet educated up to the point of seeing the usefulness of scientific observation and practical work in sanitary affairs. The work inaugurated by the board cannot wholly stop; the fact seems clear that it cannot go on in the present way. It may go haltingly for a time and receive a temporary check. Some years may pass before the country appreciates its full importance and our civil service is established on a basis to secure the best results; but there can be no doubt of the position that a public health service will eventually take in all enlightened countries. In the mean time, it is not an encouraging thought that, in this respect, England, France, Germany, and even Japan are far in advance of the United States.

The members of the National Board of Health can afford to await the calm judgment of the sober-minded people of the country as to their work and its results. They have much to do still, however, to organize for the most efficient work. The detail of Dr. Billings to duty which the Surgeon-general thinks to be more important will, it is to be hoped, not deprive the board entirely of the services of its most valuable member.

Major Charles Smart, surgeon in the United States Army, has been detailed in his place. Dr. Smart was elected secretary of the board at its last meeting, August 15th, in place of Dr. Turner, who resigned that office. He is well known to the medical profession in connection with sanitary investigations. His executive ability, good sense, tact, judgment, and high professional standing render his appointment an eminently desirable one.

# OPIUM IN CHINA. HOW MANY SMOKERS DOES THE DRUG SUPPLY?

WITH the desire of finding a tolerably accurate answer to the above question, the inspector-general of customs in China sent out three years ago a circular accompanied by a series of tables. These were sent to the commissioners of customs at about twenty ports along the coast and on the Yangtze River, by whom the blanks were to be filled and returned. These returns, from which an approximate answer to the question is derived, are just published in a special number of the Imperial Maritime Customs Reports.

The annual importation of foreign opium into China is said to amount to 100,000 chests, or 13,300,000 pounds, each chest containing 100 catties, and the catty being equal to  $1\frac{1}{2}$  pounds avoirdupois. The raw drug loses about thirty per cent. of its weight when boiled down and converted into prepared opium. The retailers receive, therefore, about 9,310,000 pounds for distribution among consumers. This total amount of imported opium costs, the duties paid, £16,800,000, and the quantity consumed *per diem* £46,027. The average smoker consumes 3 mace or  $\frac{1}{16}$  of an ounce avoirdupois daily, at a cost of about 22 cents; this amount suffices for from thirty to forty pipes. The total quantity of imported opium being divided by the total quantity each average smoker consumes daily, the conclusion each reached that there are in round numbers somewhat above 1,000,000 smokers of foreign opium in China.

The population of the country is spoken of as amounting to more than 400,000,000; the inspector-general estimates it at 300,000,000, and concludes that opium-smoking as supplied by foreign opium is practiced by one third of one per cent. of the population.

Reliable statistics concerning the total amount of native opium produced cannot be obtained. In the present report it is estimated as equal to the foreign importation, and it sells for half the price of the imported drug. The total amount spent by China for this indulgence is, therefore, according to these estimates, annually about £25,000,000, the total number of smokers 2,000,000, and the daily expenditure of individual smokers from 10 to 22 cents.

Inspector-general Hart says the Chinese who have studied the opium question are opposed to a traffic which more or less harms smokers, now numbering over 2,000,000; and annually increasing; at the same time they admit that opium provides a large revenue, that the expenditure for opium and liability to the incidence of opium taxation touch an infinitesimally small percentage of the population, and that neither the finances of the State, nor the wealth of its people, nor the growth of its population, can be specially damaged by an indulgence which draws so little from the pockets of those addicted to it, and which is partaken of by only two thirds of one per cent. of the population. They admit all this, but they do not find in either the revenue produced or the statistical demonstration of its percentage innocuousness any sufficient reason for welcoming the growth of the trade, or for desisting from the attempt to check the consumption of opium.

## MEDICAL NOTES.

### NEW YORK.

—The proprietor of the Hotel Bellevue, situated on the New Jersey coast some distance north of Long Branch, has won for himself a very unenviable notoriety by extorting the sum of five thousand dollars from the friends of two of the guests of the house who were suffering from typhoid fever, and pronounced by their medical attendants too ill to be moved. In consequence of the appearance of the fever in the hotel, most of the other inmates left, and the landlord demanded this modest sum from the families of the two patients, one of whom is a brother-in-law of Mr. Cyrus Field, Jr., for keeping the house open for a few days until it should be deemed safe to remove them. As it is a fact that these cases of typhoid originated in the building, and there can be little doubt that they are directly attributable to the bad sanitary condition of the latter, the friends of the patients will probably find little difficulty in obtaining legal redress for the outrage should they choose to bring a suit against the proprietor. It is stated that three other cases of typhoid have also originated in the same house during the present season.

—Two men who have been inmates of the Ward's Island Insane Asylum (the one for two years and the other for a longer period), and a third who was confined for four years in the Queen's County Insane Asylum at Mincola, Long Island, have just been released by order of court, after an examination establishing their sanity. Austin McNamara, the one who was at the Mineola Asylum, has signified his intention of bringing actions against all parties who were instrumental in obtaining his incarceration, as well as against the asylum authorities for cruel treatment during his residence there. He complains that the condition of the institution is wretched in every way; and the committee of the Queen's County Board of Supervisors are about to hold a special meeting, at Jamaica, for the purpose of investigating the charges against the superintendent and keepers of the asylum.

—The Philadelphia County Medical Society lectures for 1882-83 will be delivered by Prof. Austin Flint, Senior, of New York, who will discuss practical points connected with the physical diagnosis of visceral lesions.

—In 1861, when the yellow fever hospital was built at Seguin's Point, Westfield, Staten Island, the people of the town strongly opposed it, and there was a riot. The federal soldiers and the police on the island were called out to protect the building, but during the following winter the hospital was destroyed by an incendiary fire. The quarantine authorities have since buried yellow fever victims at Seguin's Point, and this, too, has caused much indignation among the people. Two or three have been already buried there this season, and the inhabitants threaten that if they fail to obtain redress from the legislature, they will again resort to force in their resistance to a continuance of the practice.

—During one week recently the milk inspectors of the Board of Health destroyed 3332 quarts of adul-

tered milk in different parts of the city. Just afterward a meeting of milk-dealers was held, at which complaint was made of the inaccuracy of the lactometer as a test, and a resolution was passed protesting against the "indiscriminate destruction" of their property, and asking that competent men be appointed to inspect milk, when in case it were found deficient, after due examination, a fair trial should be offered before conviction."

—One of the cadets at West Point has been confined to the hospital on the post for two or three weeks past on account of injuries which he received in a prize-fight in which he engaged with a fellow-student. In consequence of the "mill" both the principals and seconds have been sentenced to be confined within the color line of the summer camp during the remainder of the present camp, and also for the first month of the next annual encampment.

—During the past week the free baths of New York were used by 137,304 males, and 54,804 females, a total of 192,108 bathers.

## Miscellany.

### LETTER FROM LONDON.

THE JUBILEE MEETING OF THE BRITISH MEDICAL ASSOCIATION AT WORCESTER.

LONDON, August 12, 1882.

THE Jubilee Meeting of the British Medical Association terminated yesterday, after enjoying insurpassably fine weather for its reunion in the city of its birth, Worcester.

To-day a very large majority of the seven hundred and fifty members who visited Worcester are remaining to enjoy excursions and hospitalities which have been liberally provided in the picturesque neighborhood. An excursion to Stratford-on-Avon appears the most popular.

The sectional work of this year's meeting has been conducted under the following eight heads: Medicine, surgery, obstetric medicine, public medicine, anatomy and physiology, pathology, ophthalmology, otology. Though the meeting began on Tuesday the arrangements were made so that but eight hours were allotted to sectional work, none of this taking place before Wednesday. Certain of the sections, indeed, did not meet at all for the two hours allowed them on Friday morning. It has resulted, therefore, that this Worcester meeting has witnessed certainly less work and probably, too, more play than characterized the gathering at Cambridge in 1880. Next year will find the Association gathered at Liverpool, when its members may be expected to have recovered from the demoralizing effects of the picnic trip in which they indulged in the Isle of Wight after the labors of last year's International Medical Congress. From the custom of the various sections meeting simultaneously, it is impossible for members to avail themselves as fully as they might desire of the opportunities offered in different sections, and it seems that it would be more profitable if, in future years, the time for sectional work were more extended, not by giving more time to particular sections, but by arranging for only one half of the sections to be simultaneously in session.

The attendance in the various sections has been fairly good this year, though my suggested arrangement would afford an opportunity for doubling such attendance. It must be obvious to every attentive observer of these annual gatherings that only a portion of the members attend with any intention of participating in the sectional meetings, while the aspirations of those who do so are greatly thwarted, and the general quality of the sectional work is seriously impaired by man's inability to be in two places at once. This has been strikingly exemplified in the recent work of the pathological, ophthalmological, and otological sections.

I hear that the discussion on the morbid anatomy and pathology of diabetes was particularly able, the elaborate and original contributions of Hughlings Jackson and Pavy deservedly attracting much talent to this section, with the result of depriving the ophthalmological section of many of those physicians who were expected to have enriched the discussion, opened by Mr. Nettleship, on the following subject: To what Extent do the Signs derived from the Examination of the Eye and its Appendages contribute to the localization of Central Nervous Diseases?

There was an unmixt expression of admiration and delight at the address on surgery, in the delivery of which Professor Stokes proved a medical orator, scarcely, if at all, second to Sir James Paget.

Necessarily much of the public speaking at this Jubilee Meeting had to do with the founder of the Association, Sir Charles Hastings. To the citizens of Worcester Sir Charles Hastings was more than a successful physician and a leader amongst his co-practitioners. To them he was the embodiment of the intellectual life of the city. To his energy and advice they owe the museum which now bears his name. The members of the local branch of the Association gave a luncheon to upwards of five hundred of their brethren visiting Worcester, and the occasion was utilized for the presentation to the corporation of a bust of the late Sir Charles Hastings.

The chairman said that the object of the meeting was twofold. The chief object was to do honor to the memory of the founder of the Association, Sir Charles Hastings. (Applause.) The second object was that the Worcestershire and Herefordshire Branch should have the pleasure of meeting as many friends as could possibly assemble in that large building. (Applause.) That being probably the largest assembly which would take place, he begged to wish them a hearty welcome to Worcestershire. (Applause.) He hoped they would drink with all their hearts, although in silence, to the memory of the most worthy founder of that large Association, Sir Charles Hastings. He would call upon Mr. George Hastings, son of the late Sir Charles Hastings, to give some memorial of his life. The son stated that Charles Hastings was a boy of great energy, a characteristic which he maintained through life. Like most boys of energy he was much more fond of out-door sports, such as hunting and shooting, than he was of his books; but from the earliest period of his life he manifested a leaning towards the pursuit of that profession which he afterwards adopted. There was nothing around him to lead him towards it. He was born and bred in a country rectory with the usual surroundings, having no single relative, and perhaps no intimate friend, who was a member of the medical profession; but even as a child, and still more as a boy,

his great love was to nurse any one or anything that was sick and ill. It had been said by members of his family, and by one who was now living at the age of one hundred years in full possession of her faculties, — (applause). — that she would seldom find him without a sick chicken or some other creature that needed care. When he was a boy, at an age when most boys were still at school, he expressed a desire to begin to learn medicine; and he was allowed to place himself under the care of two medical practitioners living not far from his home. He showed such remarkable aptitude that in a few months they advised that he should be sent to London, to have the advantage of seeing the hospitals and hearing public lectures. When he was only just turned eighteen years of age, and was possessed of no medical titles of any kind, he was elected, by the majority of a single vote, to be house-surgeon of the county infirmary at Worcester. While there he commenced those experimental researches which laid the foundation of his fame. There was practicing at that time in Worcester a physician, who afterwards removed to London, Dr. Wilson Phillip, who was engaged in researches on the nature of circulation and the action of blood-vessels. Charles Hastings voluntarily undertook to assist Dr. Phillip in those researches. He then left for the University of Edinburgh. It was recorded of him that he was the first student of that great University, and probably the first student in the kingdom, who used the microscope for the purpose of physiological research. (Applause.) He was ridiculed for its use, but Charles Hastings was a man impregnable against ridicule, because he knew he was seeking the truth, and confident he was seeking it in the right way by experiment. Immediately after taking his degree of Doctor of Medicine he was offered by the Senate of the University the Professorship of Physiology. From his earliest years he was a naturalist, a man of science. He was probably the first to write upon the geology of Worcestershire. He was the early expounder of the remarkable geological features on the flanks of the Malvern Hills, the friend of Murchison and Sedgwick.

In the president's address the following allusions were made to the origin and originator of the British Medical Association: In July, 1832, the foundation-stone of their own Society was laid in the city of Worcester, by its distinguished and ever-to-be respected founder Charles Hastings, and his small, but devoted band of coadjutors.

No wonder, that to a mind like that of Hastings, fresh from the warm atmosphere of the Medical Society of Edinburgh, the cold stagnation of a provincial city was unbearable. He read papers, started journals and societies on a small scale; but it was not till 1832 that he received sufficient encouragement to venture upon the step which he proposed should result in placing the provincial practitioner in almost as good a position as his metropolitan brother. And what was the condition of the provincial practitioner at this time? With the exception of a few local physicians of the older stamp, solemn, scholarly, and formal, and here and there an apothecary of more than ordinary acuteness of observation, there existed one dead level of mediocrity, men without the ambition to compete with their metropolitan brethren, because the means of doing so was denied them. No sparks of genius emanated from their brains, because there was no mental friction to produce them. No doubt it was the inferior education of the general

practitioner, that made literature distasteful to him, and scientific attainments rare; whilst the desire for improvement, which might casually arise, found no field for action. So he settled down into the mere copier of other men's prescriptions, and the collector of current nostrums for certain symptoms. Bundles of prescriptions were handed down from one practitioner to another along with the practice. Having no other idea but that disease was an entity, he set to work to drive it out of the system by the popular means of bleeding, purging, and sweating. If this were the intellectual status of the principal practitioner half a century ago, were his morals and social status of a higher grade? The top-boots and the red coat did duty for the stethoscope and the test-tube; whilst the lancet was thrust into the arm of the too willing patient as recklessly and ruthlessly as the spur and the whip had been applied to the sides of the animal which brought doctor and patient together. These were the palmy days of the provincial physician! Many times had he been figured, as, with solemn step and well-poised cane, he descended from his lumbering post-chaise at the door of some opulent patient. The arrival of this great man in some country town was quite an event, and the signal for all the blind, and halt, and lame to turn out literally for a touch of the great man's hand! Those who could pay pulled out their guineas; those who could not, might perhaps count upon getting a glance and a word from the "Great Doctor," as he was called, as he passed through the admiring crowd to his carriage, in the court-yard of the inn. For some years, after 1832, very little progress was made by the provincial profession. One of the results of the establishment of the Association, had been that the College of Physicians, before so exclusive, threw open its doors and its honors, about 1860, to all qualified applicants, the College of Surgeons having somewhat earlier given an impetus to enlarged studies by the establishment of its present fellowship examination.

The president concluded by urging the importance of strengthening the branches and of modifying the electoral system so as to infuse new blood into the senate of the Association. Great questions were coming on for solution. He trusted they might be solved in accordance with the motto of their Association laid down for all time by Charles Hastings and his associates. When that consummation should have come to pass, when self-interest and self-assertion should have given place to brotherly coöperation in well doing and to Christian charity, and courteous deference to one another, then, and only then, would the British Medical Association have fulfilled its mission.

The annual report of the Council of the Association showed that the receipts during the past year were £16,525. The Association now numbered 9563 members. Among those who had passed away during the year were — Sir Robert Christison, who was president in 1875, and Dr. Jenks, who was president in 1851. The question of homœopathy, unfortunately mooted in the address in medicine and in surgery at the annual meeting at Kyle, had occupied much time on the part of the Committee of Council. The idea arose in many minds that the views enunciated had in some way been put forward by the Committee of Council; and it was not until the president of the Council, Dr. Bristowe, and Mr. Hutchinson, had shown that this was not so, that the feeling was allayed. A memorial was presented from one branch demanding the expulsion of a



member, on the ground of his public profession of homoeopathy. To this measure the Committee of Council would not accede. So far as possible they had closed the door of entrance to a professing homoeopath. Against perversion to homoeopathy after admission they were at present powerless, except by the expulsion of the offender; and this, under present circumstances, they considered unadvisable; first, because they held that such a course would be beneath the dignity of the members of a great and avowedly liberal profession; and, secondly, because it would confer an amount of notoriety which was very undesirable upon those who were expelled.

Mr. Nelson Hardy proposed the adoption of the report, with the following addition: "That it be an instruction to the Committee of Council, that the avowal of the profession of homoeopathy, or any other designation implying a special mode of treatment, shall, *ipso facto*, disqualify from membership of the British Medical Association."

This proposal was the signal for an exceedingly noisy and animated discussion, which showed the small sympathy felt by the Association for real and pretended homoeopaths. The proposal of Mr. Hardy was ultimately lost by an overwhelming majority who evidently thought it was wiser to treat homoeopaths as beneath contempt, rather than to bolster them up with the cheap dignity of martyrdom which could be conjured out of such a resolution as was defeated.

As in previous years this annual meeting was made the occasion for various subsidiary gatherings; thus, on Thursday morning some five hundred members of the Association availed themselves of a breakfast given by Mr. Bowly, a Nestor of the total abstinence advocates here. After breakfast Dr. Alfred Carpenter, and other advocates of total abstinence from alcohol, indulged in those intemperate speeches so characteristic of these well meaning advocates of temperance, who essay to believe that the righteousness of the cause they preach is an excuse for the total disregard of facts which characterizes their arguments.

Dr. Alfred Carpenter's remarks, taken literally, would mean that the great majority of the medical profession (namely, those who are in the habit of treating disease in persons who are not total abstainers) are totally ignorant of the various phases presented, and courses run by pulmonary, cardiac, renal, and hepatic disease in persons who never take alcohol. These intemperate total abstinence people were singularly ready to misquote and misrepresent the remarks of various able speakers in the different sections, as was well exemplified by one speaker in his so-called quotations from Dr. W. S. Playfair, who, in a most able manner, opened a discussion on the systematic treatment of aggravated hysteria and allied forms of neurosthenic disease.

Some two hundred members dined together on Thursday night, and this year saw carried out on a substantial scale the resolution, passed at Cambridge, that total abstainers should pay but two thirds of the price charged for the dinners to those who were "less advanced." The Irish Graduates' Dinner was celebrated on Wednesday night, without that uproarious joviality which rendered the same dinner notorious when held on the native land, during the Cork Meeting. This reminds me to mention that the Association will probably meet in 1884 at Belfast, where they will be able to witness the great prosperity and unsurpassed

industries of a town in that distracted island, which is now being made the subject of speculative and enthusiastic legislation, while the priest-craft is uninterfered with, though so largely responsible for the misery and savagery of so many districts.

Yesterday witnessed a warm debate on the ardent question of the compulsory notification of diseases by medical men. The following motion was ultimately adopted by a large majority:—

"That this meeting earnestly desires the compulsory notification of infectious diseases, but wishes to express an opinion that the compulsion to notify should be placed upon the householder, in his duty as a citizen, and not upon the doctor."

There were numerous complaints in at least one section regarding a scarcely creditable practice which could be "burked" by the adoption of a very simple rule. It would seem that some few persons are in the habit of announcing their intention to read papers (and, indeed, in some instances of supplying abstracts thereof for publication in the *Journal*) which they never furnish. Such persons appear satisfied with the cheap and dishonest publicity their name obtains by its announcement with the high-sounding title of some contribution which has no other existence than in their own crafty heads. I met one busy member of the Association who assured me that on three different occasions his entire arrangements had been put out to visit distant towns where a particular paper was announced to be read by an individual on an exceedingly debatable subject. The victim of this poor artifice suggested that its repetition would be avoided if no announcement were made of papers which were not in the hands of the secretary of the section, who would be authorized to read them in the event of the author being unavoidably absent.

The lord lieutenant of the county and the Countess Beauchamp gave a garden party to the Association at Madresfield Court, Great Malvern, yesterday afternoon, so those who accepted this hospitality enjoyed some of the most picturesque scenery to be found in this garden-like island.

The Industrial Exhibition, which is now open at Worcester, the Royal Porcelain Works and many endemic industries of the neighborhood, greatly enhanced the interest of this Jubilee Meeting, which has certainly passed off most satisfactorily; and I should not have made the foregoing adverse criticisms, except in the hope that the cause for them will be removed, and that there will cease to be those obstacles which now contribute to make these annual gatherings mere pleasure trips for the many and disappointing labor for the few.

#### THE SEWERAGE OF BRIGHTON, ENGLAND.

THE town of Brighton, England, resents a report made upon its system of sewerage by the *Lancet*, and shows itself unappreciative of a really friendly critic.

There seems to be no doubt at present that the intercepting sewer of Brighton is converted by the rising tide into a reservoir of sewage and waste water. As a result a sea-side resort especially favored by nature in its sanitary surroundings, and very convenient to London, offers its visitors an atmosphere neither sweet nor altogether wholesome.

This is not the first time the *Lancet* has done good work by procuring and publishing reports on subjects important to public health.

# THE ADDRESS IN MEDICINE BEFORE THE BRITISH MEDICAL ASSOCIATION.

DR. WADE, physician to the General Hospital, Birmingham, who delivered the Address in Medicine at the recent Jubilee meeting of the British Medical Association at Worcester, recalled to the memory of his audience some of the actual facts of medicine as it existed when the Association was founded, and some others which have occurred since.

We give the concluding sentences of the address taken from advance sheets sent to the JOURNAL:—

In planning this address, it seemed to me that it might hold out better prospect of profit to deal with the impersonal past, and not at all with the personal present; but I should feel myself unfaithful to a great trust on a serious occasion, did I not infringe this resolution to the extent of one sentence. Dispassionate survey of present medical practice forces me to the conclusion that, on a very large scale, and in both chronic disorder and organic disease, the physiological basis of treatment is too often unduly subordinated to the restorative basis of treatment. . . .

The lessons I have been trying to enforce are no new ones; we can see, by looking back, that the doctrines they embody have underlain the actions of all the great practitioners of the past. I venture to think that they ought to be assimilated by all practitioners in the future. We are told, it is true, that a stage of observation is but the infancy of any science, from which, in its adolescence, it must be emancipated. We are told that observation has done all it can; that medicine has been too long dawdling in this infancy, and that all our efforts should be directed to elevating it from a stage of observation to the higher level of exactness. What if of late years great advances have been made good in this direction? What if the knowledge procured by more precise methods of investigation, by a more refined organic chemistry, by more penetrating microscopy, by a more diversified experimentation, promises in the future to assume proportions undreamt of in the past? Can we suppose, has anything yet been done to justify the hope, that in any near future we shall be able at once to repeat the experiment of the laboratory in the sick room, and certainly obtain the same result in the confused and complex conditions under which it has there to be performed? Such hope is idle, and worse, it is hostile to philosophy and fatal to progress. The greater our advances in the sciences of anatomy, physiology, and pathology, the more need that our powers of observation should be sharpened, refined, and sensitized; for, in the same proportion will new suggestions arise of modes in which this knowledge may be transmuted into means of influencing the processes of disease. In short, we shall be told more frequently in the future, that we are to modify our old usages, or to discard them altogether, and employ new methods. Is the history of medicine from this day to be reversed? Are we in future to be confident that no false prophets will arise; that we shall be safe in believing that all we are told is true? If not, how are we to refuse all the evil and to choose all the good? The authority of the teacher, as we have seen, is no infallible test, for the evil may come from an oracle well calculated to command our assent. We must, to a large extent, depend each one upon himself, his own observation, and his own private judgment; employing the best means and devices, of science to insure accuracy of observation,

and exercising our judgment with caution and modesty. To the few only is it given to extend the laudmarks of science, or to reclaim the waste lands of ignorance. But to each one is given the power to cultivate and utilize those which have been reclaimed. To each one it is given to render the practice of medicine more rational, more common sense, because more truly scientific; to render more rare in the future such dark blots as we have regretfully recognized in the past.

## THE FRENCH ACADEMY OF MEDICINE'S AWARD OF A PRIZE TO DR. H. J. BIGELOW.

AMONG the prizes awarded by the French Academy of Medicine at its last annual meeting, one of 10,000 francs, which is only awarded every six years, was divided between Dr. H. J. Bigelow, of Boston, and M. Th. Auger, Dr. Bigelow receiving 6000 francs and M. Auger 4000 francs.

In this connection we may remind our readers of the Prix Ribéri to be awarded by the Academy of Medicine of Turin in 1886. The amount of the prize is 20,000 francs, and it will be given for the best embryological researches throwing new light upon the anatomy, physiology, and pathology of man. The essay must be clearly written or printed in Italian, French, or Latin.

Will no one revenge the repeated rape of the Boylston Prize by invading other countries?

## THE SANITARY CONDITION OF NAHANT.

THE *Advertiser* of August 17th contains the following note concerning the very interesting article on Nahant in 1881, which appeared in this JOURNAL on August 3d, and was copied by the *Advertiser*:—

The reprinting of my paper on the Sanitary Aspect of Nahant (read before the Section for Clinical Medicine and Pathology of the Suffolk District Medical Society, May 27, 1882), which appeared in the *Boston Daily Advertiser* on August 5th, and since then elsewhere, has, I am informed, alarmed so many of the residents and visitors of the little peninsula that I must ask for space in which to give such additional information and facts as seem necessary. The paper was intended to explain to medical men the condition of the town in the autumn of 1881, and the remedies suggested. Many persons, however, have assumed, erroneously, that it represents the condition of things on August 5, 1882. I should be very sorry to have the impression become general that the condition of Nahant is *now* as represented by my paper written last April. The proposed new sewers are completed, in working order, and house connections made. The worst feature remaining is the dilatoriness of certain householders in cleaning or discontinuing their tainted drinking supplies, including ice and milk. Though by no means perfect, it is entirely safe to state that the sanitary condition of the town is to-day much better than it has been for years past,—a fact due largely to the townspeople, who have, with few exceptions, at all times cooperated most cordially with all constructive work.

ERNEST W. BOWDREN.

Boston, August 14, 1882.

## REPORTED MORTALITY FOR THE WEEK ENDING AUGUST 12, 1882.

| Cities.                             | Population by Census of 1880. | Reported Deaths in each. | Deaths under Five Years. | Percentage of Deaths from         |                |                      |                       |                |
|-------------------------------------|-------------------------------|--------------------------|--------------------------|-----------------------------------|----------------|----------------------|-----------------------|----------------|
|                                     |                               |                          |                          | The Principal "Zymotic" Diseases. | Lung Diseases. | Diarrhoeal Diseases. | Diphtheria and Croup. | Typhoid Fever. |
| New York.....                       | 1,206,590                     | 828                      | 465                      | 43.93                             | 5.67           | 33.92                | 2.05                  | .60            |
| Philadelphia.....                   | 846,984                       | 406                      | 189                      | 5.66                              | 1.72           | —                    | 1.97                  | 2.46           |
| Brooklyn.....                       | 566,689                       | —                        | —                        | —                                 | —              | —                    | —                     | —              |
| Chicago.....                        | 502,504                       | 366                      | 240                      | 42.66                             | 3.78           | 31.59                | 1.49                  | 3.51           |
| Boston.....                         | 362,535                       | 236                      | 127                      | 51.66                             | 1.26           | 43.68                | 3.36                  | .42            |
| St. Louis.....                      | 350,522                       | —                        | —                        | —                                 | —              | —                    | —                     | —              |
| Baltimore.....                      | 332,190                       | 210                      | 105                      | 34.78                             | 1.41           | 16.45                | 6.58                  | 5.17           |
| Cincinnati.....                     | 255,708                       | 137                      | 77                       | 36.45                             | 5.85           | 20.43                | .73                   | 2.19           |
| New Orleans.....                    | 216,140                       | —                        | —                        | —                                 | —              | —                    | —                     | —              |
| District of Columbia.....           | 177,638                       | —                        | —                        | —                                 | —              | —                    | —                     | —              |
| Pittsburgh.....                     | 156,381                       | 107                      | 60                       | 32.69                             | .93            | 15.88                | 5.50                  | 5.50           |
| Buffalo.....                        | 155,137                       | —                        | —                        | —                                 | —              | —                    | —                     | —              |
| Milwaukee.....                      | 115,578                       | 67                       | 43                       | 26.46                             | —              | 23.52                | —                     | 1.47           |
| Providence.....                     | 104,857                       | 68                       | 34                       | 48.51                             | —              | 44.10                | —                     | —              |
| New Haven.....                      | 62,882                        | 39                       | 20                       | 48.64                             | 2.56           | 43.52                | 2.56                  | —              |
| Charleston.....                     | 49,999                        | 39                       | 12                       | —                                 | —              | —                    | —                     | —              |
| Nashville.....                      | 43,461                        | —                        | —                        | —                                 | —              | —                    | —                     | —              |
| Lowell.....                         | 59,485                        | 30                       | 14                       | 43.33                             | —              | 39.99                | 3.33                  | —              |
| Worcester.....                      | 58,295                        | 35                       | 21                       | 54.15                             | 2.85           | 48.55                | 2.85                  | —              |
| Cambridge.....                      | 52,740                        | 22                       | 9                        | 45.45                             | —              | 40.91                | —                     | —              |
| Fall River.....                     | 49,006                        | 53                       | 33                       | 54.59                             | —              | 54.59                | —                     | —              |
| Lawrence.....                       | 39,178                        | 30                       | 18                       | 66.66                             | —              | 63.29                | —                     | 3.33           |
| Lynn.....                           | 38,284                        | 29                       | 20                       | 58.48                             | —              | 44.72                | —                     | 6.88           |
| Springfield.....                    | 35,340                        | —                        | —                        | —                                 | —              | —                    | —                     | —              |
| Salem.....                          | 27,598                        | 30                       | 15                       | —                                 | —              | —                    | —                     | —              |
| New Bedford.....                    | 26,875                        | 23                       | —                        | 72.00                             | —              | —                    | —                     | —              |
| Somerville.....                     | 24,985                        | 10                       | 4                        | —                                 | —              | 72.00                | —                     | —              |
| Holyoke.....                        | 21,851                        | 21                       | 12                       | 47.60                             | —              | —                    | —                     | —              |
| Chelsea.....                        | 21,785                        | 14                       | 10                       | 14.28                             | —              | 38.08                | —                     | 4.76           |
| Taunton.....                        | 21,213                        | 16                       | 8                        | 12.40                             | —              | 12.40                | 7.14                  | 7.14           |
| Gloucester.....                     | 19,329                        | 10                       | —                        | —                                 | —              | —                    | —                     | —              |
| Haverhill.....                      | 18,475                        | 7                        | 6                        | 52.84                             | —              | 14.28                | 28.56                 | —              |
| Newton.....                         | 16,995                        | —                        | —                        | —                                 | —              | —                    | —                     | —              |
| Brocton.....                        | 13,608                        | 6                        | 3                        | 33.33                             | —              | 16.66                | 16.66                 | —              |
| Newburyport.....                    | 13,537                        | 7                        | 3                        | 28.56                             | —              | 28.56                | —                     | —              |
| Fitchburg.....                      | 12,405                        | 6                        | 3                        | —                                 | —              | —                    | —                     | —              |
| Malden.....                         | 12,017                        | 2                        | 0                        | 50.00                             | —              | 50.00                | —                     | —              |
| Twenty-one Massachusetts towns..... | 161,092                       | 80                       | 51                       | 53.75                             | —              | 43.75                | 1.25                  | —              |

Deaths reported 2933 (no reports from Brooklyn, St. Louis, and New Orleans); 1602 under five years of age; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 1091; consumption 282, lung diseases 84, diarrhoeal diseases 810, diphtheria and croup 69, scarlet fever 33, whooping-cough 37, small-pox 21, malarial fever 20, measles 16, cerebro-spinal meningitis 16, puerperal fever seven, erysipelas seven, typhus fever one. From whooping-cough, New York 20, Pittsburgh four, Boston three, Chicago and Providence two each, Philadelphia, Baltimore, Cincinnati, New Haven, Holyoke, and Woburn one each. From scarlet fever, New York 11, Baltimore four, Chicago, Boston, and Cincinnati three each, Philadelphia and Lynn two each, Pittsburgh, Providence, Waltham, Chicopee, and Woburn one each. From small-pox, Cincinnati 10, Baltimore six, Chicago three, New York and Philadelphia one each. From malarial fever, New York 12, Baltimore six, Chicago and Cincinnati one each. From measles, New York six, Chicago four, Cincinnati three, Baltimore two, Pittsburgh one. From cerebro-spinal meningitis, New York seven, Chicago four, Haverhill two, Boston, Worcester, Cambridge, Taunton, Brockton, and Plymouth one each. From puerperal fever, Boston three, Chicago two, Milwaukee, and North Adams one each. From erysipelas, New York three, Chicago two, Philadelphia one. From typhus fever, New York one.

Forty cases of small-pox were reported in Baltimore, Cincinnati, 31; typhoid fever 12, diphtheria 11, scarlet fever two, in Boston; scarlet fever 10, and diphtheria two, in Milwaukee.

In 40 cities and towns of Massachusetts, with a population of 1,053,203 (population of the State 1,783,086), the total death-rate

for the week was 33.34, against 30.73 and 32.02 for the previous two weeks.

For the week ending July 22d, in 173 German cities and towns, with an estimated population of 8,512,251, the death-rate was 31.1. Deaths reported 4977; under five 3072; consumption 462, diarrhoeal diseases 452, lung diseases 367, diphtheria and croup 116, scarlet fever 96, whooping-cough 65, typhoid fever 56, measles and röteln 47, puerperal fever 19, small-pox (Königsberg and Tilsit each one) two, typhus fever (Stolp and Düsseldorf each one) two. The death-rates ranged from 17.2 in Barmen to 46 in Breslau; Königsberg 44; Munich 32.8; Dresden 30; Berlin 42.1; Hamburg 26.4; Cologne 36.8; Frankfurt a. M. 22.6; Metz 20.8.

In the 28 English towns, with an estimated population of 8,469,571, for the week ending July 29th, the death-rate was 19.6. Deaths reported 3176; acute diseases of the respiratory organs (London) 183, diarrhoea 299, whooping-cough 107, scarlet fever 84, measles 83, fevers 46, small-pox (London two) four. The death-rates ranged from 13.2 in Cardiff to 28.9 in Sunderland; Bristol 16.1; Birmingham 17.4; Manchester 18.1; London 18.8; Sheffield 21.6; Leeds 22.1; Liverpool 23.7.

For the week ending July 29th, in the Swiss towns, population 494,390, there were 34 deaths from consumption, diarrhoeal diseases 32, acute diseases of the respiratory organs eight, diphtheria and croup six, typhoid fever four, scarlet fever three, whooping-cough and puerperal fever each one. The death-rates were, at Geneva 17.5; Zurich 14.2; Basel 21.2; Bern 18.2.

The meteorological record for the week ending August 12th in Boston, was as follows, according to observations furnished by Sergt. O. B. Cole, of the U. S. Signal Corps:—

| Date.            | Barom-eter. | Thermom-eter. |          | Relative Humidity. |            |            | Direction of Wind. |             |            | Velocity of Wind. |             |            | State of Weather. <sup>1</sup> |             |                       | Rainfall.         |          |
|------------------|-------------|---------------|----------|--------------------|------------|------------|--------------------|-------------|------------|-------------------|-------------|------------|--------------------------------|-------------|-----------------------|-------------------|----------|
| August, 1882.    | Daily Mean. | Daily Mean.   | Maximum. | Minimum.           | 7.23 A. M. | 3.23 P. M. | 11.23 P. M.        | Daily Mean. | 7.23 A. M. | 3.23 P. M.        | 11.23 P. M. | 7.23 A. M. | 3.23 P. M.                     | 11.23 P. M. | Duration, Hrs. & Min. | Amount in inches. |          |
| Sun., 6          | 30.029      | 74            | 92       | 67                 | 82         | 64         | 76                 | 74          | W          | E                 | S           | 5          | 6                              | 4           | C                     | C                 | —        |
| Mon., 7          | 29.846      | 78            | 92       | 71                 | 82         | 58         | 82                 | 74          | SE         | S                 | SW          | 12         | 8                              | 9           | F                     | F                 | —        |
| Tues., 8         | 29.666      | 78            | 92       | 70                 | 84         | 48         | 92                 | 75          | SW         | S                 | SW          | 6          | 13                             | 12          | O                     | F                 | O        |
| Wed., 9          | 29.717      | 79            | 89       | 68                 | 86         | 44         | 91                 | 67          | SW         | W                 | W           | 8          | 9                              | 8           | O                     | F                 | O        |
| Thurs., 10       | 29.942      | 71            | 81       | 67                 | 73         | 30         | 79                 | 79          | NW         | E                 | SW          | 6          | 7                              | 8           | C                     | O                 | R        |
| Fri., 11         | 30.045      | 72            | 82       | 63                 | 68         | 34         | 58                 | 52          | W          | W                 | W           | 7          | 12                             | 5           | C                     | C                 | C        |
| Sat., 12         | 29.995      | 71            | 82       | 63                 | 73         | 49         | 76                 | 66          | SW         | SW                | S           | 6          | 10                             | 12          | O                     | O                 | C        |
| Means, the week. | 29.891      | 74            |          |                    |            |            |                    | 70          |            |                   |             |            |                                |             |                       |                   | 5.05 .53 |

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; X., clearing.

<sup>2</sup> Inappreciable.

### DR. FRANCIS ATWOOD.

THE death of Dr. Francis Atwood, of St. Paul, mentioned in our last issue, merits more than a passing notice in our columns, for, although his unusually successful career was in Minnesota, his early associations and education entitle us to claim him as essentially a New Englander.

Dr. Atwood was born in Franklin, Mass., August 20, 1846, and there his mother still resides. He graduated from Exeter Academy in 1864, and from the Academic Department of Harvard University in 1869. He received the degree of M. D. from his Alma Mater in 1873, after serving acceptably as house-physician in the Boston City Hospital one year. While a student he was a member of the Boylston Medical Society, and served one year as its vice-president. In 1873 he became a member of the Massachusetts Medical Society. Before beginning practice he spent one year in Europe, devoting special attention to the diseases of the eye and ear. Several Boston physicians (including two who had been his classmates in college and in the Medical School) were with Dr. Atwood in Vienna, and can never forget his red and intelligent interest shown in acquiring knowledge of his chosen profession. He also pursued his studies in Berlin, Paris, and London.

Returning to America, he soon established himself in St. Paul, and in 1876 was appointed professor of the Diseases of the Eye and Ear in the Minnesota College Hospital, and also oculist to St. Luke's Hospital.

The Transactions of the Minnesota Medical Society contain articles from his pen upon Ophthalmology and Otolaryngology of Retina, Division of Ciliary and Optic Nerves, a Substitute for Emulation, and other subjects connected with the eye.

He rapidly built up an extensive and valuable practice. He was recognized by the profession of the Northwest as a specialist in the foremost rank, and was most favorably known to the profession and to the laity on account of his purity of life, genial manners, and kindness to all, especially to the poor. He left hosts of friends who will deeply mourn his loss.

Dr. Atwood married, in 1876, Miss Colburn, of St. Paul, who survives him. There are no living children.

### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM AUGUST 12, 1882, TO AUGUST 18, 1882.

HARTSHILL, ALBERT, major and surgeon. Having reported at these headquarters, on the 3d instant, surrendering unexpired portion of his leave of absence, will proceed to Fort Union, New Mexico, and report to the commanding officer for duty. S. O. 153, Department of the Missouri, August 4, 1882.

SHIELDS, R. W., captain and assistant surgeon. The leave of absence granted him in S. O. 92, April 24, 1882, from A. G. O., is extended one month. S. O. 178, A. G. O., August 2, 1882.

BROWN, J. M., major and surgeon. Assigned as attending surgeon, at headquarters, Department of the South, in addition to his duties as post surgeon at Newport Barracks, Ky. S. O. 79, Department of the South, August 10, 1882.

DE BRAY, V. G., major and surgeon. Now awaiting orders,

to report in person to the commanding general, Department of the Missouri, for assignment to duty. S. O. 186, A. G. O., August 11, 1882.

SEMITO, B. G., captain and assistant surgeon. To be relieved from duty in Department of the Platte, and, on expiration of his leave of absence on surgeon's certificate of disability, granted him in S. O. 121, C. S., A. G. O., to report by letter to the surgeon-general. S. O. 186, C. S., A. G. O.

WILCOX, T. E., captain and assistant surgeon. To accompany troop F, First Cavalry, to Fort Walla Walla, and then report to these headquarters for assignment to duty at Vancouver Barracks. S. O. 106, Department of the Columbia, July 31, 1882.

TAYLOR, M. E., captain and assistant surgeon. Relieved from duty at Jefferson Barracks, Mo., and to report by letter to the surgeon-general. S. O. 185, A. G. O., August 10, 1882. Granted leave of absence for four months. S. O. 188, C. S., A. G. O.

POWELL, J. L., first lieutenant and assistant surgeon. Confirms telegraphic instructions of this date to allow the lieutenant-colonel, Tenth Cavalry, and troops G. and L. of that regiment, and Assistant Surgeon Powell, to continue, temporarily, and until further orders, at Fort Stockton, Texas. S. O. 84, Department of Texas, August 9, 1882.

MCNEELY, G., first lieutenant and assistant surgeon. Transferred from Fort Apache to Whipple Barracks A. T. S. O. 119, C. S., Department of Arizona.

KURT, R., first lieutenant and assistant surgeon. Relieved from duty at Fort Walla Walla, W. T., to accompany troop E, First Cavalry, to Boise Barracks, and on arrival there relieve Assistant Surgeon Wilcox from duty at that post. S. O. 106, C. S., Department of Columbia.

RAYMOND, H. L., first lieutenant and assistant surgeon. Transferred from Whipple Barracks to Fort Apache, A. T. S. O. 119, Department of Arizona, August 3, 1882.

EGAN, P. R., first lieutenant and assistant surgeon. Relieved from duty at David's Island, N. Y., and to report in person to the commanding general, Department of Arizona, for assignment to duty. S. O. 185, C. S., A. G. O.

WAKEMAN, WILLIAM J., first lieutenant and assistant surgeon. Relieved from duty at Columbus Barracks, Ohio, and to report in person to the commanding general, Department of the Platte, for assignment to duty. S. O. 185, C. S., A. G. O.

MACAULEY, C. N. B., first lieutenant and assistant surgeon. Appointed assistant surgeon, to date from August 10, 1882.

CHERONVILLE, A. V., captain and medical storekeeper. Upon expiration of his present sick leave of absence to report in person to Lieutenant-colonel E. Swift, assistant medical purveyor, New York City, for duty in the medical purveying depot in that city. S. O. 188, A. G. O., August 14, 1882.

BOOKS AND PAMPHLETS RECEIVED. — Mental Pathology and Therapeutics. By W. Griesinger, M. D. Translated from the German (Second Edition) by C. Lockhart Robertson, M. D., and James Rutherford, M. D. New York: William Wood & Co., 1882. Wood's Library of Standard Medical Texts.

Diseases of the Rectum and Anus. By Charles B. Kelsey, M. D. New York: William Wood & Co., 1882. Wood's Library of Standard Medical Authorities.

## Lectures.

### CLINICAL LECTURE ON BRIGHT'S DISEASE.<sup>1</sup>

DELIVERED AT BELLEVUE HOSPITAL, NEW YORK.

BY AUSTIN FLINT, M. D.,

*Professor of the Principles and Practice of Medicine, and Clinical Medicine, in Bellevue Hospital Medical College.*

GENTLEMEN, — In connection with the cases which I shall have the pleasure of showing you to-day I desire to make some general remarks on the subject of Bright's disease and its varieties. We may enter upon the study of Bright's disease from two different points, the anatomical and the clinical. In connection with the first we would carefully study what is known as the large white kidney, the fibroid or contracted kidney, and the waxy kidney, and finally the different varieties as they are liable to occur in combination; for you must not forget that two or more of these may be found in the same subject. From the clinical standpoint we may consider the symptoms: *first*, those pertaining to disease of the kidney in general, and, *secondly*, those characteristic of the special varieties. Of course, this is a very large subject, and I shall not attempt in a single lecture to give any exhaustive *résumé* of it; but I will, at all events, introduce two or three cases which will serve to illustrate some of the points of diagnosis to which I wish to direct your attention.

Now that our first patient is before us, I find that his condition has improved so greatly since I saw him a few days ago in the wards that I shall not be able to point out to you to-day some of the most characteristic appearances of his disease, which were at that time very strongly marked. And this, I may say in passing, occurs not infrequently in the experience of the clinical lecturer; for patients often improve so rapidly under the efficient treatment which they receive in the hospital that by the time that he is able to present them in public to the class some of the most prominent characteristics of the case may have almost entirely disappeared or else have become very greatly modified. A short time since this man had a well-defined dropsical face, the bulging under the eyes being especially marked, but all this has now quite disappeared. You observe, however, that he still has considerable pallor of the countenance; but even this is much less marked than it was. Passing now to the abdomen, we find the evidence of liquid in the peritonæum still, although this also has greatly diminished in quantity. On palpation we can readily get the distinct thrill or impulse which is diagnostic of fluid. The ascites has diminished to such an extent that we shall forego the operation of paracentesis, which I expected to have had done before you to-day, and which, on account of the inconvenience which he suffered from the presence of so much fluid, the patient was himself quite anxious for. In the lower extremities I can still get the pitting on pressure which is the physical criterion of œdema; but here, as in the other portions of the system, the condition is very much less marked than it was a few days since. Let us see if we find the same evidence of œdema over the sternum. Yes, I get a distinct indentation. The presence of this sign at this special point is a matter of considerable practical importance. In a patient like this, who has hydro-peritonæum (which is usually accompanied by more or less œdema

of the lower extremities), we wish to find out whether the dropsy is a local one, or whether it is general. The pitting at the sternum shows conclusively that there is general anasarca. In the present instance there could have been no question of this a week ago, as the dropsy of the face was then so marked.

But now a few words more in regard to the condition of the abdomen here. Although the belly is much smaller than it was, you can see that it is still very materially enlarged, while the œdema of the face has entirely disappeared. This, again, suggests a practical point. When a patient has general anasarca, due either to renal or cardiac disease, the amount of liquid in the peritonæum corresponds with the quantity of serum diffused generally; but if the hydro-peritonæum is out of proportion to the dropsy of the rest of the body, there must be a local cause which makes the hydro-peritonæum more marked. In the present case, then, we have both a general and a local dropsy, and I think I shall probably not err if I say that the latter is due to cirrhosis of the liver.

General dropsy, as you know, is due to two great causes, disease of the heart and disease of the kidneys, or to both in conjunction. In the case of this patient, therefore, the question arises, Have we cardiac or renal trouble? In determining this we can judge to a great extent by the countenance and general appearance. You observe that there is no cyanotic discoloration of the face and no dyspnea. There is, however, well-marked pallor; and the external appearances would consequently lead us to decide that it is probably the kidneys that are at fault. If there were sufficient cardiac trouble to give rise to general dropsy, there would unquestionably be considerable dusky skin, if not well-marked cyanosis, about the countenance. But we need not depend on this test. When we make an examination of the heart we find that there is no evidence of disease there, and hence by exclusion we arrive at the kidneys as the seat of trouble. Going a step further, we investigate the condition of the urine, and we find in it the unmistakable and definite evidences of renal disease.

I will next recite to you from the house-physician's book the chief points in the history of this case. The man is thirty-five years of age, and a stone-cutter by occupation. About ten months ago he noticed that his penis was swollen, and a short time afterwards this swelling extended to the scrotum, lower extremities, and other parts of his body. He also suffered from headache and dimness of vision, and spots frequently floated before his eyes. Six or seven months ago his belly became very much swollen, and he had to give up work. He was admitted to the hospital four months ago, and it was found that his urine contained forty per cent. of albumen, and hyaline, granular, and fatty casts. The cardiac dullness was increased. Shortly after admission twenty ounces of clear serum were removed from the right side of the chest. (Hydrothorax, I may say here, is usually confined chiefly to one side.) Since he has been in the hospital his abdomen has been tapped a number of times, and the different quantities of serum removed have been 240 ounces, 218 ounces, 295 ounces, and 331 ounces respectively. The record goes on to state that the patient's sight is markedly affected, and that both eyes show white and hemorrhagic spots upon the fundus.

From this history there is no question of the presence of Bright's disease. The next point which we

<sup>1</sup> Specially reported for the JOURNAL.

have to decide is, which variety of the affection have we here to deal with? We ask first, has this man the waxy kidney? It might, perhaps, be supposed that as the dropsy of the abdomen is out of proportion to that of the rest of the body, the hydro-peritonæum is due to waxy liver; and that, since the liver is waxy, there is reason to infer that the kidneys are affected by the same form of degeneration. It is a fact, however, that we do not get much ascites with waxy liver. Again, it does not appear from the history of the case, or the patient's present condition, that the man has suffered from syphilis, disease of the bones, or other causes of waxy degeneration. Has he, then, the contracted or the large white kidney? In this case we have symptoms that point to both varieties. The large amount of albumen and the large amount of dropsy are both indications of the latter; so that if these symptoms existed alone we should say that it was a case of large white kidney. But we have here in addition distinct evidences of uræmia in the headache, the dimness of vision, and the changes in the appearance of the *fundus oculi*. It is, therefore, probable that both forms of disease are present in this patient. Sometimes with chronic contracted kidney we have occurring from time to time attacks of acute diffused nephritis, which give rise to large quantities of albumen in the urine.

The important points of diagnosis to remember are that early dropsy and a large amount of albumen in the urine point to the large white kidney, and that evidences of uræmia point to fibroid kidney. With the contracted kidney we may have no dropsy whatever, and the only indication of renal trouble be found in the uræmia present. In such cases there is a train of symptoms which belong to deficient excretion of uræa. We have little or no albumen, but there are headache, derangement of vision, and disturbances of the digestive function. In the latter nausea, either with or without vomiting, is most significant, and the peculiarity of this nausea is that it is apt to occur in the morning or at other times when the stomach is empty. There is sometimes, in addition, looseness of the bowels. These are the minor signs of uræmia. The graver signs are coma, convulsions, inflammation of serous membranes, œdema of the lungs, œdema of the glottis, and a form of dyspnoea not dependent on any abnormal condition of the lungs, but originating, probably, in the nervous centres of respiration.

I will now call your attention to another patient, John S., a native of Ireland, forty-three years of age, and a hostler by occupation. He was admitted to the hospital a month ago, and the history which he gave of his case was as follows: For more than six months he was troubled with headaches, and felt quite weak. Let me pause for a moment at this point to say that there is a great deal of significance in this simple statement. It is not uncommon for patients to state that they cannot accomplish nearly as much as they formerly could, on account of a feeling of fatigue, and when a person in middle life tells you that he feels thus weak, and, in addition, that he has frequent headaches, it is always important that you should look into the condition of the kidneys. The record goes on to say that about two weeks before admission he began to have pains in the small of the back, and had to give up work. It is a common popular notion, I find, that pain in the back is connected with disease of the kidneys. Pain in this location is not, however, an impor-

tant symptom in Bright's disease, and when it is present in this affection it is much more apt to be due to the condition of the muscles in connection with the general weakness of the system incident to it than directly attributable to the pathological changes taking place in the kidneys themselves. The large muscles of the back always have a great strain upon them, and whenever the system becomes reduced from any cause pain and weakness is exceedingly apt to be felt in them. But to go on with the history. One week later the face, abdomen, legs, and feet became very much swollen, but after another week this general swelling had disappeared. He complains that the urine sometimes gave him a burning sensation when he passed it. He feels nauseated at times, but has never vomited. The nausea of Bright's disease, I may remark, is very like that of pregnancy, and whenever a patient complains of nausea (and especially if this nausea is generally experienced on waking in the morning), it should at once excite a suspicion of Bright's disease in your mind. In this patient the symptom seems liable to be felt at almost any time, occurring later in the day, as well as early in the morning, and this is sometimes the case. He complains also of slight dyspnoea on going upstairs. When first taken sick he says that he used to see stars, but I do not regard this as of as much significance as mistiness of vision. His bowels are regular.

The patient certainly has no general dropsy now. Has he renal disease? When he was admitted the urine was found to be amber-colored, turbid, and acid in reaction; its specific gravity was 1018; it contained thirty per cent. of albumen, and he passed ninety ounces daily, or about double the normal quantity. Later he passed one hundred and thirty ounces, although the specific gravity remained as high as 1015, which is certainly unusual with such a large quantity of urine. This condition of affairs would naturally excite a suspicion of diabetes mellitus, but the house-physician informs me that the urine has been examined for sugar, and that none was found in it. I will digress here for a moment to speak of a patient who called to see me to-day on account of some neuralgic pains, from which he was suffering, and whom I recognized as a gentleman who had consulted me ten years ago, although I did not recall at first what the matter was with him at that time. When I questioned him in reference to his urine, he said that he had not noticed anything abnormal about it, but when I happened to come near his person I at once noticed in his breath the characteristic odor of diabetes mellitus. On looking into my books I ascertained that I had found sugar in his urine ten years ago. The man did not want to have diabetes, and so he endeavored to deceive me as well as himself in regard to his real condition. It is thus that patients sometimes try to conceal grave diseases which they have, while in other instances they would have us believe that they are suffering from affections which exist only in their own imaginations.

This large quantity of urine is itself a very suspicious circumstance. If an individual has polyuria (with no sugar in the urine), and at the same time gives distinct evidences of uræmia, you can at once make a diagnosis of chronic Bright's disease. Furthermore, if the specific gravity of the urine is low, you can say with considerable positiveness that the patient has fibroid or contracted kidney. The microscopic appear-

ances of the urine are not given in the record of this case. I will now examine the patient's heart. If I find it enlarged, but without valvular lesion, it will afford another very strong point in favor of the existence of contracted kidney. If, however, the heart is not found to be enlarged it does not by any means follow that there is no such diseased condition. In secondary enlargement of the heart the left ventricle is the seat of the hypertrophy, and consequently there is an intensification of the aortic second sound. On making an examination I do not get this here, but it is often, as I said, an important confirmatory evidence of contracted kidney. The condition of the urine, of course, affords certain therapeutical indications. Not long since I saw in consultation a patient with Bright's disease, who was passing a large quantity of urine, and the attending physician actually told me, with a considerable degree of complacency, that he had succeeded in reducing it quite noticeably. To reduce the quantity of urine, I need hardly say, is the last thing that we should think of attempting in such cases, for this large amount of urine is in reality the safeguard of the patient.

Before closing I will present to you still another patient. The history of the case is rather imperfect, as the man is not only a foreigner (a German), who does not speak English, but seems to be decidedly lacking in intelligence. The only account that he gives of himself is that he became weak about a fortnight before he entered the hospital, which was only three days ago. His urine was then scanty and high-colored, and his bowels were constipated. His feet and abdomen were swollen, and he complained of cough and shortness of breath, but no headache. On examination it was found that there was fluid in the peritonæum and on both sides of the chest, the larger quantity being on the right side. The urine had a specific gravity of 1018, and contained fifteen per cent. of albumen and hyaline and fatty casts. During the first twenty-four hours he passed only six ounces of urine, during the second twenty-five ounces, and during the third thirty-three ounces. Yesterday he had chills, and the temperature went up to 103° F., but to-day the temperature is normal. The general dropsy and the condition of the urine are evidences of kidney disease, but I am not as yet prepared to say whether there is any additional trouble present or not. The patient states that he has emaciated, and this would suggest that he is also suffering from some malignant affection, as renal disease does not often produce this effect. As there has not been time or opportunity for a more thorough examination of the case, however, we will suspend our opinion in regard to it for the present. As the increase in the quantity of urine has been quite remarkable since he entered the hospital, it may be of interest to you to know that he has not been taking any direct diuretic remedy, but merely the tincture of the chloride of iron.

—Professor von Bergmann, of Würzburg (Bavaria), has been selected to fill the professorship recently vacated by Professor von Langenbeck. Von Bergmann is already known as a scientific surgeon. Among his most important works may be mentioned that on Head Injuries. He was formerly Professor in Dorpat; in 1875 he was called to Würzburg to succeed the late Dr. von Lühart.

## Original Articles.

### RELATION OF MOULD FUNGI TO DISEASE.

BY W. W. GANNETT, M. D.

AMONG the many sciences intimately connected with medicine, botany has always held an important place, as furnishing a large portion of the materia medica. In recent times this science has become still more closely allied to medicine, not so much because it has afforded new means of curing disease, but because of the discovery that important factors in the causation of disease are to be derived from the vegetable kingdom. This refers to the growth upon or within the body of certain of the lowest forms of vegetable life to the detriment of the individual.

It is a fact familiar to all that most plants, in contradistinction to animals, are able to build up complex compounds from the comparatively simple ones existing in the earth in which they grow, and in virtue of the presence of green matter in the leaf, the so-called chlorophyll, are enabled, under the action of light, to decompose the carbonic acid of the air, retaining the carbon and setting free the oxygen.

This property belongs *only* to plants having chlorophyll. Those having no chlorophyll cannot elaborate from the earth and air the necessary compounds for their maintenance and growth, but can only draw their nourishment from organic matter already formed. Thus they occupy the same relation to the organic world that animals do, in that they break up complex compounds, absorb oxygen, and give off carbonic acid. In other words, chlorophyll plants make fuel; plants without chlorophyll and animals burn fuel.

Among the plants without chlorophyll is the lowest order of the great class of the cryptogams; namely, the *fungi*. Of the fungi, two subdivisions are of interest in medicine: a lower one, representing the lowest of all vegetable life, the *bacteria*, a name at present familiar to all; and a higher variety, the *mould fungi*.

Of the very important division, grouped under the general name of bacteria, nothing will be said here, but attention will be paid only to the comparatively unimportant group, from a medical point of view, the mould fungi.

It is not proposed to enter here into full details of mould diseases, but simply to consider whether *at all*, and if so, in *what* cases, the mould fungi stand to disease in the relation of cause and effect.

Before considering the characteristics of mould fungi, a word or two is necessary in explaining the meaning of terms applied to plants which can live only at the expense of matter already formed. Such live either upon dead organic matter or upon living organic matter. On dead organic matter they cause the chemical changes grouped under the terms fermentation, decomposition, and putrefaction; processes which are constantly going on under our observation; they are then termed *saprophytes*.

On living matter they exist at the expense of the body in which they reside, and are then termed *parasites*. It is further quite obvious that a parasite may on the one hand exist without doing any harm to the host, beyond the small amount of nourishment withdrawn, or on the other hand that it may excite disease, either in virtue of its own presence or from some secretion from itself. Such parasites are termed *pathogenic*.

The universal existence of moulds is known to all. In damp places, on decaying fruit, on sweetmeats, bread, cheese, and various other articles, they are so familiar in producing the delicate white or green covering that no further description of their gross appearances is necessary.

That such moulds are saprophytes, that is, that they live on dead organic matter, requires no proof for its assertion. The important point is, are they parasites? Do they live upon other organisms at the expense of those organisms? further, do they multiply in those organisms, and by so doing cause disease, that is, are they pathogenic?

The answer to the first question, which is, are mould fungi parasites, depends simply on observation, whether or not they have been seen growing upon or within the human body. It is a fact that their presence has been observed in these situations.

A positive answer to the question whether they are pathogenic cannot be so readily given. For, given a disease and with it a parasite, one is by no means justified in assuming that the parasite and the disease stand to one another in the relation of cause and effect. The parasite may be simply an association. Hence parasitism does not imply pathogenesis.

In order to determine beyond all doubt, whether in a given disease a parasite, and in the present consideration this mould fungus, is the causative agent, the following conditions must be fulfilled.

With a certain disease must always be associated the same fungus, and the fungus should have reached a development and numerical increase sufficient to account for the clinical symptoms.

The fungus when inoculated in another portion of the same individual or in another individual, or where this is impracticable, in one of the lower animals, should produce the disease in question. Of course failure of the inoculation in a lower animal ought not necessarily to be taken as proof of the non-pathogenic nature of the fungus experimented with, as the susceptibility of the animal may be less than is the case in man or be wholly wanting.

A few technical terms, which must of necessity be used in discussing a question like this, may be briefly explained. *Aspergillus* and *penicillium* denote two great families of mould fungi, distinguished from one another, in the main, by difference in their fructifying organs. The *mycelium* of the fungus corresponds in a general way to the roots of the more highly developed plant, and consists of a series of delicate, branching, glistening, for the most part homogeneous, fibres.

The *spore* is to the fungus, what the seed is to the higher plant, it is that part from which a new fungus can develop; like the seeds of other plants it is not readily destroyed, and like them retains its power of producing a new fungus long after the fungus on which it grew has perished. The spores develop either in special organs, on stems growing from the mycelium, or they may arise from the mycelium itself, by the process of division. In the latter case, the fibres forming the mycelium present a series of annular constrictions, at regular intervals, suggesting the appearance of a rosary. The spores, when completely formed, separate from the parent stem in the form of oval or round glistening bodies, so small that they can only be seen with a microscope.

Probably most mould fungi can produce spores in either or both the ways suggested; the variation being due to the influence of the surroundings.

Mould fungi, whether in the natural or artificially cultivated condition, grow best on acid substances. They require moisture and oxygen. Some varieties, like *penicillium*, grow better at the ordinary temperature, whereas *aspergillus* develops more quickly at a temperature corresponding to that of the human body. These factors are of importance in considering the possibility of the growth of moulds in the interior of the body. Nägeli, a well-known botanist of Munich, in his recent work on Lower Organisms, goes so far as to say that it is impossible for mould fungi to grow within the substance of organs, as there exists no free oxygen in these situations. This point will be again referred to.

For those diseases of man with which mould fungi are constantly associated, Virchow, many years ago, proposed the term, "*mycoses*." The mycoses which up to the present time have been observed, are, certain affections of the epidermoid structures, skin, hair, and nails; of the external canal of the ear; of the foot, endemic in parts of India; of the mouth, known as aphthæ. Further must be considered the growth of mould fungi in certain organs of the body, of which the lungs are the most frequent seat, and finally a disease discovered and described only recently in man, the so-called actinomycosis.

Of the diseases included in the above category those of the skin, hair, and nails are the most frequent, and their true nature has been the longest known. They are: Favus, producing the characteristic yellow crusts on the hairy scalp; Herpes tonsurans or ringworm, with its characteristic red rings on various parts of the body, and when affecting the beard, known as Sycosis parasitaria; Pityriasis versicolor, causing the peculiar brown appearance of the skin of the chest; and lastly, the affection of the nails first described by Meissner and Virchow, and termed by the latter Onychomycosis.

All of these diseases are characterized anatomically by the growth of a mould fungus either between the cells of the epidermis or in the shaft of the hair, or in both places combined. In the case of the nails, between the layers. The fungus is represented by a well-marked, branching mycelium, producing its spores by simple division and never by special organs of fructification. The fungus has in each case received a name, not, unfortunately, in accordance with its botanical characteristics, but simply an arbitrary one. The favus fungus is called *Achorion Schönleini*, Schönlein having first discovered it; herpes tonsurans fungus, *Trichophyton tonsurans*; pityriasis versicolor, *Microsporon furfur*. These names, given about forty years ago, are still retained, simply because botanists have been unable to give them better ones. All attempts to classify these fungi, that is to place them in distinct species, have failed. Attempts at their artificial cultivation have either, on the one hand, given negative results, or on the other such varying results that an admixture of other fungi from the air during the process must be supposed. This at least is certain, that by artificial cultivation these fungi have never developed fructifying organs, by which means alone botanists can classify them.

Inoculation of the fungi has failed to produce a like disease, and on the other hand inoculation of various ordinary moulds upon intact or macerated skin has given negative results so far as producing one of these skin diseases. It is true that Hebra, by the latter means, was at times able to produce a disease resem-



bling favus, and at another time herpes tonsurans, and occasionally a very imperfect form of both on the same individual; but these experiments lack confirmation.

A pathologist in Berlin, Grawitz, after numerous unsuccessful attempts in cultivating the fungi of the skin affections, thinks that he has in some cases been successful, and finds further that the specific fungus is one and the same for all, and considers it to be *Oidium lactis*. But by inoculating *Oidium lactis* he was never able to produce anything more than a few herpetic blisters. His conclusions have not been confirmed, and should be accepted with extreme caution.

That these affections in the natural condition show a tendency to contagion of a varying degree is undoubted. Favus, in spite of the luxuriant development of spores, has but little tendency, herpes tonsurans on the other hand a far greater proneness. Although the diseases cannot be induced artificially, nevertheless experience shows positively that, under conditions not understood, transmission from individual to individual is possible.

In *résumé* it may be said, that in association with a limited number of diseases of the skin a more or less luxuriant growth of mould fungi has invariably been found. As the growth of the fungus increases peripherally, the disease spreads. Destroy the fungus and the skin returns to its normal condition. Further, that although the crucial test of confirmation, inoculability, is wanting, yet this negative result is not wholly sufficient to exclude the idea that the fungus and the disease stand in the relation of cause and effect, for the reasons, that the method of inoculation may have been an improper one or that there may have been a want of susceptibility on the part of the individual inoculated. For it is a matter of experience that there exists a proneness in certain individuals to repeated attacks of these skin affections, and apparently an entire immunity in others in spite of exposure.

In the disease of the nails called by Virchow onychomycosis they become thickened, claw-like, of an opaque-yellow color and very friable. Associated with it is found a development of mycelium and spores between the lamellae. The fungus has been regarded as identical with the favus fungus by some, and with the herpes fungus by others. But the same absence of positive knowledge exists in connection with this fungus as in those previously mentioned, and whatever has been said of those applies to this also.

Whether in the dermatomycoses in general the fungus can gain a footing and grow on a normal skin, or whether it requires some abnormal condition for it to flourish, is not known.

Related to these diseases is that affection of the external auditory canal known as *Otomycosis*. Instead, however, of the fungus being limited to the layers of the epidermis and consequently not apparent to the naked eye, it develops an abundant growth above the level of the skin lining the canal, often filling the canal with a luxuriant mould, which is readily recognized as such by the naked eye. Further, the mould develops fructifying organs; in this way its species can readily be made out and has been found in all the observed cases to be an *aspergillus*.

Associated with this growth is always an inflammation of the external meatus of a varying degree. Whether the fungus is the cause of the inflammation or simply a growth occurring secondarily on a seat made favorable for its development by a preëxisting inflammation

is not known. Most aurists who have written upon the subject think the fungus the cause of the inflammation, though the reasons given are not convincing. Others have noticed a growth of fungus in cases where an inflammatory process had been observed to exist in the ear long before the fungus appeared.

There is as yet too little positive evidence to enable one to come to a conclusion as to the pathogenic or non-pathogenic character of the fungus in this disease.

Another disease which may be briefly mentioned in connection with the external portion of the body is one occurring in certain parts of India and known as *Madura foot* or *Mycetoma*. It is of a very chronic nature, and is characterized by the growth of numerous nodules in the tissues about the heel, which break externally, discharging a thin, discolored fluid, and in some cases peculiar black lumps. These black lumps present the characteristics of a mould fungus which has received the name of *Chionophye Carteri*. Carter, who has written the best description of the disease, thinks that it is in all cases due to the growth of this fungus, which gains entrance to the tissues of the heel through some slight abrasion, extends deeper and deeper, with progressive destruction of the preëxisting tissues, together with the growth of the above-mentioned nodules, which in turn break down, and through the external opening the discharge occurs, as already stated.

The black fungus has not been observed in all cases even by Carter himself, but where this is absent there are to be seen peculiar, pale masses resembling fish-roe, which Carter considers to be a degenerated black fungus, but which numerous authorities, and among them no less a one than Ferdinand Cohn, state to be no fungus at all, though they all agree that the black masses are a fungus.

If the numerous reports of the English army surgeons, stationed in various parts of India, in reference to the presence or absence of the black fungus in this disease, are to be credited, then one is justified in saying that the association of the fungus is not sufficiently constant to lead one to the belief that the *Madura foot* is a fungous disease.

An affection of the cavity of the mouth, frequently observed in bottle-fed or weakly children, and occasionally in adults weakened by disease, is known as *Thrush*. It presents a series of snow-white patches upon a more or less inflamed mucous membrane, on the removal of which a loss of substance may or may not be observed. These patches are shown microscopically to be made up of desquamated epithelium and an abundant development of mycelium and spores. This fungus has received the name of *Oidium albicans*, and probably belongs to the moulds.

According to Grawitz, who has cultivated artificially the thrush fungus, it is not *oidium albicans*, but a fungus called *Mycoderma vini*, which is not a mould but a yeast fungus. Grawitz claims to have succeeded in producing genuine thrush in very young animals by feeding them with milk containing *mycoderma vini*. But this cannot be regarded as conclusive proof, for Grawitz fails to give satisfactory evidence that his cultures contained no other spores than those of *mycoderma vini*.

Thrush is usually regarded as a harmless disease, and an eminently localized one. But Zenker, a thoroughly trustworthy German observer, noticed in a case of thrush of the mouth small abscesses in the

brain, in which were mycelium and spores similar to those found in the mouth. He is inclined to think that they represent a metastasis through embolism from the primary disease in the mouth. This observation, made twenty years ago, has not been confirmed by similar cases.

In regard to the relation of the thrush fungus to the disease, one can only say, as in the case of the otomycosis, that the fungus and the inflammatory process are associations. It is not proved, on the one hand, that the fungus is the cause, the inflammation the effect. Nor can one say, on the other hand, that the inflammation is primary, and that the fungus simply finds a favorable seat for its growth upon the dead products of the inflammation.

In reference to the growth of mould fungi within the body, apart from the disease actinomycosis, a few words only are necessary. They have been occasionally observed growing in the bronchi, and more frequently in cavities of the lung resulting from necrosis, and have received from Virchow the names of Broncho- and Pneumo-mycosis respectively.

The usual fungus is an *aspergillus*, more rarely a *nucor*. The mycelium grows in the necrotic tissue lining the cavity, and sends its fructifying organs out into the free cavity. It rarely reaches an extensive development, and is never found where there is any putrid necrotic process, but only in connection with bland processes. Apparently the putrid change, with its associated development of bacteria, prevents the growth of moulds.

But it must not be understood that in every case of cavity formation in the lung where there is no putrescence mould fungi grow; for in spite of such favorable conditions they are but rarely found; perhaps, as Recklinghausen once suggested, because there is too much secretion present to allow them to get a foothold.

That the development of mould fungi in the lung is ever anything more than an association with the necrotic processes, and not their cause, has never been claimed by competent observers. They are not, then, pathogenic when in this situation. In fact, it is very questionable whether they are even parasites, and one might suggest with great semblance to the truth that they are simply saprophytes, that is, that they exist on the dead organic matter in the lung and not at the expense of the living tissue.

Perhaps the most important affection to be considered in the category of the mould diseases, both from its fatality and from the fact that the causative agency of the fungus is better marked, is one which has been but recently described, the so-called actinomycosis, which is closely allied to, and probably identical with, a disease occurring in cattle.

Among the diseases of cattle is one characterized by the growth of one or more tumors from the alveoli or spongy portion of the jaw bone, usually the lower jaw, which, after a long period of time, may reach the size of a child's head, having in the mean time destroyed the bone. The tumor is of a soft consistency, on section shows a grayish white, juicy surface, spongy structure, with at intervals small, yellowish points, resembling small abscesses. Microscopically the structure is that of a granulation tissue. These tumors had been known to veterinarians under the names of serofula, or osseoma, or osteo-sarcoma.

In 1877, Bollinger, a veterinarian in Munich, on

examining nodules similar to those described, found that the small yellow masses already referred to were not fat, as had been supposed, but that they were made up for the most part of an abundant development of a fungus, of the nature of which he knew nothing. He further observed that this fungus was a constant association with all the tumors. The specimens of the fungus were referred to Harz, a botanist in Munich, who stated that it was unlike anything that he had seen before, but was inclined to regard it as a mould fungus. He suggested the name actinomycosis for this, apparently, newly observed plant, *aktin*, *aktinos* being the Greek for ray, and was applied to the fungus because the arrangement of its spores was in characteristic clusters of a rosette form, radiating out from a central point, the spores themselves being of a pear shape, large, homogeneous, and glistening.

This fungus had been previously observed in connection with the same disease, though not in all cases, by Perroncito, of Turin, who did not publish his results till later; also by Hahn, who failed to follow further his discovery, and quite recently another Italian, Rivolta, of Pisa, claims that he discovered the fungus, and published his results several years before Bollinger. To Bollinger, however, belongs the credit of having shown the constant association in cattle of the fungus and the tumors in the jaw, also in similar tumors developed secondarily in other parts of the animal.

Johns, a veterinarian in Dresden, deserves the further credit of having proved, by successful experiments of inoculating the fungus in healthy cattle, and thereby producing similar growths, that the fungus and the disease stand to one another in the relation of cause and effect.

The first published cases observed in man were by James Israel, a physician in Berlin, in the year 1878.

A woman of thirty-six presented herself at the Jewish hospital in Berlin, with abscesses in various portions of the external surface of the body. These were opened at intervals, the contents of All being of the same character, namely, a thin, foul-smelling pus, in which floated peculiar sulphur-yellow bodies, about the size of barley grains, and of a cheesy consistency. These bodies were examined microscopically by Israel, and his description corresponds to that given above of the fungus in cattle. He considered them to be a fungus, but not being a sufficient botanist to classify them, referred the matter to Ferdinand Cohn, who occupies the first rank as a mycologist in Germany. The latter was unable, however, to give any opinion in regard to the pear-shaped spores. This first case of Israel's died in the course of a month, under symptoms of extreme marasmus with occasional chills. At the autopsy were found abscesses in the lungs, spleen, kidneys, liver, and intestine, all showing clumps of fungi like those already described.

A few months later Israel had the opportunity of observing two other cases, in a man of thirty-six and in a girl of nine. In each there was an abscess in the neck, beneath the jaw, in the neighborhood of carious teeth. The contents of the abscesses was a foul pus, with the characteristic sulphur-yellow bodies, the actinomycosis clumps. These abscesses refilled and discharged yellow bodies, but finally healed under the use of carbolic acid injections.

Israel was inclined to regard his first case as a form of chronic pyæmia, due to the growth of this fungus, primarily in the lung, secondarily in the other organs

mentioned. He made no attempts to inoculate the fungus on lower animals, nor was he aware, apparently, of the results of Bollinger's and Ilarz's work already published.

Shortly after this publication Ponfick, of Breslau, reported cases coinciding wholly with Israel's so far as the presence and appearances of the fungus were concerned, but differing from the former cases in that the most striking characteristic, in certain ones, was an extensive prevertebral abscess with partial destruction of the vertebrae, associated with the formation of nodules in other parts of the body, in the heart in one case.

Ponfick, who had already had the opportunity of observing actinomycosis in cattle, saw, or at least says that he saw, that the two diseases were similar, and that there existed an actinomycosis hominis as well as an actinomycosis bovis. He cultivated the fungus, and had positive results in inoculating the fungus in healthy cattle. To him probably belongs the credit of recognizing the identity of the diseases in man and cattle. Up to the present time seventeen cases have been observed in man, and from these the following short *résumé* may be made:—

The disease occurs in two forms, in a local or external form, and in a general or internal form.

In the localized form the first appearance is that of an infiltration in the neighborhood of the lower jaw externally. This very slowly assumes the form of a nodule, is circumscribed, rather dense, and scarcely, if at all, painful. After a considerable interval the nodule becomes softer, fluctuates, and is then usually opened by the surgeon. The contents is a purulent fluid containing the sulphur-yellow bodies, which are the fungus. The disease does not heal spontaneously as a result of the opening, but continues to discharge the fungus and pus, the cavity all the while enlarging. If, however, the cavity be injected repeatedly with a five per cent. solution of carbolic acid, it soon ceases to discharge the fungus, and rapidly heals. Such a result occurred in eight of the seventeen cases. In these eight cases carious teeth were present, and in at least three cases the abscess was directly connected with the bone.

In the generalized form of the disease one has to do with the development of the actinomycotic nodules in the interior of the body. Though the exact starting-point of the disease in such cases is doubtful, yet it is probable that in certain ones it is primary in the neighborhood of the jaw, extending by vessels or by gravitation to deeper tissues. Further, it is probable that in certain of the generalized cases the lungs are the starting-point, the fungus gaining entrance through the bronchi. Finally, in a third series, prevertebral abscesses with caries of the vertebrae have been the principal characteristics.

Secondary to these may be found nodules in the pleurae, heart, spleen, kidneys, or subcutaneous tissues.

The first step is the formation of nodules of spongy connective tissue, the so-called granulation tumors, which later soften and either break externally or the softened products gravitate. By this means the process extends and a corresponding destruction of tissue occurs; the death of the individual resulting from marasmus.

Wherever there exist these nodules, the fungus is constantly found in association; wherever the fungus is present it is always surrounded by the new growth. The

extension of the disease is dependent upon the extension of the fungus — and in animals inoculation of the fungus produces the disease.

With regard to the means of introduction of the fungus within the body all is theoretical. It is probably taken in with the air or food, and so long as it comes in contact with only healthy tissues can gain no further entrance. Probably an abnormal condition, like that of a carious tooth, or some abnormality of the tonsils or respiratory surfaces, affords an opportunity for the fungus to reach the deeper tissues, there to develop as stated. The disease has only been observed in herbivora and omnivora. In carnivora it has not only never been seen, but all attempts to inoculate it have failed. This fact has been used as an argument in favor of the idea that the fungus is taken in with vegetable food.

The disease actinomycosis fulfills the necessary requirements for enabling one to say that the fungus is its cause, and further that fungus is a specific one. Whether, however, the botanists will in the future continue to consider the actinomycoses as a mould fungus, remains to be seen. At present, comparatively little is known of its botanical characteristics.

The question which will finally occupy attention is with reference to the results derived from the direct inoculation of the lower animals with various mould fungi. As already stated, Nägeli advanced the idea that it was impossible for mould fungi to grow within the tissues of the body, as they required free oxygen for their development. That this is an error will be shown by what follows.

In 1870 Professor Grohé and his pupil, Block, injected into the jugular vein of rabbits spores of the common moulds, penicillium and aspergillum. The animals soon showed evidence of severe illness, and died in from thirty to thirty-six hours. The lungs, heart, liver, kidneys, spleen, mucous membrane of the intestinal tract and muscles were found to be thickly studded with white or yellowish-white nodules about the size of a pin's head, looking to the naked eye like tubercles. Microscopically each nodule was found to be made up of a development of mycelium, surrounded by cells in fatty-granular degeneration. When injections of spores were made in the carotids, similar nodules were found in the brain and eye. Thus it was shown that mould fungi could rapidly develop in the internal organs of the body, cause necrosis in their neighborhood, and death of the animal. Grohé termed this condition "acute general mycosis."

The positive results of Grohé's experiments excited great interest, partly because it had been thought that moulds were very harmless, partly on account of the universal prevalence of moulds and the possibility that after all they might be important factors in the causation of disease.

Many experimenters repeated Grohé's inoculations, but invariably without success, nor did Grohé himself attempt to carry out further his investigations.

Among the unsuccessful experimenters was Grawitz in Berlin. In thinking over the subject he came to the following conclusions: That inasmuch as moulds grow best on a solid substance of an acid reaction, and whereas in the blood there exist the opposite conditions, fluidity and alkalinity, therefore the failure of development must be due to the sudden transition of the mould to a medium not suitable for its growth. He further thought that it might be possible by cultivation to gradually acclimatize the moulds, so that outside

the body they would live in an alkaline, fluid substance like the blood. This he attempted with penicillium, and after twelve to twenty cultivations succeeded in getting a mould, which he considered to be penicillium, to grow luxuriantly in an alkaline fluid at a temperature similar to that of the body.

On inoculating rabbits with the spores of this acclimated mould, the animals died, presenting the same symptoms and anatomical appearances as did those of Grôhé.

Grawitz then published it as a proven fact that penicillium, the most harmless and universal of moulds, might, by cultivation, be converted into the most virulent pathogenic organism.

Unfortunately for Grawitz's theory, he neglected two important precautions in his experiments. In the first place he did not take pains to keep the cultivations free from admixture with other mould fungi from the air, and in the second place he neglected to further cultivate, outside the body, the mycelium found in the organs of the animals, so as to bring the fungus to fructification and thus determine whether the final fungus was the same penicillium which he started with.

Grawitz's theory has been overthrown by Koch's assistant, Gaffky, and by Professor Liechthelm, of Berne, who have shown: Firstly, that penicillium cultivated purely and inoculated is innocuous; secondly, that certain mould fungi, *aspergillus fumigatus* and *flavescens*, without any acclimatization at all are capable of killing animals when inoculated, in the same way, and with the same anatomical appearances, as Grawitz had thought could only follow the inoculation with acclimatized fungus. Further, that the mycelium taken from the organs of dead animals and cultivated, always produced the same *aspergillus flavescens* or *fumigatus*.

Liechthelm and Leber have demonstrated that penicillium grows best at the ordinary temperature of the air, whereas *aspergillus* grows better at the temperature of the body. These observations, taken in connection with the fact that Grawitz neglected to keep his cultures pure, furnish the probable explanation of Grawitz's results. He undoubtedly started with penicillium, but cultivating his successive generations at a temperature of nearly that of the body, the penicillium could not thrive. There being opportunity for the introduction of other fungi from the air, *aspergillus* for instance, which grows luxuriantly at this temperature, the latter fungus quickly crowded out the penicillium, and so Grawitz's final fungus was a different thing from that which he started with. Consequently his fatal results were not due to an acclimatized penicillium, but to a fungus which had crept in and which in itself was pathogenic.

Gaffky and Liechthelm have proved, it would appear from their reports, that two forms of *aspergillus*, at least, are in their natural condition pathogenic, certainly as far as some animals are concerned. Thus far, however, no disseminated *aspergillus* mycosis in man has been observed, though it is quite possible that if these fungi were given the same favorable conditions in the human circulation that they have had in animals, a like result might follow.

It may be further stated that Grawitz's results and theories on protective inoculation, derived from experimenting with mould fungi, have also been overthrown by another of Koch's assistants, Löffler.

As yet the experimental study of the moulds is in

its infancy, but it is to be hoped before many years more light may be thrown upon their relation to disease.

In final conclusion it may be said, in regard to the relation of moulds in general to disease, that so far as the present knowledge goes there is but one disease in man, namely actinomycosis, which fulfills the scientific conditions necessary in order to state positively that the fungus and the disease are cause and effect.

In regard to the mould diseases of the skin it answers practically to say that the fungus is the cause; scientifically it cannot be said to be proved.

Too little is known of thrush, otomycosis, and Madura foot to allow of any opinion being expressed.

So far as other moulds found within the body are concerned, not only is there no ground for considering them pathogenic, but proof is even wanting that they are anything more than harmless saprophytes.

## THE SURGICAL MECHANICS OF LOCAL JOINT EXTENSION.

BY CHARLES F. STILLMAN, M. S., M. D., OF NEW YORK.

LOCAL joint extension, or extension confined to one joint instead of involving an entire limb (as is done by the long splint, by the pulley and weight, or by Hutchinson's method), may be produced by three different forms of apparatus: (1.) *Fixed* extension. (2.) *Adjustable* extension. (3.) *Elastic* extension.

The extension is produced by taking a fixed point at the insertion of the muscles below the joint, and pushing upward against the contractile force of the muscles governing the joint until this is neutralized and the joint given true physiological rest, being thus relieved by the local extension from (1) the contractile force of the muscles which serve to press articular surfaces abnormally close together when excited by inflammation or otherwise, and from (2) supernumerary weight, — these two being the factors which mechanically we must relieve in order to give rest. The extension splint should be capable of exerting constant extension at all angles in the axis of the limb. This question of local extension I have discussed at greater length in the *London Medical Record*, October, 1880, and in the *New York Medical Record*, December 4, 1880, and it is to show the progress made in instruments for its production that this paper is prepared.

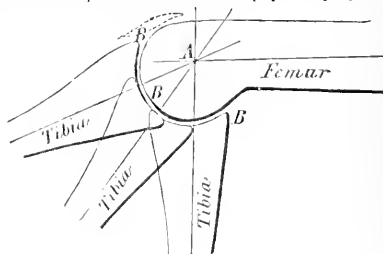


FIG. 1.

Taking the knee as an example, if a vertical section of the joint be made through one of the condyles, the leg being held at various degrees of flexion, and if axes be passed through the femur and tibia, it will be

found that the latter intersect each other, and the axis of the femur at a point which is about the centre of the arc of the articulating condyle. (See Figure 1.)

This point, which I shall call the pivotal point of the knee, varies somewhat in position on the two sides according to the relative height and size of the two condyles. If a line be passed connecting the pivotal point of each condyle this line may properly be called the ginglymoid axis of the knee.

The action of a ginglymoid joint, to be physiologically and accurately copied in an instrument, should be constructed as shown in Figure 2. It is preferably made of thin steel, and is provided with suitable girths above and below the joint for proper attachment to the limb. The use of this false joint in its various modifications permits the limb to be fixed at any angle, or to have motion complete or limited, as is desired.

For the knee one is placed upon each side, the pivot of each being placed at the termination of the hinge or ginglymoid axis of the knee, as already described. Two are used for the ankle in the same manner, one on each side; two for the hip, placed at right angles to each other, thus permitting both vertical and horizontal motion, and two for the spinal brace, with the same arrangement.

This joint embodies some of the essential features of the sector joint splint I presented to the American Medical Association, but is more easily constructed and is lighter.

Extension, when associated with my false joint as described, may be either adjustable or elastic. The

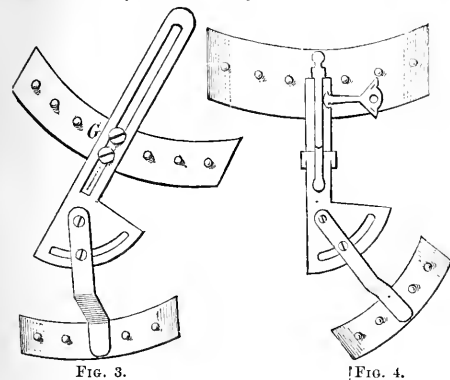


FIG. 2.

adjustable extension ratchet may be of any of the forms commonly used, but preferably constructed of a slot bar and two clamps, as shown in Figure 3, or with a cogged bar and key, as in Figure 4.

I prefer the former, however, as it is simpler in construction and quite as efficacious as the latter.

Complicated instruments should always be avoided in surgical mechanics when possible.

The elastic extension is secured by the addition of a powerful spring on the slot bar, the screws of which are allowed to remain loosened, as in Figures 5 and 6,

or by the addition of a Y-shaped powerful elastic webbing strap (see Figure 7) working over a roller at the end of the slot bar, as in Figure 8. The extension may be increased or decreased by lengthening or shortening the elastic strap, and may be altered to an adjustable extension at any time by simply removing the elastic strap or the spring and fastening the screws in the slot bar, which remains the same as for adjustable extension alone.

Constant elastic extension will be found of much service in the treatment of joints. In my article on Local Extension in the *London Medical Record*, October, 1880, and in the *New York Medical Record*,

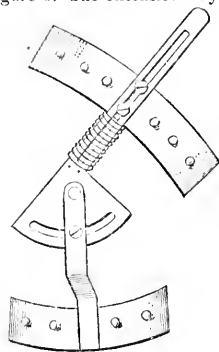


Fig. 5.

previously referred to, when enumerating the advantages of the sector joint splint, I asserted the following as the fifth point of advantage: "(5.) The production of elastic extension, with motion, by the addition of appropriate rubber cords. This alone opens up an entirely new and useful field, which will be treated of in a subsequent article, combining, etc."

This paragraph is quoted to show that in 1880 I placed myself on record on the question of elastic extension, locally used for a joint, as it had become apparent to me that elastic extension could be obtained with ease if rubber cords were added to an appropriate joint splint, but I find as a matter of experience that

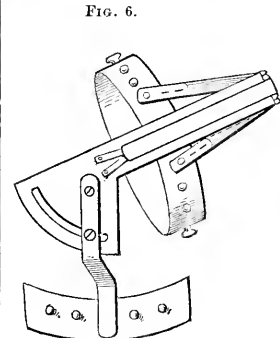


FIG. 6.



FIG. 7.

<sup>1</sup> See Transactions American Medical Association, 1880.

elastic extension can be best utilized by an apparatus which may be changed to adjustable extension at will, and in which the degree of force to be used may be regulated with great nicety. This the apparatus depicted in Figures 3, 4, 5, and 8 presents in addition to its other advantages.

Extension, whether adjustable or elastic, should always be exerted in the axes of the limb at every degree of flexion. If this is accomplished, and by the use of the splints shown we are enabled to do this, *change of position of the limb does not change the amount of extension exerted.* By fixed extension I mean such as is imprisoned or made fast by an inflexible splint, which secures extension in one position. A common instance of this is the plaster-of-Paris bandage, applied and allowed to set, while extension of the joint is practiced by an assistant, or by a weight and pulley.

Fixed extension, however, does not admit of change in the angle of the limb or of motion, so that its range of usefulness is extremely limited. In fact, an adjustable extension splint

The *attachment* of local extension splints is a matter of supreme importance to their proper action, for it is necessary in every case to fix the lower girth so that it will not slip, in order to stretch the muscles by the extension bar of the apparatus and not cause edema of the soft parts below. In order to do this effectually a few turns of plaster-of-Paris bandage (that made of *washed* crioline is preferred) are passed *tightly* around the limb, just below and as close to the joint as possible, and allowed to *set*.

In this manner a solid, perfectly fitting segment of a cone is obtained. This should also be done above the joint (see Figure 9), and thus we obtain the segments of two inflexible cones whose smaller ends are placed toward each other, for the reception of the extension splint. The extension splints for ginglymoid joints are arranged so as to be divided into two parts, corresponding to the outside and inside of the limb, and the girth ends of which slide into each other, so that they can be removed, or made larger or smaller, with ease. These girths are provided with buttons at intervals around their circumference, to permit their attachment to the limb by adhesive strips (moleskin). Some fifteen or twenty of these, about an inch in width, are cut in lengths sufficient to more than encircle the limb above and below the joint, and these strips are slit diagonally near one end, as in Figure 10.

They are now each passed around the plaster-of-Paris foundations already described, each with one end drawn through its diagonal slit tightly over the plaster-of-Paris base, as in Figure 11. It will be seen that all traction on these strips which are to be placed around corresponding to the buttons on the girths, as in Figure 12, only serves to draw them tighter on the inflexible plaster which covers the soft parts. It now only remains to place the splint on the limb, taking

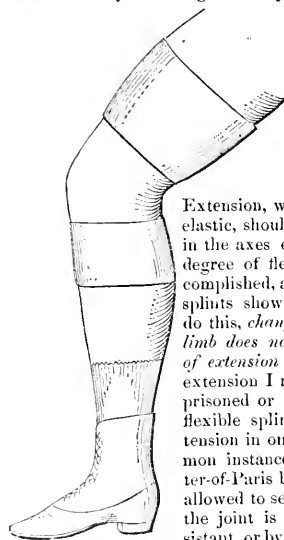


FIG. 9.



FIG. 10.

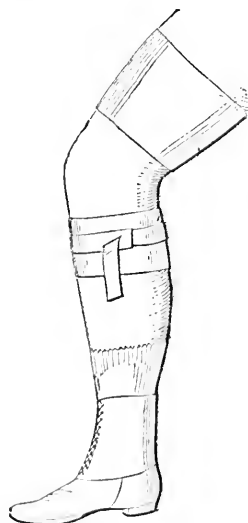


FIG. 11.

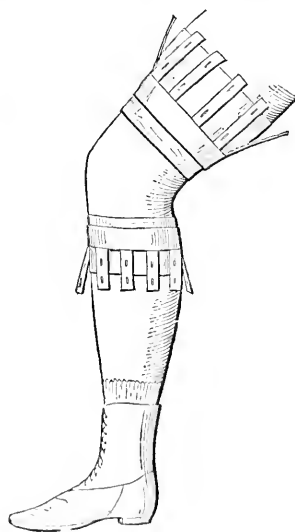


FIG. 12.

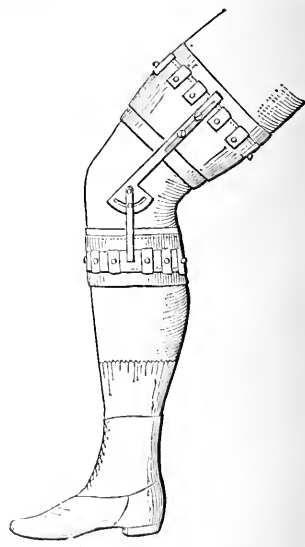


FIG. 13.

combines all the qualities of a fixed extension splint in addition to its own unique advantages, and therefore is in every way preferable.

care to place the pivotal points of the splint opposite the pivotal points of the condyles, and to button the adhesive strips on the girths, as shown in Figure 13,

and any force then exerted by the extension bar, whether adjustable or elastic extension be used, cannot constrict or press injuriously upon the soft parts beneath, while the solid plaster-of-Paris foundation gives support to the muscles above the thigh, as well as serving to prevent the girth below the joint from slipping downward, the foundation being the segment of a cone with its base below.

I can recommend this method of attachment for local joint splints as being free from many of the objections appertaining to other plans; but these splints may be applied in any manner the surgeon may favor, and the essential principles of the splints may be connected with or inserted into any of the attachments of the splints in use at the present time.

In conclusion, I shall not in this paper depict the especial forms of apparatus for the various joints of the body. That will be done in subsequent articles which will appear from time to time either in this or other mediums of communication with the profession to which I am proud to belong.

FLORENCE HOUSE, N. Y., June 1, 1882.

## REPORT ON PROGRESS IN THE TREATMENT OF DISEASES OF THE THROAT.<sup>1</sup>

BY FREDERICK I. KNIGHT, M. D.

ON THE QUESTION OF HYPERTROPHY OF THE OSSEOUS STRUCTURE OF THE TURBINATED BODIES, PRACTICALLY CONSIDERED.

DR. D. BRYSON DELAVAN, of New York, made an important communication under this title to the American Laryngological Association at its session in this city in June of this year.<sup>2</sup> The design of the communication was to show that the turbinated bones, contrary to generally accepted opinion, may, under proper conditions, undergo marked hypertrophy. Dr. Delavan says that the view that hypertrophy is confined to the mucous membrane and submucous layer which covers these structures must be admitted to be erroneous when due consideration is given, first, to the theoretical reasons which weigh against it, and, second, to the strong array of clinical evidence to which it is opposed. Theoretically the process of hypertrophy in general may occur in almost any tissue of the body. The turbinated bones are not formed until a late period in the development of the fetus. This tardy appearance would imply considerable activity of development later in the history of the child; and it is not impossible to believe that in some cases there should occur an actual over-growth. Again, although the condition of hypertrophy is antithetical to that of atrophy, there is no part which, being susceptible to one, is not also susceptible to the other. Atrophy of the turbinated bones in the affection known as atrophic catarrh is commonly met with and universally conceded to exist; therefore, under conditions of nutrition opposite to those which characterize this disease, there should result the opposite condition of growth, namely, hypertrophy. The probability of this result is greatly increased when we recall the peculiarly intimate relation which exists between the mucous membrane of the turbinated body and the bone through the medium of the membrana mucosa, which not only forms a fibrous

network for the support of the blood-vessels, etc., but actually passes into the periosteum, the characteristics of which it more nearly resembles. Any increase of the blood supply to the turbinated mucous membrane would be communicated without doubt to this periosteum in far more than the ordinary measure, and the nutrition of the bone proportionally increased. The conditions favorable to hypertrophy of the turbinated bone would seem to be (1), unusual space in the nasal fossa; (2) long-continued hyperemia of the structures investing the bone; (3) the existence of the above conditions during the period of the greatest constructive activity. Given a spacious nasal fossa, a turbinated body abnormally stimulated, a turbinated bone nourished by an excessive supply of blood, in a subject preferably rachitic, in whom the constructive processes are at their height, and there is no reason in theory why the bones themselves should not increase in size in equal ratio with the hypertrophy of the soft parts. In a vast majority of instances the conditions which would furnish these factors would be congenital, and they would be found (1) in cleft palate, (2) in deviation of the nasal septum. In complete cleft palate the inferior turbinated bodies, unlimited as to their expansion, and subject to constant irritation, frequently grow downward to such an extent that they form an almost effectual barrier to the nares against matters swallowed, and thus to some extent at least supply the place of the hard palate. In this general hypertrophy the bone shares.

Turning now from theoretical considerations to the practical demonstration of the main proposition, Dr. Delavan offers some anatomical and clinical evidence based upon direct observation. A large number of skulls in the museums of Washington, Philadelphia, and New York were subjected to examination, but in all of these collections excepting Hyrtl's, in possession of the College of Physicians, Philadelphia, the crania were derived from every source, and were in all stages of degeneration, so that the bony appendages of the nasal cavities were in most instances destroyed, and the specimens unfit for the purpose. Far different was it, however, in the case of the cabinet of Professor Hyrtl, which was intended to exhibit a typical representation of every nationality in Europe. Nearly every specimen is in an absolutely perfect state of preservation. In nearly every instance in which hypertrophy was observed it was confined to the middle turbinated bone of the wider nares, which singular predilection can only be explained on the ground that, as this turbinated body occupies the position directed towards the greatest concavity of the deflected septum, its opportunities for expansion during life are greater than those of its fellows.

The hypertrophy was, as a rule, symmetrical, extending throughout the whole antero-posterior course of the bone in about the same relative degree. It had about it nothing whatever of the nature of an exostosis, but the bony plates were of the same relative thickness as in the normal organs, the whole resembling a natural turbinated bone magnified in size. In some instances, however, they were notably thinner than normal, and the condition of general symmetrical hypertrophy was by no means constant, the enlargement seeming rather to follow the course of the deflected septum. Of the whole number of specimens, one hundred and forty, there was deflection of septum in eighteen. Of these eighteen there was hypertrophy

<sup>1</sup> Concluded from page 178.

<sup>2</sup> Archives of Laryngology, July 1, 1882.

of the middle turbinated bone in eleven, absence or atrophy of the middle turbinated bone in seven. It will thus be seen that in the above collection more than one half of all cases of deflection of the septum showed hypertrophy of the middle turbinated bone. *Exostosis of the septum* was not found in a single instance.

Heretofore operative efforts for the relief of this form of nasal stenosis have been directed solely to the narrower nostril. From what has been proven in regard to the anatomical conditions in deviation of the septum, complicated with hypertrophy of the middle turbinated bone, Dr. Delavan feels justified in asserting that the rational and scientific plan of operation for its relief would be as follows: (1.) Removal of the obstructing middle turbinated bone of the wider nostril, allowing at the same time, if possible, a remnant of the organ to remain, sufficient for the performance of its normal physiological function; (2) straightening the deflected septum.

#### OSZENA.

Dr. F. H. Bosworth in opening the discussion on this subject at the recent session of the American Laryngological Association said<sup>1</sup> that this name as indicating a disease should be abolished, as it was merely a symptom due to various morbid conditions, usually one of the following: (1) Syphilitic ulceration and necrosis; (2) scrofulous ulceration and necrosis, a rare disease; (3) the presence of foreign bodies; (4) disease of one of the accessory cavities; (5) the late stage of atrophy of the nasal mucous membrane, the rhinitis atrophica of the Germans.

In regard to the fifth class which in our experience furnishes the worst cases of fetid catarrh, Dr. Bosworth says there is seen on inspection a nasal cavity large and very roomy.

The turbinated bones, especially the lower, have almost disappeared, and the cavity is lined with grayish-green crusts adhering closely to the mucous membrane. If we thoroughly detach these crusts and clean the cavities we find that the odor is absolutely removed, and on inspection we find no necrosis, no ulceration, not even an erosion of the mucous membrane. There is nothing now remaining by which we can recognize the disease other than the roomy cavity and the shrunken turbinated bones. This is rhinitis atrophica.

Dr. Bosworth believes this to be a purely local affection, a catarrhal inflammation of the nasal membrane, atrophic from the commencement. The disease commences generally in early life, in an inflammation which is characterized by a desquamation of the epithelial lining of the acinous glands, which results in their destruction. The membrane is thus deprived of its normal supply of mucus; that which is secreted, being scanty, very soon dries from the surface of the membrane. There is thus formed a thin, dry pellicle which adheres closely and is removed with difficulty. Remaining thus it soon undergoes decomposition and gives rise to fetor. Moreover, the secretion beneath the pellicle is imprisoned, and a new source of fetor occurs. The imprisoned mucus soon becomes purulent. This re-infects the membrane, and the still further increase of pus is the result. The pellicle of inspissated mucus which dries upon and adheres to the membrane, clinging about the convexity of the turbinated bones and contracting and drying, necessarily exercises press-

ure and obstructs the circulation. As the result of this the atrophy of membrane is still more encouraged. It has been said that this atrophic process is the next stage of the hypertrophic form of catarrh, and that the connective tissue formation has encroached upon the acini to their destruction. In microscopic examinations made by Dr. Bosworth, there was no evidence of any hyperplastic process. Dr. Bosworth recognizes no special cause of the disease. He does not believe that it depends on any special diathesis, and says that it occurs, as a rule, in patients enjoying perfect health.

For treatment of this atrophic form of the disease Dr. Bosworth recommends thorough cleansing of the parts with carbolyzed alkaline solutions, and afterwards some stimulating application, as the pulverized galange or pulverized sanguinaria. In regard to the prognosis, the extent of atrophy of the turbinated bones is always an evidence as to the curability of the disease. If these have entirely disappeared all that can be hoped for is, that the patient shall be kept free from all unpleasant symptoms by the daily use of the douche.

#### THE COMPARATIVE VALUE OF ATOMIZED FLUIDS IN THE TREATMENT OF DISEASES OF THE LARYNX.

Dr. J. O. Roe has a seasonable paper on this subject.<sup>2</sup> He says the value of this method of reaching diseased surfaces of the otherwise inaccessible portion of the bronchial tract, when properly conducted, can scarcely be overestimated, but there is a portion of the respiratory tract, the larynx, which cannot by this method of treatment, except in the minority of cases, be sufficiently and properly medicated when invaded by disease requiring decided treatment. A large majority of diseases of the larynx are more or less localized. Even in that most common form of laryngeal disease, chronic laryngitis, it is quite common to find that the greater portion of the resultant thickening is more or less defined and limited to certain regions of the laryngeal mucous membrane. In other cases the disease will be found invading every portion of the laryngeal cavity. For the successful treatment of these diseases, if localized, the medicament should be applied only to the diseased surface, since the necessary strength of the agent employed would be entirely too great to be applied to the surrounding parts, which are but little or not at all diseased. If the disease is general, it is of the greatest importance that the remedial agent should be applied to every portion of the diseased surface, often into the sinuses of Morgagni as well as to the most prominent and projecting parts, and in sufficient strength to produce the desired effect. However well, theoretically, the spray may seem to be adapted to fulfill the latter indication, it will be found to be practically inefficient; and in the former cases it is contra-indicated, except for the application of cleansing and sedative solutions.

Dr. Roe questions the thoroughness of the application made by the laryngeal spray for two reasons: First. From its apparent want of thoroughness, as judged by observations with the laryngeal mirrors after the application has been made. Second. By its real effects, as evinced by the tardiness or almost lack of improvement in many cases so treated.

Experiments with salt and silver, and iodine and starch solutions, show conclusively that the particles of the spray only reach the portion on which they strike directly; and that the ventricles and other portions of

<sup>1</sup> Archives of Laryngology, July 1, 1882.

<sup>2</sup> Archives of Laryngology, April 1, 1882.



the larynx which are shielded from the direct contact of the spray are, therefore, not medicated.

Dr. Roe has also found that in mild forms of general chronic laryngitis, after he had perseveringly used the spray in the most thorough manner possible, with little or no perceptible improvement, a few direct applications of the same remedy with the laryngeal brush, sponge, or absorbent cotton, thoroughly into the ventricles and whole interior of the larynx, brought about a speedy improvement and cure.

Thus in the treatment of laryngeal diseases the probang (the various laryngeal brushes, sponge-holders, and cotton carriers being but modifications of it) is still an indispensable instrument, and cannot be superseded by the spray, not only when it is desired to apply a remedy to a limited portion alone, but when a general and thorough application to the whole interior of the larynx is necessary.

## Hospital Practice and Clinical Memoranda.

### MEDICAL HISTORY OF A CASE OF ABORTION, WITH A SYNOPSIS OF THE CRIMINAL TRIAL.

BY J. FOSTER BUSH, M. D., HARV.

I WAS called, October 5, 1881, to see M. C., aged twenty, a strong, healthy girl of Irish descent, who had always enjoyed good health till the present illness. I found her with rapid breathing; abdomen tympanitic and tender; high pulse and temperature; tongue brown and dry; there was an offensive discharge from the vagina, and, upon pressure, a milky fluid exuded from the breasts. She had experienced chills, but they had not recurred to any great extent.

The history obtained was as follows: She had passed two catamenial periods: the flowing, attended with expulsion of clots, had come on between the second and third months, and it was accompanied with pain. After three days the flowing stopped, but the pains increased in severity, and so continued till the time I saw her.

On October 6th she was constantly vomiting fluid of a dark greenish color; the temperature was 105° F., and the extremities were cold. Diagnosis: puerperal peritonitis. Dr. W. L. Richardson saw the case in consultation. In reply to questions, the patient stated that she had gone, on September 22d, to a Mrs. Fenno, living in Somerville, and had had an operation performed, for which she paid ten dollars. This not being successful, she repeated the visit on September 26th, when the operation was repeated at an expense of five dollars. The operation consisted of the application of a sponge on the outside of the stomach, and the passage of a tube within the vagina. The operation each time was very painful.

Subsequent to the use of these instruments an injection was given, and she drank a pint of hot spearmint tea. She was very sick on coming home the second time, and felt that she was dying.

On account of pain a subcutaneous injection of a quarter of a grain of sulphate of morphia was given. The patient died in the evening.

On October 7th an autopsy was made by Dr. F. W. Draper, medical examiner for Suffolk County, who kindly invited me to be present, and has permitted me to use the notes of the autopsy:—

"External examination: The body had been in ice. A quantity of dark-brown fluid escaped from the mouth when the body was turned. The breasts were full, and milky fluid could be pressed from the nipples. The belly was distended by gas. The external genitals were slightly swollen, and were of a darker color than in health. A little thin, fetid matter smeared the other parts. The remains of a ruptured hymen were distinct around the opening to the vagina. There were some superficial excoriations at the posterior and right lateral parts of the entrance to the vagina.

"Internal examination: The heart and lungs were healthy. The investing membrane of the intestines and other abdominal organs (peritoneum) was in a state of acute general inflammation; it was thickened, reddened, and opaque; its adjacent surfaces were agglutinated; its various depressions contained nearly a quart of extremely fetid, thin, greenish-colored pus.

"The interior of the spleen, kidneys, liver, and intestines presented no appearance of disease; their external covering shared in the general peritonitis.

"The stomach contained a quarter of a pint of thin, dark, fetid fluid. The internal structure of the organ was healthy.

"The uterus, bladder, vagina, and rectum were removed together. Their opposing surfaces within the cavity of the belly were quite firmly adherent by recent inflammatory products.

"The vagina was of normal size. Its color was a little darker than natural, and its upper part showed a patch near the mouth of the womb decidedly darker than the rest. There was a little dark colored, rather thick matter upon its lining membrane.

"The opening to the womb admitted the tip of the little finger. Around this opening were slight bruises extending one sixteenth of an inch outward from the margin. The womb was enlarged; its cavity measured three inches in depth from the external opening; its breadth was two inches; the wall of the womb was one inch thick at the thickest. One inch from the mouth of the womb, at the inner or upper end of the canal, were two excavated ulcerations, one anterior, the other posterior; their size was nearly equal, their diameter being about five sixteenths of an inch and their depth one eighth of an inch; their outline was circular, and their color nearly black; the muscular tissue under them was reddened to the depth of one sixteenth of an inch. On the inner surface of the anterior wall of the womb was a raised and reddened area of the size of a quarter dollar. The lining of the womb elsewhere was somewhat thickened, but was of nearly a natural appearance. The passages from the womb to the cavity of the abdomen (Fallopian tubes) were distended with thick pus, and their lining was reddened.

"The right ovary contained a corpus luteum of the size of a large pea."

The person mentioned in the declaration of the dying girl was arrested on the evening of October 6th. The officers found at her house a battery, which they did not disturb, but several electrodes were taken possession of, the character of which corresponded with those spoken of before, and were such as would have been likely to have been used in procuring an abortion by electricity. It is unnecessary to follow the legal proceedings in detail; suffice it to say that the trial justice and grand jury found a "bill" against the defendant, and the case came up for trial in the spring term of

the Criminal Court for Middlesex County, at East Cambridge, before Chief Justice Brigham, but for sufficient cause was transferred to the June term, Judge Pitman presiding; Hon. W. B. Stevens for the government, and Hon. W. B. Gale and O. S. Knapp, Esq., for the defense. The dying declaration was ruled out as evidence.

[I would say that hours were spent in trying to find a justice of the peace, in order to take the girl's ante-mortem statement, but just as that officer reached the house the girl died.]

An outline of the general testimony for the government will be sufficient. It was shown that, on the evening first stated, the girl visited the house of the defendant with a male companion, who waited outside till she returned, the time being about half an hour. That, on the second visit, she was accompanied to within a short distance of the defendant's house by three companions, and was there for about half an hour; and that on the way home she seemed distressed, walked slowly, and appeared different from usual. The government then traced her movements, by numerous witnesses, from this time to the time of her death, thus showing the impossibility of her having had an abortion performed elsewhere. Various police officers who made the arrest and seized the instruments were put on the stand and related the events of the evening, and identified the instruments in court as the ones taken that night. The writer was the first medical witness. He testified as to the girl's illness, and to the fact of having been present at the autopsy. As an expert he gave his opinion that the girl died of peritonitis following abortion. That the ulcerations found at the mouth of the womb could only have been produced by direct violence, and that electricity would produce such effects.

Dr. W. L. Richardson testified as to having seen the girl in consultation, and agreed with Dr. Bush that puerperal peritonitis was the cause of death. As to the character of the ulcerations he could not say, as he had not seen them; but in his judgment the *constant* current would produce ulceration, but the *interrupted* current could not.

Dr. F. W. Draper read the notes of his autopsy. He also testified that the uterine ulcerations could only have been produced by some powerful stimulant. That the stimulant in this case was probably the galvanic current.

Dr. S. G. Webber was called by the government as an expert, and his testimony I will give more in detail. It was that the galvanic current could produce ulceration; that such ulceration would be found at the negative pole, and was caused by the decomposition of the parts; that the dark color was due to changes after the ulceration had been produced; and although ulceration of the parts spoken of could be produced by syphilis, caustics, etc., those described would correspond with those produced by the electric current; that the electro-magnetic current would be unlikely to cause ulceration, but he would not say that it was impossible; that the interrupted current was likely to produce uterine action and abortion.

This hypothetical question was then put to this witness: "Suppose that a young girl, nineteen or thereabouts, on a Tuesday night complained of pain in her back and stomach, and should die a week from the following Thursday from an abortion, when, in your opinion, was an operation, if any, performed?"

"Preceding Tuesday, within a few days."

This ended the government's side.

Dr. Hall, manufacturer of electrical instruments, testified, for the defense, that he had sold the defendant a galvano-faradic battery; that it would be impossible to cauterize any part of the human body unless a very powerful battery was used, or both poles were applied to the parts; that a battery with less than forty cells would not produce a slough; that with the battery he had sold the defendant he could with safety sit on a keg of gunpowder and pass a current through it.

The defendant testified that she was an electric physician, had been in practice over twenty-five years, and was in the habit of giving electric baths to women who menstruated irregularly, or whose catamenial periods had been stopped by a cold; that she never performed abortion.

The rest of the defense was an attempt to prove an alibi on the day of the last visit.

Closing arguments of counsel and the judge's charge are omitted. Verdict, guilty. Exceptions taken.

## Recent Literature.

*Lectures on Diseases of Children: A Handbook for Physicians and Students.* By DR. EDWARD HENOCK, Director of the Clinic and Polyclinic of Children in the Royal Charité, and Professor in the University of Berlin. New York: William Wood and Company. 1882.

This work, which is a free translation of Professor Henock's Lectures on Diseases of Children, published by Hirschwald in Berlin in 1881, forms a part of Wood's Library of Standard Medical Authors, and is an exceedingly valuable addition to the literature of this branch of medicine. Professor Henock's idea appearing to be, not to cover the whole ground of diseases of children, but to merely reproduce his lectures on those subjects where he has had the greatest opportunity for personal observation; he necessarily omits much that is usually found in the text-books which already exist on this subject, thus avoiding the useless repetition with which this as well as most of the branches of the medical literature of the present day abounds.

The plan of the work is especially to be commended. It is a concise, lucid exposition of each subject, rich in new observations and original thoughts, taken from the author's wide experience of thirty-seven years, private and hospital practice. The text contains numerous typical illustrative cases, generally accompanied by a thorough description of the post-mortem appearances. It is in this latter respect that the translation, which on the whole is fairly done, fails to reach that degree of excellence which is attained in the original work; for quite a number of these illustrative cases are either entirely omitted or very much curtailed, so that from thirty to forty pages of the original text do not appear in the translation, a fact which would at once make the German edition of greater worth than the American, even if the former were not preëminent over the latter from its superior type and general appearance.

The part of the lectures which appears to be especially original is that which is devoted to the various nervous phenomena occurring in infants and children,

a remarkably practical article on hysteria deserving particular attention.

The author still believes that fibrinous laryngitis is the highest development of acute catarrhal laryngitis, and that it need not necessarily be produced by the poison of diphtheria, or be one and the same disease as the laryngitis of diphtheria.

Interesting descriptions of cases of fibrinous and catarrhal pneumonia, and what the author designates as "Asthma Dyspepticum," add greatly to the value of that portion of the work where diseases of the respiratory organs are spoken of. The chapter on diseases of the circulatory organs is short and concise, and well illustrates how carefully the author avoids an error fallen into by most writers on children's diseases, namely, the repetition of those symptoms and rules for diagnosis, which apply equally well to the same disease in the adult.

The article on diseases of the nephritic organs is exceedingly well written and valuable, treating especially of the nephritis following scarlatina. The writer's large experience in this disease leads him to believe that scarlatinous dropsy does not occur unless there is also renal disease. He advises a milk diet and rest in bed while the albuminuria persists, and he gives exact rules for the treatment of the disease by acetate of potash and digitalis, and later by astringents.

Hennoch does not give an unqualified approval of pilocarpine, as he has in some cases noticed alarming symptoms of cardiac depression following its use.

He is also rather doubtful as to the efficacy of the warm bath or wet pack, as they so often fail to produce perspiration in cases where there is oedema; on the other hand, in speaking of bleeding, he says: "I remember that in some of my earlier cases, especially in those complicated with inflammation of internal organs, this method, namely, venesection to the amount of a cupful of blood, produced surprising results as a diuretic; perhaps I should have saved many a child had I not been infected with the dread of venesection now prevalent. I acknowledge this openly, because I am resolved to employ it again, in suitable cases, and will not be deterred by the presence of oedema or dropsy of the various cavities."

The article on acute and chronic peritonitis should also receive especial mention, while the criticism which applies very generally to the books which have been written on diseases of children may here also be repeated, namely, that the description of the diseases of the skin is inadequate and often misleading.

*Materia Medica and Therapeutics. Inorganic Substances.* By CHARLES D. F. PHILLIPS, M. D., Member of the Royal College of Surgeons, etc. Late Lecturer on *Materia Medica and Therapeutics* at the Westminster Hospital Medical School. Edited and adapted to the United States Pharmacopœia by LAWRENCE JOHNSON, A. M., M. D., Lecturer on *Materia Medica and Botany*, Medical Department of the University of New York. In two volumes. Vol. I. 298, Vol. II. 340, pages. William Wood & Co., New York. 1882.

This is a sequel to a treatise published some years ago on the Vegetable Kingdom, and forms one of

Wood's Library of Medical Authors. The work differs from others on the same subject, chiefly in that an unusual amount of attention is devoted to the chemistry of the drugs, and the student who may be in search of any information relating to the chemistry of the various inorganic substances employed in medicine will find in this work a full exposition of what is known in this department.

Under the therapeutical action an account of the various diseases in which the drug has been used are given with a good deal of detail.

The article on water, both as regards its external and internal use, contains much that is not found in other works of this character; the same is true of the two articles following it on sea bathing and mineral waters, all additions to the usefulness of the work.

It would have been easy to classify the drugs more thoroughly on a chemical basis.

Besides the index for remedies there is also one for diseases.

## THE EGYPTIAN EXPEDITION.

PREPARATIONS for the medical service of the campaign in Egypt have been unremittingly pushed on by the War Office authorities during the past week. The equipment of the field hospitals and bearer companies has been collected at the Woolwich Arsenal, under the superintendence of the brigade-surgeon in charge and the quartermaster of the Army Hospital Corps; the non-commissioned officers and men detailed for each hospital and company have been mobilized at Aldershot, so that as soon as the Admiralty provide transport the remaining seven field hospitals can embark at a few hours' notice. Between eight and nine hundred men of the Army Hospital Corps are required for the expedition, and of these six hundred have already joined the depot at Aldershot. The Peninsular and Oriental Company have placed the steamship *Carthage* at the disposal of Government, and she has been selected as the principal hospital ship. She has been fitted out to carry two hundred and twenty sick and convalescents, and when full will proceed to one of the general hospitals at Cyprus or Gozo to discharge her invalids and return to Egypt for a fresh installment. Brigade-Surgeon H. Fergusson has been selected for her medical charge, with a staff of medical officers, an officer of orderlies (Captain Joseph), and four nursing sisters. Every attention has been paid in fitting the hospital to the requirements of the sick; ice houses are provided; and she will be liberally supplied with medical and surgical stores. The *Carthage* sails on the 9th. The steamship *Courland* has been detailed by the Admiralty for an additional hospital ship, and will be fitted in a similar manner to the *Carthage*, though on a smaller scale. Deputy Surgeon-General J. Lamprey is under orders for Cyprus to supervise the medical arrangements of the island, which, as a base of operations, will have allotted to it a general hospital of four hundred beds.

The steamships *Pelican* and *Marathon* have been selected by the Admiralty to take out the 1st Bearer Company, and Nos. 2 and 3 Field Hospitals, leaving Portsmouth on the 5th. The principal medical officer, Surgeon-General Hambury, C. B., and his staff, proceed in the *Capella* from Liverpool on the 6th. — *Lancet*.

# Medical and Surgical Journal.

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## THE OPERATION OF THE CONTAGIOUS DISEASES ACTS IN ENGLAND DURING 1881.

The report of the Assistant Commissioner of Police of London relating to the Contagious Diseases Acts in England has just been made public, and contains the facts concerning the operation of these Acts during the year 1881 as compared with previous years.

The average number of examinations of individual women made during the year in the several places subject to the Acts was 23.64; in 1880 it was 23.50. One thousand three hundred and fifty-nine women were registered for the first time during the year, many coming from the unprotected districts; the number of women remaining on the register at the end of the year was 83 less than in the preceding year, and a total decrease of 3056 has taken place since the Acts came into operation. In 5013 cases women signed the voluntary submission form; in 18 cases applications for orders were made for non-submission, but in only three cases was it found necessary to enforce them. In 86 cases proceedings were taken for neglecting to attend medical examination. It is stated that whenever a chance exists of reclaiming a woman every effort is made before she is brought under the Acts, and after she has signed the voluntary submission form the opportunity is still given her of returning to her friends if she is desirous of doing so. Seventy-four young girls between the ages of twelve and eighteen, 86 women between the ages of eighteen and thirty, and four above that age, who had been found in bad company and improper places, were rescued; 32 young persons between the ages of twelve and eighteen, 84 women between the ages of eighteen and thirty, and 13 above that age, who had commenced an immoral life abandoned it on being cautioned by the police, and consequently were not registered.

The number of brothels was reduced during the year by 11, being a decrease of 825 within the protected districts since the Acts were put into operation.

During the year 189 prostitutes are known to have come into the several districts from unprotected places; 322, 65.85 per cent. of these were found to be diseased on their first medical examination. One thousand seven hundred and forty-four common women were registered during the year, including those re-registered, many being from unprotected districts. Of this number 655, 38.16 per cent. of those examined (1793), were found to be diseased on their first medical examination, whilst 159 only, or 8.18 per cent. of

those examined (1769) out of 1879 women remaining on the register on the 31st December, 1880, were found to be diseased.

During the year, 1827 were removed from the register, of whom 863 left the districts under the protection of the Acts, 51 married, 234 entered homes, 659 were restored to friends, and 20 died.

In view of the present and prospective movements to secure legislation in regard to contagious or specific diseases in our own country, it is not amiss to follow from year to year the practical operation of the Contagious Diseases Acts in England, and we shall next week glance at the subject again in connection with the report from the Select Committee of the House of Commons appointed to inquire into the working of the Acts.

## THE SMOKE-TEST FOR DRAINS.

This test for defective waste-pipes is now being a good deal used by sanitary engineers in England and Scotland, and seems to work very satisfactorily.

In the last report of the Sanitary Inspector of Glasgow, a town in which some very good sanitary work has been done, the reporter says the inspectors there have to a great extent overcome the difficulty of dealing with structural defects attendant upon defectively jointed soil-pipes and drains in connection with sinks, wash-hand basins, and water-closets where such, as is frequently the case, are inaccessible from the stupidly persistent practice of laying them beyond convenient reach.

The smoke-test is applied by a small machine with powerful fanners, which blow the smoke of ignited cotton-waste, saturated with oil, into the whole drainage system of the tenement operated upon, by openings in the soil-pipes or otherwise, and which in due time issues at all imperfect joints and connections, disclosing their position with perfect accuracy. The operation, of course, is most satisfactory where all the pipes along their whole course from the house to the main sewer can be exposed, and it is well understood now that such inspection should be provided for when a house or building is plumbed.

The value of this test is indorsed also in a book entitled *House Sanitation*, quoted in the *Sanitary Engineer*. The author, Mr. Stanger, a civil engineer, mentioned as an example of the usefulness of the smoke-test an experience of his own whilst inspecting a large hospital, and says:—

"When making a first inspection at the Wolverhampton General Hospital, and testing with the smoke-test by forcing smoke up the drains with a small fan-blast, and thus finding out the untrapped inlets and leaky joints within the building, we discovered, among many other defects, smoke issuing from a pipe-casing in the corner of one room. On examination it was found that an inch overflow pipe from a disused cistern had been cut off by some plumber, anxious, perhaps, not to contaminate the water supply, and the end communicating with the sewer left perfectly open into the room. On re-testing to prove the work when the alterations were completed, one part of the basement

was filled with smoke, and it was thus discovered that a temporary connection put in during the alterations had not been removed."

The smoke-test will localize defects where peppermint will not, and the presence of the smoke is neither so lasting nor so all-pervading.

#### MEDICAL NOTES.

— In the proceedings of the Dublin Obstetrical Society, one of the speakers, after expressing his disagreement with certain German authorities on the matter of uterine displacements, and claiming that Dublin possesses greater advantages for gynecic investigation than any German universities, Vienna and Berlin alone excepted, adds: "If we wish to go beyond this (that is, Dublin observation) we should go to the true fountain-head of modern gynecology, — namely, the American school."

— During the past month three cases of amputation at the right hip-joint were performed in England, with the aid of Mr. Davy's lever for controlling hemorrhage. A case where Mr. McLaren, of Carlisle, operated, lost two ounces of blood; a second patient, under Mr. Cowell's care, at the Westminster Hospital, lost three ounces; and the third case, where Mr. Paul Swain, of Plymouth, performed amputation with the assistance of Dr. Bampton, lost but one ounce and a half. All these patients are progressing favorably. — *British Medical Journal*.

— Notwithstanding the great exertions that have been made, and the precautions taken by the authorities, small-pox is spreading in Cape Town and its environs, five fresh cases having been reported on the 10th inst.; much alarm is felt in consequence. The disease has been clearly traced to the docks.

— The *British Medical Journal* quotes from a letter from Dr. Roswell Park from Prague: "I have had the pleasure of a rather extended interview with a patient whose larynx and epiglottis Professor Gussenbauer removed over a year ago. Six weeks after the operation he began to wear part of the artificial larynx, and, after accustoming himself to this, he gradually learned how to introduce and use the reed which takes the place of the vocal cords. This apparatus was made for him by Rothe, who has also done some work for the Reese Hospital. The patient is a riding teacher, is reputed the best rider in Prague, is busy from morning to night, talking all day, and suffers not the slightest inconvenience or pain. His voice is, of course, very monotonous, but his enunciation is excellent, his speech perfectly intelligible, and he eats and drinks with perfect facility. Three intralaryngeal operations had been previously made, before Gussenbauer attempted his feat. This case is said to be the best living example of what the art of the surgeon and the mechanic can accomplish for such a terrible disease as cancer of the larynx.

— Professor Alexander Russell Simpson, of Edinburgh, has recommended a uterine sound containing some modifications from that which bears the name of his uncle, the late Sir James Simpson. The most im-

portant change is a shortening of the stem, and a substitution of a short square handle, enabling the operator to apply one finger of the right hand against the cervix at the two and a half inch notch, while the handle rests firmly against the hypothernar eminence. The inventor claims that he can thereby combine a bimanual examination with a firm control over the uterus by means of the sound.

— The differences between the novelist's doctor and the doctor's doctor are usually sufficiently striking. But what shall we say of the homeopathic female novelist's female homeopathic doctor? To many of those who are reading "Doctor Zay" in *The Atlantic*, the "scientific" aspects of the story must be among its most entertaining features. Yorke, the hero, having "dislocated his ankle and concussed his brain," falls (possibly as a symptom of the latter injury) madly in love with his doctor. She, however, being already wedded to her art, and not being bigamously disposed, gives him no encouragement. But if the suitor gets only homeopathic doses of sentiment, he receives heroic ones of scientific information. The doctor's remarks always savor of the "shop," the character of the shop and the quality of its product being shown as follows. Speaking of his passion, the patient says: "It is beyond the reach of any pellet in your little case; the remedy is not in your materia medica." "That may be true; but Nature has her own unerring prescriptions. A single dose of absence — even in the first attenuation — will work a recovery which will astonish yourself, sir." Again she says: "I cannot demonstrate to you the futility of your hope. . . . Let us both consider this a case of aphonia and aphasia, and be done with it." "Explain yourself to the ignorant, my learned physician." "Aphonia is inability to speak." — "Oh, yes; my Greek might have stood me for that. And aphasia is inability to hear?" "Precisely." "That is a scientific reply," said Yorke, regarding her keenly."

#### NEW YORK.

— The managers of the New York Foundling Asylum, which occupies the entire block bounded by Lexington and Third Avenues, Sixty-eighth and Sixty-ninth Streets, have had in process of construction for some time past a new hospital building at the north-east corner of the block, which is now approaching completion, and will prove an important addition to the institution. It is seventy-five feet long and fifty feet in width, and in its external appearance closely resembles the St. Ann's Maternity Hospital, also belonging to the Foundling Asylum, which occupies the north-west corner of the block. The new hospital, which is built of Philadelphia brick, with light stone facings, will accommodate about one hundred patients, and will be arranged in such a manner that all cases of contagious diseases can be completely isolated. Its cost will be \$75,000, and it will be used for all cases of sickness not provided for in the Maternity Hospital. The asylum now contains over six hundred infants, and there are connected with it about twelve hundred other children which have been placed in the care of outside nurses.

—The Hebrew Emigrant Aid Society has had constructed four substantial buildings of wood on Ward's Island for the accommodation of sick and destitute Russian refugees. They are long and low, covering an area of about two acres, and special attention has been paid to ventilation and sanitary requirements in their arrangement. From 1200 to 1500 emigrants can be cared for in them at a time.

—Dr. John S. Woodside, the Superintendent of the Brooklyn Hospital for Incurables, in his annual report to the Charity Commissioners of Kings County, calls attention to the overcrowded and unsafe condition of that institution. In the main building the space per patient in the sleeping rooms is only three hundred and fifty cubic feet, and the smallest number of persons in any one room is ten or twelve. In the new pavilion the sleeping rooms are all on the second floor, which is reached by only one staircase, and in case of fire there would be great liability to loss of life. There are at present three hundred and seventy-six patients in the institution.

—At Port Washington, Long Island, ten persons in one family are suffering from diphtheria, which is said to have been contracted by drinking from a tin dipper which had been used by a boy in a neighboring family who had the disease.

### Miscellany.

#### LETTER FROM KANE, PENNSYLVANIA.

MR. EDITOR.—Last summer I had the honor of inviting your attention to a new place of mountain resort, situated among the Alleghenies in the northwestern part of Pennsylvania; I believe that although already favorably known to a few physicians of Philadelphia and Cleveland and some intervening places, the attention of the profession had not been pointedly directed to it previous to the publication of the communication referred to. This is owing principally to the fact that the settlement is comparatively a recent one. The Philadelphia and Erie Railroad was brought through this region about twenty-three years ago, subsequently a settlement grew up on what is known as the Big Level or Clarion Summit, which is the highest point attained by the road. This small village was named Kane in honor of General Kane, who has large land interests in this part of the country; it is by railroad calculation 2006 feet above tide-water. It is at this point, close to the railroad, that a hotel was built some years ago, but was not regularly opened under its present management until a considerable time afterward. It is not large, —having accommodation for only about one hundred guests, —but commodious, with high ceilings, large rooms, spacious halls, and a generous porch. Every room is well lighted and ventilated, and gives a prospect of unbroken primeval forest and mountains stretching away on every side to the hazy horizon. This house was named by its owner, General Kane, the "Thomson House," in honor of the late Mr. Thomson, the president of the Philadelphia and Erie road. The hotel is situated on an eminence overlooking the railroad, in the centre of an inclosure, which contains a park of about seven acres of woodland. Good board walks have been

made among the trees so that pedestrianism may be cultivated, or the constitutional morning walk indulged in, and a bowling alley has also been provided, where more vigorous exercise may be pursued. While the porch and the park furnish ample facilities for delicate persons and children, for those who are stronger and desire more vigorous recreation, extended walks through the woods, and riding and driving, give opportunities for studying the wild scenery of a great lumber region, —viewing nature *en dishabille* as it were, —the mountainous declivities, the piled-up rocks, the gloomy, impenetrable forests, and smiling valley, in which the clear and cold trout streams are seen, form a beautiful panorama which surprises and delights the sober citizen whose experience previously had only been with cultivated lands and ornamented parks, nature adorned by art, —Pegasus yoked to the plow. The roads around this vicinity are in good condition, and comfortable for driving, being of hard dirt; they dry very soon after the showers, which are always on the bill in mountain resorts, although they are not of such constant occurrence here as in some other places.

As already intimated, there are numerous mountain streams in which the skilled fisherman may find the speckled beauties that he exhibits with such affected indifference after a long day's tramp in the woods. Contrary to experience in some other celebrated trout regions, there is an abundance of fish, and even tyros succeed in bringing in something to show for their day's tramp, while the more experienced generally return with a full creel. Gunning is also a favorite sport in the spring when the woods are filled with wild pigeons, or in the fall when the blackberries on the mountains attract numerous birds. The forest consists largely of hemlock, poplar, and beech, but wild cherry, red maple, and birch are sometimes seen. Strange as it may appear, there is no poison-ivy, and no venomous snakes to be found on this mountain top; and wild animals, with the exception of an occasional fox, or the ubiquitous porcupine or wild cat, are never seen, although in winter many deer are shot in this neighborhood; very rarely a bear is brought in by the hunters. The scarcity of flies and mosquitoes is a surprising and gratifying fact, which may be cited as an incidental advantage.

With regard to the water and the air, they are both pure and refreshing. An analysis of the mountain spring supplying the hotel shows it to be unusually free from saline material, and the permanganate test shows the entire absence of organic matter; it is soft, perfectly clear, tastes agreeably, and contains less mineral matter in solution than the Schuylkill water, which is usually considered a good potable water. The atmosphere is light and generally dry, furnishing most beautiful sunsets, and brilliant starlit nights. That it is invigorating and stimulating is shown by the improved nutrition and increase in bodily weight, which is generally noticed by visitors; from one to four pounds per week is commonly reported. One gentleman weighing one hundred and fifty-six pounds on coming here this summer, went home weighing one hundred and sixty-nine and a half pounds after a month's stay; if he had remained over for another train he probably would have assimilated another half pound and reached the even figure. This increase in weight is not confined to persons reduced by previous illness, but is universally remarked, and in children particularly; this is partly due to the open air life, the good

table, and the pleasant character of the company. Contrary to an impression which seems quite general, there are no accommodations here thus far for very sick people, and invalids and valetudinarians constitute a very small proportion of the guests.

It is stated that a sanitarium or hospital will shortly be opened in this most favorable locality, through the liberality of General Kane, who has already placed in trust sufficient funds to endow such an institution; and he has even expressed the intention of devoting the present hotel structure to this purpose, should there be a demand for such extensive accommodations. It is believed, however, that a cottage hospital of thirty or forty beds, and private rooms, will answer for a foundation which may afterwards be extended as required. This neighborhood abounds in coal and oil, and, at this particular place, natural gas bubbles up in places along the road, and may be obtained in unlimited supply simply by boring a well almost anywhere. The facilities for lighting, warming, cooking, and obtaining power by steam, are very obvious where gas is plentiful and cheap; and indeed in the town of Sheffield, a few miles from here, it is used exclusively for such purposes, both for its private houses, and its large factories and saw mills. Bradford is similarly supplied with natural gas. There are also burning gas wells at Johnsonburg on the line of the railroad; the wonderful intermittent spouting gas well at Wilcox, I described in my former letter; it has now been burning some fourteen years. A sulphur spring also exists near here which might well be utilized for medical purposes.

Among the notable things in this region is the great Kinzua viaduct, at Howard Hill, on the New York, Lake Erie, and Western Extension, which is being built in order to open large coal fields owned by the company in this region. This, when completed, will be the highest bridge on trestle work in the world; it has already been described in the *Scientific American*, and most of the daily papers. It is 301 feet high, 2050 feet long, built entirely of iron (of which it will contain 4,000,000 lbs.), will be 20 feet wide inside the hand rail at the top, and will have a single track; the Phoenix Bridge Company have charge of its construction; it is expected to be ready for travel by the 1st of October. At this place the scenery, surrounding Howard Hill, especially near the bridge, is magnificent, and at a high point in the neighborhood, known as Mount Jewett, it is proposed to erect a large first-class hotel. The locality chosen is about 300 feet higher than Kane, from which it is distant about seventeen miles. Should the enterprise be carried out, of which there is little doubt, it will be one of the finest places of mountain resort in the country; of its success, the presence of the railroad (which is an extension from the great Erie road) will be a sufficient warrant. General Kane is now building a narrow gauge road to connect Kane and Mount Jewett, which will also form part of a system of narrow gauge roads running on to Pittsburgh and St. Louis.

Having said so much about the locality and its surroundings it is about time to speak of the points of medical interest. One of the most important is that *victims of hay fever here enjoy perfect immunity*. This is a matter easily subject to demonstration. The writer has seen and conversed with several who visited Kane expressly for the purpose of escaping their annual affliction; and when this fact is more widely known, we may as reasonably expect large numbers of such sufferers to congregate here, as at Bethlehem in the White Mountains.

Catarrhal affections are rare, and rapidly improve after arrival; indeed, the air may be considered almost a specific for bronchitis and for catarrhal pneumonia in its early stages. Several patients who had suffered with influenza during last spring's epidemic, and who had some lingering chest trouble, have been here this summer, and returned home well. The gain in flesh and improved assimilative powers have already been referred to; this means better blood, healthier muscle, and reinvigorated nerves, in other words, a new lease of life for the tired brain-worker or worn-out man of business, who, closing his books, and laying aside his cares for a while, may here seek recreation and health. Where convalescence is slow from some acute disorder, this locality is a haven of refuge. Children, prostrated by heat or so-called summer complaints, rapidly recover in this tonic atmosphere; it must be admitted (as it is supported by experience) that children, especially the very young ones, are much more benefited by the mountains than the sea-shore, although this is not the place to consider their relative advantages. The pure and dry air is so constantly in motion that perspiration is rare except from unusual and violent exercise, while night sweats are almost unknown. The nights are pleasant and cool, and from personal experience the writer can state that not a single time has he found his pillow wet with perspiration on waking in the morning during the last six weeks, although this was the rule rather than the exception before leaving the city.

During the hottest weather in the cities, both East and West, the thermometer here rarely gets above 85° F. in the middle of the day, and even when at its highest point there is usually a breezy and shady side of the porch, or a walk may be taken into the cool, inviting shade of the woods around the house. While the daily papers brought accounts of death from stroke and the stifling heats in New York and Philadelphia, there has not been a day this summer when it has been uncomfortably warm, or on which it was necessary to change merino underclothing for gauze.

I stated in my former letter that this plateau or mountain top, covered as it is with miles of unbroken forest, has a great future as a health resort. The many evidences of progress, the increasing activity incident upon the development of the new oil region at Garfield, the great pressure of business on the old railroad, and the introduction of the line from New York, all speak of enterprise and thrift, and promise great things for the near future. Within a decade, Kane will probably be one of the most popular places of summer resort in the range of mountains belonging to the great Appalachian system, which already furnishes so many places of refuge from torrid heat in the cities of the Atlantic plain.

F. W.

#### CRITICISM OF DR. J. P. LYNDE'S PAPER ON INFANTILE MORTALITY.

Mrs. EDITOR,—The carefully written paper of Dr. Lynde, of Athol, read before the Massachusetts Medical Society at its annual meeting in June last, first printed in your JOURNAL,<sup>1</sup> and since then somewhat widely copied, deserves attention from all who have

<sup>1</sup> Boston Medical and Surgical Journal, July 20, 1882.

the medical care of children, in that it brings into notice remarkably good results with a somewhat unusual administration of milk.

Out of nearly a hundred consecutive cases prematurely weaned, some of them in fact never nursed, there were only three deaths; one of which should not be counted, as it was fed from a sick cow, one because it did not come under observation till just before its death, and the other, the child of a sick mother, was sick from birth. So good results deserve study. These children were all fed on undiluted cow's milk, to which was added salt, and sometimes an alkaline bicarbonate.

Is it possible to reconcile these results with the commonly received opinion, that the milk should be diluted in the early months; and is it proper, for those of us who practice in cities, to follow the same course that has been so successful in the country?

Starting from the universally accepted fact that no food is better than the human milk, it seems rational to make a copy of it for artificial feeding, and although different analyses of the various milks vary, yet the casein and the solids of the cow's milk are always, I believe, in greater proportion than the casein and the solids of human milk. Hence the dilution. Clinically, dilution sometimes stops a child's diarrhoea. In this connection it is worth noting that some adults when well, and many when sick, cannot bear clear cow's milk, but digest it perfectly well when diluted with one quarter or one third lime water. Unfortunately I am not in possession of facts showing how far this is due to the alkali and how far to dilution. On the other hand, Dr. Lynde's cases are interesting, as showing that where the milk is too much diluted, a diarrhoea may follow that can be relieved by the use of a stronger milk. The same statement was made at a meeting of the Society for Medical Observation of this city a few years ago by a gentleman who had had large opportunities for studying children. That the different analyses of the different milks vary, would also lead to the conclusion that there can be no universal rule of dilution.

Dr. Lynde has probably reached the same end by changing his cow when there is too much casein. He states that he changed the cow if necessary. This course is not open to us of the cities, as the milk of the different respectable milkmen probably differs less than that of different cows, owing to its being mixed so as to give an average result. This, I think, a distinction of great importance, but it is not the only distinction.

If it be true, as will probably be granted, that different babies differ in their capacity, as well as different cows in the quality of their milk, there will, I think, be found a broad difference between the children of farmers and country people accustomed to physical outdoor work, and the children of those city people whose work is mostly mental and indoors. There is certainly a difference in the digesting capacity of the parents. Now these indoor mental workers form a large part of the better class of a city practice. To the poorer class different considerations apply.

With the same child we should expect a little poorer food to do better in the country than a little better food in the city during the summer, the time of diarrhoeal diseases. The days may be equally hot, but the isolated wooden houses cool off at night much faster than the brick blocks surrounded by pavements, and there is probably a difference in the quality of the air owing to decomposition of organic matter. I learned from an

undertaker that a dead body in the suburbs a few miles inland from Boston, keeps much better than in the city during the summer, but not in the winter.

Dr. Lynde's cases were in the best possible circumstances, in that being in the country, and children of people accustomed to open air exercise, he paid attention to all those little matters of detail, which, as well as the food, help to secure the result; and here is a difference, I am sure, between a New England country practice and one among the poorest class in the cities, where there is neither room, nor time, nor intelligence, to follow up these details.

I think we may fairly learn from the paper in question to take courage in strengthening the milk when, but *only* when, diluting it does not answer, and in applying the lesson we should never forget that other factors beside food enter into the problem, and we should also recognize that it may make a difference where we practice and on whom.

EDWARD M. BUCKINGHAM.

Boston, August 16, 1882.

### ERGOTINE IN TYPHOID.

THE treatment of typhoid fever by the subcutaneous injection of ergotine, as recommended by Dr. Duboné, continues to be noticed in *Le Journal de Médecine et Chirurgie*. The last case described is of a young woman, three to four months pregnant, in whom the treatment was begun on the eleventh day of the disease, when there was much tympanites, diarrhoea, bronchitis, and dyspnoea, and when continuous delirium had given place to semi-coma. The morning temperature was 104° F. Ten centigrammes of ergotine were injected daily for six days. The first injection was followed by a copious general papular eruption of the size of a millet seed. The temperature fell to 101.5° F., and did not again rise above 103° F. The other symptoms underwent corresponding amelioration, and the temperature became normal on the seventeenth day of the disease.

Four days after the discontinuance of the ergotine the patient aborted, without any unfavorable symptoms. The fact that the abortion in this case took place so long after the omission of the ergotine, and the history of another case in which one and a half to two grammes of ergot were administered daily for two weeks to a pregnant woman without causing miscarriage, seem to confirm the harmlessness of this drug to persons who are pregnant.

### THE NEW CITY HOSPITAL AT WORCESTER, MASSACHUSETTS.

MR. EDITOR, — A stranger passing by the new City Hospital at Worcester would be sure to have his attention arrested by its handsome buildings, their pleasant surroundings, and favorable location. They stand in the middle of an oblong three-acre lot; on their right, or towards the east, is a beautiful lawn; on their left, or westwards, is a grove of tall trees, the cool shade of which is much enjoyed by convalescents in warm weather. The situation could not have been better chosen, even if it had been left to a committee of physicians. It is on high and dry ground, in an



airy and healthful locality, three quarters of a mile nearly due west from City Hall, affording an extensive view of the city and surrounding country. A generous citizen of Worcester, descended from the Huguenots, George Jacques by name, gave this site for a hospital in 1872, and at his death, soon after, he bequeathed to the hospital nearly all of his property, valued at upwards of \$200,000, the interest of which was to be, and is, used for its support.

The hospital was started in 1871, but it has never had suitable buildings until the present were erected in 1881. They were finished and ready for occupancy in December, 1881, and the patients were safely removed to them from the former hospital under the direction of the present careful superintendent and resident physician, Dr. Charles A. Peabody. The hospital consists of five buildings: the administration or main building, kitchen, two separate wards, and at a short distance from these buildings, but not connected with them, stands the laundry in a wooden building. The walls of the buildings are of brick laid in red mortar; their roofs are covered with slate; their interior is plainly finished with lath and plaster and natural wood; the doors and windows being of ash and the floors of hard pine, all presenting a very neat and clean appearance, both inside and out. The administration building faces the north, and fronts on Hospital Street. Parallel to the rear of this building runs the corridor (ten feet wide), which connects all parts of the hospital proper. Immediately behind the main building is the kitchen, and at a distance of thirty-five feet from each side of this, and also projecting southwards, are the wards, — one for males, the other for females. Hence, it will be seen that the wards have the sun all day long when it shines, and that they are protected on the north by the corridor.

To say that the main building covers a space of fifty-three feet by fifty feet, and is two stories high, does not by any means convey an adequate idea of it. It rests on a high foundation of brown sandstone; its steep roof, of irregular shape, is surmounted by a tower eighty feet high; its trimmings are of Ohio sandstone, which, on account of its yellowish gray color, forms a pleasing contrast with the walls and foundation; its entrance, fifteen feet from the street, is a stately porch supported by granite pillars, and is reached by a double flight of granite steps. Altogether, this building presents an imposing appearance, and for architectural beauty it may truly be said to be unsurpassed by that of any other hospital building in the United States. Entering this building from the front door, we find ourselves in a spacious hall which extends through its middle to the corridor; on our right are the reception room, trustees' room, and apothecary shop; on the left are the superintendent's offices, stairway, lavatory, and store-room for linen, all high studded. The operating room is spoken of as part of the main building, but perhaps it would be more correct to say that it adjoins this building, projecting eastwards from it in an oval form, and at its adjoining or western end, it opens into the etherizing room. The operating room is provided with a glass case of surgical instruments, and has all modern conveniences in the way of light, heat, ventilation, and drainage. The door for the reception of patients is on the south side of the corridor, nearly opposite the operating room. The rooms of the second story of the main building are occupied by the superintendent and family, whose comfort has not

been forgotten in the construction of the hospital. The rooms pertaining to the wards — nurses' rooms, ward-kitchen, linen closets, and bath-rooms, — are situated between the corridor and the wards proper; and directly over these rooms are, at the end of each ward, five private rooms for paying patients, this part being two stories high, while the wards are but one story in height. Each ward is ninety-six feet in length and twenty-seven feet in width, and the ceiling is fourteen feet from the floor. This affords abundance of room for fifteen patients in each ward, so that the hospital can accommodate forty patients in all. The general plan of the wards is based upon that of the one-story buildings of the Boston City Hospital.

The heating of the hospital is by steam; in the halls and corridors by direct radiation, and in the wards by indirect radiation. In the main building there are open fire-places. In the wards the radiators are placed beneath the floor under the middle of the ward, air being supplied to them through galvanized iron conductors extending from the basement windows. Between the windows of the wards ventilating flues are constructed in the wall, opening near the floor and communicating with the ventilating chambers above the wards, which open into the outer air. Each of these flues is warmed by steam pipes, whereby a constant current is insured, whenever the steam is on. Near the ceilings are other flues, and in the ceilings direct openings into the ventilating chambers, which are used in warm weather.

The experience of the first month in the hospital showed the necessity of some means for insuring the draught of the ventilating flues and the readiness with which this could be accomplished. The flues being in the cold outer wall, and without the means of being heated, gave a downward draught or none at all, instead of an upward draught as was expected. The wards were practically unventilated, and soon became foul. This was remedied, at the suggestion of Dr. Peabody, by running a steam pipe up into each flue from the bottom. Since then the ventilation has been excellent and the air remarkably good. The ventilating chambers on the top of the wards are abundantly large for a person to walk in, and their projecting, artistic roofs add to the pleasing appearance of the buildings in general.

Owing to the elevated situation of the hospital it is thoroughly drained. The drainage is by iron pipes into catch-basins out-of-doors, which are connected by under-ground earthen pipes with the street sewer. The soil pipes all have ventilation pipes running to the tops of the roofs. The hospital is supplied with speaking tubes, telephone, electric bells, and electric appliances for lighting the gas, besides other conveniences for saving labor and easing one's temper, too numerous to mention. The influence of the hospital and its surroundings is manifest in the looks of cheerful resignation and hopefulness that light up the countenances of all the patients, even the most severe cases. Already the wards are sometimes full, so that patients have to be put in the corridor. An extension is being built at the western end of the corridor, to be used as a ward for patients who require to be isolated.

The total expense of what has already been finished has cost the city of Worcester \$70,000, and one cannot but think that this is a very moderate expenditure to have accomplished so much, considering that the

expense of grading and excavating has been great. No work of this kind could have been done so well without much thought, study, and consultation, and in this the trustees have been greatly aided, not only by the co-operation of their own staff of visiting physicians and surgeons, but also by the advice of officers of similar institutions both in Worcester and Boston.

When considering plans for the construction of the hospital the late superintendent, Dr. J. Bartlett Rich, and the present superintendent, Dr. Charles A. Peabody, visited the Boston City Hospital and the Massachusetts General Hospital, and gleaned much valuable information, and it is to the indefatigable energy of these two gentlemen in putting this information into use that the excellence of the Worcester City Hospital is mainly due. So much time and labor did Dr. Rich devote to planning, advising, and superintending the details of the building of the hospital, that when he resigned the office of superintendent to enter into private practice, on the first of December last, the trustees unanimously passed him a hearty vote of thanks, together with a solid appreciation of his services in the form of extra compensation.

Very truly yours,

DOUGLAS GRAHAM, M. D.

BOSTON, August 17.

#### UNITY OF POISON IN SCARLET, TYPHOID, PUERPERAL, AND OTHER INFECTIOUS FEVERS.

AN article by Dr. Griffith, in the *Glasgow Medical Journal* for August, presents quite forcibly the doctrine of the unity of poison in scarlet, typhoid, puerperal and other infectious fevers. These so-called different diseases being, according to the author's view, only differentiated products of evolution from one common morbid seed. Beginning with a reference to Dr. Playfair's case of puerperal fever at Bagshot Park, where a defective condition of the drains was found, and where the different inmates of the house had been suffering for some time with "various forms of indisposition, such as sore throat, diarrhoea, a general sense of malaise, etc.," he goes on to cite other cases, which at least are very suggestive. Among those which might be taken as illustrative of a differentiation of symptoms in the same individual is the following:—

"A lad, aged sixteen, was admitted into the Queen's Hospital, Birmingham, on January 30th, suffering from acute rheumatism. Had previously been healthy. There were no complications, cardiac or otherwise. On the third day after admission pleurisy supervened on the right side, and two days later on the left side also, and the patient gradually lapsed into a well-marked typhoid state. On February 15th, for the first time, a soft systolic murmur was heard over the præcordia, which could not be precisely localized. Five days later he became comatose, and died. The post-mortem examination showed double pleurisy, small metastatic abscesses (embolic?) in both lungs, and several infarcts in both kidneys; an enlarged softened spleen, and perforated ulceration of the tricuspid valve."

An interesting instance of a variety of groups of symptoms or "diseases" resulting in different individuals from the same apparent cause is the following:—

"In one orphanage to which I was called some

time since, a girl sickened; she complained of sore throat, and was a little feverish. She got well; there was nothing of a so-called specific character. While she was getting well another girl fell ill of unmistakable scarlatina; the first began again to complain; scarlatina declared itself without a doubt. Another child was taken ill with diphtheria in combination with scarlatina; others had simply sore throat, or the same with general malaise, or the malaise without the throat affection, or some bowel irritation. All recovered but one, the last taken ill, and she had fully declared typhoid. She was sent to the hospital, where the diagnosis—typhoid—was confirmed. The children and attendants who were taken ill became so either simultaneously or within a few days of each other, though to every possible means of isolation and disinfection recourse was had. Investigation showed leaky water-closet pipe through the wall of the house, the children having been in no way exposed to any of the affections which demonstrated themselves in their midst."

#### OVULATION AND MENSTRUATION.

MR. EDITOR,—Mrs. D. was married four years ago last January, since which time she avers that she has had no sign of menstruation. She miscarried at seven months during the first year of connubial life; has had two living children since,—one two years, and the other one year old at present,—and is again *en route*, being about six months along. She is a woman of the upper classes, and her word may be positively depended on.

A. W. PARSONS.

#### HYPERPYREXIA IN ACUTE RHEUMATISM.

DR. ROBERT SINCLAIR, in the *Edinburgh Medical Journal*, reports a case of hyperpyrexia in acute rheumatism, ushered in by cessation of pain and of sweating, and by delirium and cyanosis, but without any pulmonary or cardiac complications. The temperature speedily ran up to 107.4° F. The patient was placed in a full bath at the temperature of 90° F., cooled rapidly down to 60° F. This at first caused alarming symptoms, but being persisted in for thirty minutes brought the temperature of the patient down to normal. The secondary rise was not extreme, and the subsequent progress of the case was good.

#### THE EPIDERMIC METHOD OF ADMINISTERING MEDICINES.

THE epidemic method is advocated by a recent Canadian writer for a wider range of drugs than those usually so administered. He claims that with a perfect solvent, especially if it be of a stimulating nature like alcohol, a marked physiological effect with very considerable precision of dose can be obtained. The palms of the hands are the parts most favorable and convenient for absorption, and quinia in double the doses required by the mouth is claimed by the writer to have an equal effect. If this method is to be depended upon, the advantages in the case of children and others with irritable stomachs are obvious.

## REPORTED MORTALITY FOR THE WEEK ENDING AUGUST 19, 1882.

| Cities.                         | Population by Census of 1880. | Reported Deaths in each. | Deaths under Five Years. | Percentage of Deaths from         |                |                     |                |                       |
|---------------------------------|-------------------------------|--------------------------|--------------------------|-----------------------------------|----------------|---------------------|----------------|-----------------------|
|                                 |                               |                          |                          | The Principal "Zymotic" Diseases. | Lung Diseases. | Diarrheal Diseases. | Typhoid Fever. | Diphtheria and Croup. |
| New York.....                   | 1,206,590                     | 754                      | 407                      | 33.42                             | 3.82           | 23.87               | 1.49           | 1.59                  |
| Philadelphia.....               | 846,984                       | 439                      | 208                      | 7.52                              | 2.28           | —                   | 1.49           | 2.74                  |
| Brooklyn.....                   | 566,689                       | 363                      | 200                      | —                                 | —              | —                   | —              | —                     |
| Chicago.....                    | 503,304                       | 440                      | 210                      | 34.05                             | 7.49           | 26.45               | 2.04           | 2.04                  |
| Boston.....                     | 362,535                       | 208                      | 96                       | 41.76                             | 1.92           | 33.60               | .48            | 1.92                  |
| St. Louis.....                  | 350,522                       | —                        | —                        | —                                 | —              | —                   | —              | —                     |
| Baltimore.....                  | 332,190                       | 183                      | 85                       | 30.58                             | 3.28           | 12.56               | 1.82           | 5.46                  |
| Cincinnati.....                 | 255,708                       | 119                      | 55                       | 32.76                             | 5.04           | 15.12               | 4.10           | 3.36                  |
| New Orleans.....                | 216,140                       | 104                      | 24                       | —                                 | —              | —                   | —              | —                     |
| District of Columbia.....       | 177,638                       | 74                       | 27                       | 29.70                             | 4.05           | 18.90               | 8.10           | —                     |
| Pittsburgh.....                 | 156,381                       | 96                       | 55                       | 42.68                             | 1.04           | 23.94               | 10.41          | 2.08                  |
| Buffalo.....                    | 155,137                       | 96                       | 61                       | 51.01                             | 5.21           | 45.70               | 3.02           | —                     |
| Milwaukee.....                  | 115,578                       | 78                       | 56                       | 35.90                             | 11.54          | 30.77               | —              | —                     |
| Providence.....                 | 104,857                       | 45                       | 19                       | 37.74                             | —              | 37.74               | —              | —                     |
| New Haven.....                  | 62,882                        | 41                       | 20                       | 36.58                             | —              | 24.39               | 4.88           | —                     |
| Charleston.....                 | 49,999                        | 39                       | 10                       | 17.95                             | 2.56           | 10.26               | —              | —                     |
| Nashville.....                  | 43,461                        | 18                       | 7                        | 50.00                             | —              | 11.11               | —              | —                     |
| Lowell.....                     | 59,485                        | 36                       | 20                       | 41.66                             | —              | 41.66               | —              | —                     |
| Worcester.....                  | 58,295                        | 26                       | 10                       | 50.00                             | —              | 34.31               | 7.69           | 3.85                  |
| Cambridge.....                  | 52,740                        | 34                       | 20                       | 35.28                             | 8.82           | 32.34               | —              | 2.94                  |
| Fall River.....                 | 49,006                        | 42                       | 21                       | 49.98                             | —              | 38.08               | 4.76           | —                     |
| Lawrence.....                   | 39,178                        | 24                       | 9                        | 33.26                             | —              | 53.26               | —              | —                     |
| Lynn.....                       | 38,284                        | 34                       | 16                       | 44.10                             | 2.94           | 38.22               | 7.88           | —                     |
| Springfield.....                | 33,340                        | 13                       | 7                        | —                                 | —              | —                   | —              | —                     |
| Salem.....                      | 27,598                        | 26                       | 5                        | 3.85                              | —              | 3.85                | —              | —                     |
| New Bedford.....                | 26,875                        | 18                       | 13                       | 66.66                             | —              | 61.06               | —              | —                     |
| Somerville.....                 | 24,983                        | 8                        | 2                        | —                                 | —              | —                   | —              | —                     |
| Holyoke.....                    | 21,851                        | 17                       | 9                        | 53.00                             | 5.88           | 29.44               | 17.64          | —                     |
| Chelsea.....                    | 21,785                        | 9                        | 4                        | 11.11                             | —              | —                   | —              | —                     |
| Taunton.....                    | 21,213                        | 10                       | 5                        | 30.00                             | —              | —                   | —              | 10.00                 |
| Glooucester.....                | 19,329                        | 2                        | 2                        | —                                 | —              | —                   | —              | —                     |
| Haverhill.....                  | 18,475                        | 19                       | 11                       | 63.18                             | 5.26           | 46.37               | —              | 10.53                 |
| Newton.....                     | 16,995                        | —                        | —                        | —                                 | —              | —                   | —              | —                     |
| Brookton.....                   | 13,608                        | 12                       | 7                        | 76.00                             | —              | 44.33               | —              | —                     |
| Newburyport.....                | 13,537                        | 7                        | 2                        | 28.56                             | —              | 28.56               | —              | —                     |
| Fitchburg.....                  | 12,405                        | 5                        | 4                        | —                                 | —              | —                   | —              | —                     |
| Malden.....                     | 12,017                        | 8                        | 3                        | 25.00                             | —              | 12.50               | —              | —                     |
| Twenty Massachusetts towns..... | 154,019                       | 76                       | 48                       | 84.19                             | 6.58           | 24.99               | 3.95           | 5.26                  |

Deaths reported 3523 (no reports from St. Louis): under five years of age 1658; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and fevers) 1194, consumption 306, lung diseases 103, diarrheal diseases 738, typhoid fever 76, diphtheria and croup 66, whooping-cough 38, malarial fever 28, scarlet fever 27, cerebro-spinal meningitis 20, measles 19, small-pox 18, puerperal fever 10, erysipelas eight, typhus fever one. From whooping-cough, New York 16, Pittsburgh four, Philadelphia and Boston three each, New Haven and Charleston two each, Chicago, Baltimore, Cincinnati, Milwaukee, Holyoke, Chelsea, Taunton, and Malden one each. From malarial fever, New York 19, Baltimore, District of Columbia, and Nashville two each, Chicago, New Haven, and Charleston one each. From scarlet fever, New York nine, Philadelphia six, Cincinnati three, Chicago, Boston, and Buffalo two each, Pittsburgh one. From cerebro-spinal meningitis, New York five, Chicago and Milwaukee three each, Philadelphia and Fall River two each, Cincinnati, Worcester, New Bedford, and Taunton one each. From measles, New York seven, Nashville, Baltimore 10, Cincinnati five, Philadelphia two, Chicago one. From puerperal fever, Boston four, Chicago three, New York, Cincinnati and Fall River one each. From erysipelas, New York three, Brockton two, Philadelphia, Baltimore, and Cincinnati one each. From typhus fever, New York one.

Fifty-two cases of small-pox were reported in Baltimore, Cincinnati 19; diphtheria 17, typhoid fever 15, scarlet fever 12 in Boston; scarlet fever 10, and diphtheria one, in Milwaukee.

In 40 cities and towns of Massachusetts, with a population of 1,080,560 (population of the State 1,783,086), the total death rate

for the week was 30.31, against 33.34 and 30.73 for the previous two weeks.

For the week ending July 29th, in 173 German cities and towns, with an estimated population of 8,546,457, the death-rate was 29.8. Deaths reported 4896: under five 3100; diarrheal diseases 503, consumption 469, lung diseases 301, diphtheria and croup 139, scarlet fever 101, typhoid fever 61, whooping-cough 52, measles and röteln 46, puerperal fever seven, small-pox (Cologne two, Danzig one) three, typhus fever (Posen one) one. The death-rates ranged from 49.5 in Königsberg to 12.6 in Bremen; Breslau 43.2; Munich 23.8; Dresden 29.8; Berlin 38.7; Leipzig 21.7; Hamburg 26.4; Cologne 36.5; Frankfurt a. M. 18.9; Strassburg 23.3.

In the 28 English towns, with an estimated population of 8,469,571, for the week ending August 5th, the death-rate was 20.1. Deaths reported 3167: acute diseases of the respiratory organs (London) 193, diarrheal 390, scarlet fever 86, whooping-cough 78, measles 74, fever 50, diphtheria 16, small-pox (London five) six. The death-rates ranged from 10.6 in Derby to 30.8 in Manchester; London 18.4; Wolverhampton 18.4; Bradford 19.2; Sheffield 22.6; Nottingham 23.7; Newcastle-Tyne 24; Liverpool 25.1. In Edinburgh 18.6; Glasgow 24.3; Dublin 22.9.

For the week ending August 5th, in the Swiss towns, population 494,390, there were 35 deaths from diarrheal diseases, consumption 26, acute diseases of the respiratory organs 14, diphtheria and croup six, typhoid fever five, scarlet fever two, erysipelas two, measles one. The death-rates were, at Geneva 12.4; Zurich 16.5; Basle 19.6; Berne 18.4.

The meteorological record for the week ending August 19th in Boston, was as follows, according to observations furnished by Sergt. O. B. Cole, of the U. S. Signal Corps:—

| Date.            |    | Barom-eter. |    | Thermom-eter. |    | Relative Humidity. |    |          |    | Direction of Wind. |    |            | Velocity of Wind. |             |    | State of Weather. <sup>1</sup> |   |            | Rainfall. |            |   |             |      |                       |     |                   |   |
|------------------|----|-------------|----|---------------|----|--------------------|----|----------|----|--------------------|----|------------|-------------------|-------------|----|--------------------------------|---|------------|-----------|------------|---|-------------|------|-----------------------|-----|-------------------|---|
|                  |    | Daily Mean. |    | Daily Mean.   |    | Maximum.           |    | Minimum. |    | 7.23 A. M.         |    | 3.23 P. M. |                   | 11.23 P. M. |    | Daily Mean.                    |   | 7.23 A. M. |           | 3.23 P. M. |   | 11.23 P. M. |      | Duration, Hrs. & Min. |     | Amount in inches. |   |
| August, 1882.    |    |             |    |               |    |                    |    |          |    |                    |    |            |                   |             |    |                                |   |            |           |            |   |             |      |                       |     |                   |   |
| Sun.,            | 13 | 29.956      | 70 | 81            | 65 | 78                 | 45 | 51       | 58 | W                  | E  | NE         | 8                 | 12          | 4  | C                              | F | C          | —         | —          | — | —           | —    | —                     | —   | —                 | — |
| Mon.,            | 14 | 30.028      | 69 | 81            | 52 | 64                 | 57 | 68       | 63 | NW                 | SE | SW         | 1                 | 8           | 11 | C                              | C | C          | —         | —          | — | —           | —    | —                     | —   | —                 | — |
| Tues.,           | 15 | 30.007      | 78 | 91            | 62 | 82                 | 27 | 76       | 62 | SW                 | SW | SW         | 12                | 16          | 10 | C                              | C | C          | —         | —          | — | —           | —    | —                     | —   | —                 | — |
| Wed.,            | 16 | 29.924      | 69 | 76            | 65 | 92                 | 93 | 100      | 95 | S                  | E  | W          | 6                 | 11          | 4  | O                              | O | O          | —         | —          | — | —           | —    | —                     | —   | —                 | — |
| Thurs.,          | 17 | 29.741      | 78 | 90            | 67 | 84                 | 40 | 73       | 66 | W                  | W  | W          | 11                | 12          | 4  | C                              | F | C          | —         | —          | — | —           | —    | —                     | —   | —                 | — |
| Fri.,            | 18 | 29.942      | 66 | 76            | 59 | 58                 | 33 | 62       | 51 | NW                 | NW | NW         | 16                | 7           | 12 | O                              | C | C          | —         | —          | — | —           | —    | —                     | —   | —                 | — |
| Sat.,            | 19 | 30.132      | 62 | 73            | 51 | 59                 | 30 | 60       | 50 | NW                 | NW | NW         | 13                | 9           | 6  | C                              | F | C          | —         | —          | — | —           | —    | —                     | —   | —                 | — |
| Means, the week. |    | 29.961      | 70 | 90            | 51 |                    |    |          | 64 |                    |    |            |                   |             |    |                                |   |            |           |            |   |             | 2.08 |                       | .43 |                   |   |

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; X., clearing.

### OBITUARY.

DIED, at Peabody, Mass., July 26, 1882, of inflammation of the brain, Dr. Daniel M. Elliot, aged thirty-nine years, eight months, sixteen days.

Dr. Elliot graduated at the Harvard Medical School in 1869, was settled in practice for a short time at Littleton, and subsequently for a longer period at South Deerfield, Mass. In 1877 he established himself in Peabody, and in a very short time acquired the confidence of the people, and has had a large and successful, though laborious practice, which was continued until within three weeks of his demise. His death will be greatly regretted by a large circle of his late patients and friends, as well as by his brother practitioners, whom he always treated with marked fairness and courtesy. G. S. O.

### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM AUGUST 19, 1882, TO AUGUST 25, 1882.

MURRAY, ROBERT, colonel and surgeon. Relieved from duty as medical director, Military Division of the Missouri, and to report in person to the commanding general, Military Division of the Atlantic and Department of the East, for duty as medical director of that division and department. S. O. 191, A. G. O., August 18, 1882.

BILLINGS, JOHN S., major and surgeon. By direction of the President relieved from duty as a member of the National Board of Health. S. O. 193, A. G. O., August 17, 1882.

SAVIET, CHARLES, major and surgeon. By direction of the President detailed as a member of the National Board of Health, organized under Act approved March 3, 1879, *vice* Major Billings, surgeon, relieved. S. O. 190, C. S., A. G. O.

BYRNE, CHARLES B., captain and assistant surgeon. The leave of absence granted him in S. O. 65, July 12, 1882, Department of the South, is extended two months. S. O. 189, A. G. O., August 16, 1882.

SPENCER, WILLIAM G., captain and assistant surgeon. The leave of absence granted him in S. O. 80, April 7, 1882, from A. G. O., is extended two months. S. O. 191, C. S., A. G. O.

MCCALLA, C. N. B., first lieutenant and assistant surgeon. To report in person to the commanding general, Department of the East, for assignment to temporary duty. S. O. 192, A. G. O., August 19, 1882.

GYNACOLOGICAL SOCIETY OF BOSTON. — The next regular meeting will be held at the Medical Library Rooms, on the first Thursday of September, at eleven o'clock A. M.

HENRY M. FIELD, M. D., Secretary.

AMERICAN ACADEMY OF MEDICINE. — At a recent meeting of the Council of the American Academy of Medicine the annual meeting of the Academy was postponed until Thursday, October 26th, when it will take place at Philadelphia, at the time of the Bicentennial Celebration in that city.

BOOKS AND PAMPHLETS RECEIVED. — Proceedings of the Connecticut Medical Society, 1882. Ninety-First Annual Convention, held at New Haven, May 24th and 25th. New Series. Vol. II. No. 3. Published by the Society, C. W. Chamberlain, M. D., Secretary, Hartford, Conn. 1882.

The Practice of Gynecology in Ancient Times. By Edward W. Jenks, M. D., LL. D. (Reprint.)

The Change of Life in Health and Disease. A Clinical Treatise on the Diseases of the Ganglionic Nervous System incidental to Women at the Decline of Life. By Edward John Tilt, M. D. Philadelphia: P. Blakiston, Son & Co. 1882.

Transactions of the Michigan State Medical Society for the Year 1882.

Diphtheritic Ulceration of the Air-Passages and its Relation to Pulmonary Phthisis. By John D. Mackenzie, M. D., of Baltimore. (Reprint from the Transactions of the Medical and Chirurgical Faculty of the State of Maryland.)

Class Work of the Pupils of the Illinois Asylum for Feeble-Minded Children for the School Year ending June 30, 1882, together with the Commencement Exercises held in the Chapel of the Asylum, June 22, 1882.

Practical Medical Anatomy. A Guide to the Physician in the Study of the Relations of the Viscera to each other in Health and Disease, and in the Diagnosis of the Medical and Surgical Conditions of the Anatomical Structures of the Head and Trunk. By Ambrose L. Ranney, M. D. New York: William Wood & Co. 1882. Wood's Library of Standard Medical Authors.

The Efficient Dosage of Certain Remedies used in the Treatment of Nervous Diseases. By E. C. Seguin, M. D., New York. (Reprint.)

Medical Department of the University of Georgetown, D. C. Announcement of the Thirty-Third Medical Session. 1882-1883.

Transactions of the Medical Society of the State of West Virginia, Fourteenth and Fifteenth Annual Sessions. 1881-1882.

Transactions of the Medical and Chirurgical Faculty of the State of Maryland. Eighty-Fourth Annual Session. Baltimore, April, 1882.

La lithotritie doit être faite sans Traumatisme. Par le Dr. Requet, Paris. (Reprint.)

Notes on Contagious Diseases of the Eyes in Schools and Asylums. By Cornelius R. Agnew, A. M., M. D., New York. (Reprint.)

Tonsillotomy and its Complication by Hemorrhage. By Dr. N. A. Powell. (Reprint.)

On the Precautions Necessary to Prevent the Diffusion of Hydrophobia. By Thomas M. Dolan, L. R. C. P., F. R. C. S., etc. (Reprint.)

Ueber das Anlegen von Verhänden Nach Hüftgelenkresectionen. Von Dr. L. von Lesser, Leipzig. (Reprint.)

Fifth Anniversary of the United States Medical College in the City of New York. Session 1882-1883.

Forty-Second Annual Announcement and Catalogue of the Missouri Medical College, 1882-1883. St. Louis.

Circulars of Information of the Bureau of Education, No. 2, 1882. Proceedings of the Department of Superintendence of the National Educational Association at its Meeting at Washington, March 21-23, 1882.

## Lectures.

CLINICAL LECTURE.<sup>1</sup>

DELIVERED AT BELLEVUE HOSPITAL, NEW YORK.

BY AUSTIN FLINT, M. D.,

*Professor of the Principles and Practice of Medicine, and Clinical Medicine, in Bellevue Hospital Medical College.*

GENTLEMEN,—You will remember that in my lecture on Bright's disease last week I presented one patient who was passing an unusually large amount of urine. After the lecture I learned that this was due to a great extent to the diuretic remedies that he was taking, although without the aid of these the quantity was very considerable. You will thus see that a different treatment has been pursued here from that which was adopted by the physician whom I met in consultation in a case of Bright's disease, and who, you will remember, had actually been endeavoring to diminish the quantity of urine which his patient was passing.

To-day I will show you first a case of tuberculous laryngitis by way of contrast to the one of syphilitic laryngitis which I had the pleasure of recently presenting before the class. Afterward I have a case of advanced phthisis to bring before you, in which the physical signs of cavity and solidification of the lung can be studied with great advantage, and finally, I will introduce a patient suffering from abdominal dropsy dependent upon cirrhosis of the liver, upon whom the operation of paracentesis will be performed in your presence.

## TUBERCULOUS LARYNGITIS.

Here, then, is our first patient. When, in reply to my questions, he tells me that he lost his voice about two months since, and that this occurred not suddenly, but gradually, you perceive at once that he has aphonia, and you notice that the attempt to speak is attended with a visible effort. The latter point distinguishes it from paralytic aphonia, in which there is no effort in speaking, and the fact that the trouble has come on gradually distinguishes it from nervous aphonia, in which the voice is often lost quite suddenly, and as suddenly recovered. The aphonia here, however, has the same general characteristics as that due to syphilis, which you saw in the other patient. The diagnosis between the two affections is to be made from the past history and the concomitant features of the case. In the former patient there was a distinct history of syphilis, while repeated examinations of the chest failed to detect any disease in the lungs. In the present case, on the other hand, there is well-marked tuberculous disease of the lungs, and the past history shows that the pulmonary trouble commenced before that in the larynx. Long ago the precedence, in point of time, of the tuberculous deposit in the larynx was established as the rule, although this sequence has recently been doubted in certain quarters. Personally I believe that, with possibly a very rare exception, this is always the case, and it may be that in some instances where the larynx appears to be affected first the tuberculous deposit in the lungs is so small that it may altogether escape detection until after the laryngeal affection has been recognized. In this patient there is no difficulty whatever in determining the presence of disease in the lungs, and also the fact that it

has existed for a considerable time, while the trouble in the larynx, as you have heard, is quite recent. A glance at this man's pallid and emaciated face shows that he is suffering from some grave, wasting disease, and an examination of the chest at once reveals dullness on percussion, feeble respiratory murmur, and more or less broncho-vesicular respiration at the summit of the right lung. In this case at least the pulmonary disease preceded the laryngeal. The young man has had a cough for over six months, and says he has emaciated for more than three months, while it is only two months since the loss of voice, which has gradually become complete, commenced.

In regard to tuberculous laryngitis, there is one point of practical importance to which I will call your attention before dismissing the patient. It is this, that the laryngitis, unless it should interfere with alimentation, does not render the prognosis of the pulmonary tuberculosis more unfavorable than if it were not present, so that, as a rule, the patient stands just as good a chance of recovery, or of the disease being held in abeyance, whether this complication is present or not. I have arrived at this conclusion after quite an extensive experience, and therefore I give it to you with considerable confidence.

## ADVANCED PHTHISIS WITH WELL-MARKED PHYSICAL SIGNS.

Our next patient is a female, well on in life, who is suffering from advanced phthisis, there being a cavity at the summit of the left lung, and around this the evidences of solidification. I will not take up your time by reading the history of the case, which would offer but little of interest, but I propose at once to describe the physical signs, which are characteristic of the condition mentioned, and which are remarkably well shown here. The patient is rather feeble, but though now in bed she is not confined to the bed all the time, but sits up a portion of every day.

If you direct your eyes to the chest from above downward, and compare the two sides, you will find it very evident that there is a shrinkage of the lung on the left side, and a corresponding sinking in of the chest wall. When the patient makes forced respiration you perceive that the left side is comparatively motionless. We have thus the evidence of diminished volume and diminished expansion of the left lung at the apex. From the lack of mobility we may also infer the existence of old pleuritic adhesions. So much for inspection. When we practice percussion at a certain part of the left apex, which I now indicate, we get amphoric tympanitis, and on auscultation at this spot there is found to be cavernous respiration. Just below this point we get well-marked bronchial respiration, and it will therefore, perhaps, be well for me to enumerate the characters which distinguish these two signs. In studying physical diagnosis I may remark, in passing, it is very important that the learner should first get a clear and definite appreciation of the different signs before he attempts to verify them in the subject. It was a no less distinguished diagnostician than Skoda who declared that there was no appreciable difference between cavernous and bronchial respiration, and to this day all the German authorities adhere to the same opinion. I hardly know how to account for the latter fact unless it is that their reverence for the weight of authority forbids them to dispute such a dictum. Notwithstanding this, however, it is certainly

<sup>1</sup> Specially reported for the JOURNAL.

true that there are no two signs in the whole range of physical diagnosis that are more readily distinguishable than these, and if our brethren on the other side of the Atlantic had been a little more willing to learn from American teachers, they would not have remained in error so long on this point. What, then, are the special characteristics of these two signs? In cavernous respiration inspiration is blowing and low in pitch, while expiration has the same quality with a still lower pitch. Sometimes there is a slight musical intonation, and this, when present, is another characteristic point. In bronchial respiration, on the other hand, both the inspiratory and expiratory sounds have a quality which the word *tubular* distinctly defines, and both are high in pitch. If there is any difference in pitch the latter is higher than the former.

Now as to the vocal sounds. When there is a cavity there is intense vocal resonance; but, with the exception of the intensity, the sound does not differ from that of normal vocal resonance, its quality being unaltered. When there is solidification, however, we get bronchophony instead of this, and the same is true with the whispered voice. Like the respiratory murmur it is high-pitched and tubular, while cavernous whispering is low-pitched and hollow in tone. In this case we have within a small space the evidences of a cavity, of complete solidification, and of less marked solidification; and the signs of each of these conditions are perfectly clear and distinct. It is always well to remember, however, that cavernous sounds vary somewhat at different times, according to the accumulation of morbid products in the cavity.

#### ASCITES DUE TO CIRRHOSIS OF THE LIVER.

Some of you may remember this patient, who was brought before the class during the winter course. His name is Henry R.; he is fifty years of age, a native of Germany, and a waterman by occupation. He was admitted to the hospital nine months ago. He says he has been in the habit of drinking whiskey, but not daily. In the spring of 1878, or four years ago, he first noticed the enlargement of his abdomen. About the same time he found that his strength was diminishing, while he was often dizzy and short of breath. The bowels were constipated, and a little later there were well-marked symptoms of jaundice. There were no hemorrhages from the stomach or bowels, as is not infrequently the case in cirrhosis of the liver. In April, 1879, he was admitted to the hospital, and all the signs of fluid in the peritoneum were then present. The ascites diminished under treatment, however, and he was discharged. Somewhat later he was readmitted with an increased accumulation of fluid, and on the 7th of August, 1879, he was tapped, when 308 ounces of serum were withdrawn. On November 28, 1879, he was tapped again, and 114 ounces removed. On the 23d of December 88 ounces, and on the 6th of January, 1880, 254 ounces, were withdrawn. Between that date and May 1st he was tapped three times, over 800 ounces being withdrawn. Within six months, it will thus be seen, he was tapped no less than six times. After this he was able to return to his work, and the fluid did not accumulate so rapidly. Such an improvement as this is not infrequently met with, and in some instances the fluid never returns after repeated tapings. The reason probably is that while these tapings are being made from time to time

there is a chance to afford the patient the benefit of change of diet and healthful surroundings. I believe that it is advisable and important to tap whenever the fluid accumulates in sufficiently large quantity to cause the patient suffering or inconvenience.

After the last tapping mentioned, which was in April, 1880, this patient got along very well without any tapping until July, 1881, when he entered the hospital again. Thus, we see that after having been tapped no less than six times in six months he actually went fifteen months without any need of tapping. It is probable that during this latter period he returned to his old habits of intemperance. The record states that it was found that the liver was diminished in size, while the spleen was enlarged. The specific gravity of the urine was 1017, and it contained no albumen. On the 13th of July, 1881, he was tapped again, and 534 ounces of fluid withdrawn. He then went without tapping until October 6th, when 427 ounces were withdrawn. Since then, the date of the last tapping, the fluid has accumulated very slowly, and the patient has been quite comfortable most of the time.

This case is an instructive one, then, since it shows the soundness of tapping as soon as the fluid in the peritoneum has accumulated to a sufficient extent to cause inconvenience in respiration, movements of the body, alimentation, etc. This is in direct opposition to the teaching that has prevailed until very recently, and that is still maintained by many of the highest authorities. It is, however, the practice which I have recommended for the last twenty-five years, and I do not hesitate to say that the more cases I see the more am I impressed with its advantageousness. It is, moreover, a very important practical point as regards the future of the case, because it not only adds materially to the comfort of the patient, but has a direct effect in prolonging life.

We are now ready to go on with the operation of paracentesis, which will be performed by the house-physician; and before the trocar is inserted into the abdominal walls local anesthesia will be produced by means of the convenient ether spray. In connection with this case I may mention another which I remember seeing some time ago, and which presented quite a curious appearance. The patient, having been tapped a number of times, had been thought to be entirely well, as the fluid showed no tendency to return for a long time; but at last it came back, and, curiously enough, occasioned a marked bulging at all the points where the tapings had been previously made.

At the completion of the paracentesis to-day I shall be glad to meet any of the members of the senior class who may desire to come in the wards, where they will have an opportunity of personally verifying the various signs of which I have spoken in connection with the patient suffering from advanced phthisis.

— An irritating antiseptic dressing used in some of the Paris hospitals for superficial wounds as well as for eczema and intertrigo is the following: Finely powdered boracic acid 6, vasoline 30; to this may be added balsam of Peru 0.5. This, though cheaper and more easily made than Lister's ointment of wax, paraffine, oil, and boric acid, is, perhaps, not better than the carbolic cos-moline employed in some of the hospitals in this city.

## Original Articles.

## GLYCOSURIA.

BY OSCAR C. DEWOLF, M. A., M. D.,

Professor of State Medicine and Public Hygiene, Chicago Medical College.

It requires but little reflection, etymologically, to justify a preference for the word glycosuria in naming the disease upon which Aretæus first wrote as diabetes, in ignorance of the saccharine and non-saccharine conditions existing in what are now known to be widely different diseases. Though diabetes mellitus has been used to designate the constant and glycosuria the temporary occurrence of sugar in the urine, the absurdity of any such distinction is too apparent. It is safe to predict that the terms chronic and temporary glycosuria will take the place of the older but inexact names, mellituria, etc. *Zuckerharnruhr* is an expressive German equivalent.

The literature of the subject is in a scattered and generally inconclusive state, though this is not peculiar to articles upon any one disease. The best work accomplished in an investigation of glycosuria is that by the late Claude Bernard.<sup>1</sup> With this physiologist's conclusions (familiar to all as the glycogen and glucose theory) as a *datum plane*, to use an engineering term, thousands of "contributions," good, bad, and useless, have been presented to the medical reader. A glance at the seven pages of bibliography by Senator,<sup>2</sup> and through the pages of the American *Index Medicus*, suffices to discourage any other than the sciolistic student, whose sole object is to appear to know. One of the *Esse Quam Videri* genus would soon learn that the literature of the subject is immensely more voluminous than Senator indicates, and that between compassing it and indulging in original experimentation and investigation an ordinary life-time would not suffice. Doubtless nine tenths of what has been written upon diabetes mellitus is worthless, owing to lack of proper education or surroundings on the part of the writer, or insufficient time to properly analyze cases. The earnest student cannot reform the world, he must take things as they are, and make the best of them. In this endeavor he will be straightway appalled at the polemics indulged in by "authorities," and upon points he imagined were fundamentally established. T. Lauder Branton<sup>3</sup> gives a fair review of this aspect of the mellituria question, with the discussions, denials, and controversies between contemporary and other authors and investigators, such as Rollo, Tiedemann, Gmelin, Ambrosiani, Dumas, Bouchardat, Liebig, Bernard, Bonley, Poggiale, Longet, Pavy, Flint, and others. The labors of the ideal physician are presumed to be largely altruistic, but I cannot avoid the conviction that were some such brilliant individuals as Newton, Descartes, Hunter, Huxley, or Tyndall afflicted with thorough medical education and glycosuria at the same time (providing the latter impaired their minds and usefulness as little as the former), their egoistic efforts might and in all probability would result in something definite in this direction.

In the midst of distracting public duties the subject

of glycosuria has recently occasioned me much concern, and I have attempted its review, the results of which I submit in the shape of conclusions rather than disquisitions and representations of the treatment in textbooks accessible to all; not in the spirit of Tom Hood's "Othieltau cook, who thought no fool was fit to eat till he had chewed it," but rather with the *animus* of Chambers, who recognized the impossibility of treating any disease (scientifically) without having a hypothesis as to its nature, and as to the best means of combating the disorder. Later in the year I hope to be able to communicate to this JOURNAL the result of some clinical observations in the matter of glycosuric treatment.

Chemical text-books and works on the practice of medicine discuss far more fully than could be done in this essay such matters as urine analysis and the relative quantities of fluid and food ingestion and excretion. In fact, so much space in current print is allotted to a consideration of these threadbare points that only this mention will be made as an excuse for omitting further reference to them.

Naturally enough the disease was in ancient times supposed to be seated in the kidneys. Every tyro in medicine now knows that to Claude Bernard we are indebted for the discovery of the connection between glycosuria and a disarrangement of the liver function. That puncture of a portion of the lower floor of the fourth ventricle will produce sugar in the urine is also well known, better known than that diabetes insipidus has also a so-called centre in the medulla, just above the glycosuric point. Still less known is it that lesions of the sympathetic system below the ventricular point may likewise cause mellituria, and that pathological conditions of the vagi may induce phases of the disorder.<sup>4</sup>

Glancing over the various accounts of diabetic etiology, we find that heredity as a predisposing cause, or a factor at all, is debatable. Granting that neuropathic parents have had offspring in whom glycosuria has been developed, the question of heredity then narrows itself to the inquiry whether defects of the nervous organization may not assume different ways of manifestation in offspring just as cachexia does. It is agreed that men are more liable to glycosuria than women, and that it may appear at any age, but until we have more pains-taking statisticians scattered over countries other than those reported from by Griesinger, Seegen, Schmitz, and Dickenson, we may conclude that we have imperfect data from which to make deductions. Trouseau regards corpulence as a predisposing cause, and when we consider the chemical relationship of fat and sugar it is not to be wondered at that retrograde metamorphosis would be as liable to occur as that sugar should form fat by oxidation. Thus obesity might be considered etiological as well as predisposing. Another view would be that starch or glycogen, instead of undergoing transformation into fat directly or indirectly, by some perversion of function became glucose instead. So far as I am aware these probabilities have had no consideration anywhere.

Reviewing the neurological aspect of the disease, there seems to be very much yet to be done in this field. Cyon and Akelof<sup>5</sup> figure the course of the vaso-motor nerves of the liver from the base of the

<sup>1</sup> Claude Bernard, *Mémoires de la Soc. de Biologie*, 1849, vol. i., p. 224, *Nouvelles Fonctions du Foie Considérées comme l'Organe Producteur de Matière Sucrée*, Paris, 1855.

<sup>2</sup> Senator, *Ziemssen's Cyclopædia*, vol. xvi., pp. 854-858.

<sup>3</sup> T. Lauder Branton, *Reynold's System of Medicine*, vol. iii., p. 655, et seq.

<sup>4</sup> Marcus and Wiet, *Le Progrès Médical*, No. 21. *Proc. Soc. Biol.*, May, 1881.

<sup>5</sup> Cyon and Akelof, *Bulletin de l'Acad. de Petersbourg*, vol. vii.

brain downward. This can but be hypothetical. Kronecker,<sup>1</sup> at Leipsic, confines all vaso-motor centres to the floor of the fourth ventricle, but Luys and Jewell<sup>2</sup> suppose that there is a continuous column of such centres for the whole body in the medulla and cord, while Brown-Séquard extends them to cerebellum and brain, and Clevenger<sup>3</sup> agrees with the latter, but goes further in extending them to the entire cerebro-spinal system. Cyon and Aladoff give the glycosuric tract as passing down the spinal cord to some of the communicating branches of the sympathetic, thence through the splanchnic nerves to the liver. Admitting that some such tract undoubtedly exists, the next step is to ascertain how a lesion would operate through it to produce sugar in the liver. The generally accepted view is (from some very notable experiments) that dilatation of the hepatic blood-vessels through vaso-motor paralysis, thus induced, produces engorgement, and that sugar in the urine follows. As to *why* sugar-production follows this interference with liver function much has been written, and doubtless much more will be. Glycosuria has been likewise produced by injuries of the cerebral lobes, cerebellum, optic thalami, and sciatic nerve, according to Schiff, Eckhard, and Pavv, which fact would invalidate the idea of a single tract and the widely noticed ventricular irritation of Bernard as a cause, and account for glucose being somewhat commonly found in the urine of those suffering from any mental or nervous ailment.

Taking these things into consideration, we may well wonder whether the transfer of the disease from the kidneys to the liver as a seat is more than a step toward a clearer, broader view of both the disease and bodily functions in general. Bruntun thinks "we are justified in believing that the sugar which is present in the blood becomes converted by the aid of a ferment in the blood, muscles, and probably lungs, also, into lactic acid and glycerine, and then undergoes combustion, thus sustaining the temperature of the body." Supposing, however, that this ferment is deficient, a greater or less proportion of the sugar will not undergo conversion into acid, and will then remain unconsumed." The temptation to be discursive and polemical at this point is very great, but I prefer to present deductions which I have made while referring to some recent articles bearing more or less directly upon the neurology of the subject.<sup>4</sup> Bernard himself enlarged upon his original views, and in a communication to the Academy of Sciences, January 10, 1876, reported in the *Revue Scientifique*, summarizes the principal points elicited, which seem to have been overlooked by many who have written upon glycosuria. It affords a good résumé of our present knowledge of the subject, and is worth reproducing here:—

<sup>1</sup> Vulpian, *Rev. Scient.*, 1871, No. 35.

<sup>2</sup> *Journal of Nervous and Mental Disease*, vol. i., p. 116.

<sup>3</sup> *Op. cit.*, October, 1880.

<sup>4</sup> Painful Symmetrical Nematosis in Diabetes, Sciatic and Dental, Le Pogues Medical, M. J. Woines, Société Paris Acad. Med., September 19, 1880. Lesions of the Brain in Diabetes, Stevens' *Prigmal Prize*, January 1, 1882, to be awarded March, 1882, at the annual commencement of the New York College of Physicians and Surgeons. Changes of the Sympathetic in Diabetes, Boniké, *London Lancet*, May, 1878. Influence of the Nervous System on the Formation of Sugar, M. Lathiot, *Proces Medical*, No. 10, 1880. Glucose in the Secreta, New York, December 23, 1881, p. 616. The Dynamic Chemical Theory of Insular Diabetes, M. Henry, *Acad. de Médec.*, April 16, 1877, *Bull. Soc. de Thérapeutique*, *Les Leçons de Médecine*, Magzot, *Journal de Médecine de Bordeaux*, January 1, 1882. Clinique d'Observation of Diabetes Mellitus, New York, *Academy of Medicine*, *Medical Society*, February 19, 1882, *New York Medical Record*, February 24, 1882.

"Animal blood always contains sugar. This glycaemia depends on a normal function of the liver. These facts were established by Bernard and those succeeding him. The physiological production of sugar in the liver is subject to the influence of the nervous system, and by wounding a particular point in the fourth ventricle not far from the origin of the vagi nerves, the sugar is developed superabundantly, rendering the animal rapidly diabetic: from this arose the theory of the glycogenic function of the liver. This function only becomes developed at a certain period of intra-uterine life, but sugar is none the less lacking in the organism undergoing evolution. Sugar exists in the allantoic and amniotic liquids and in the urine, and diabetes is, after a fashion, the normal condition of the fetus. Bernard from this regards glycogenesis as a general physiological phenomenon, accompanying all the manifestations of life in animals and plants. Later, the discovery of the glycogenic matter to some extent changes the face of the problem in connecting it with one of the most difficult questions of general physiology, that of the intimate nutrition of the tissues. The theories of nutrition have always allotted to the blood the principal part in the chemical changes that take place in the living organism, but M. Bernard has shown that instead of seeking directly in the blood for the substance preceding the sugar and producing it, it is necessary to place it in the hepatic tissue itself."

M. Lancereux, it seems to me, took a step in the right direction, in announcing two diabetic types, in a paper read before the French Association for the Advancement of Science, August, 1879. Lancereux claims that there are *fat* and *lean* types. The first begins insidiously between the ages of twenty and thirty with obesity, death occurring from phlegmon, rarely from pulmonary consumption. The lean cases spring suddenly from a condition of previous good health, and last from one to six years, or more frequently terminate with phthisis pulmonalis which begins with chronic pneumonia. Destruction of the pancreas was recognized in two of the "lean" cases examined, and he infers a direct relation between pancreatic destruction and glycosuria, claiming that there are good grounds for a nosological distinction of these two varieties.

While the obese cases may be simply such as Senator considers predisposed, it would be well to separate all such cases hereafter and see whether there was the uniformity of phenomena mentioned by Lancereux. Similarly, I fancy, we may be enabled to diagnose the especial lesion and its seat by some such sensible proceeding, instead of contenting ourselves with the bare fact of sugar being constantly found in the urine. A rational system of treatment can thus be inaugurated which will enable us to address ourselves intelligently to *causes* instead of effects. For example, neuropathic cases might find especial benefit from narcotics, while those originating in obesity would derive no advantage from such treatment. All measures adopted in the latter cases should partake of an effort to aid in decreasing fat production, and an interesting point in this connection is afforded us by Immermann:<sup>5</sup>—

"In violent voluntary motions of the body not only will less fat be produced, but, owing to the more energetic process of oxidation in the tissues, more lipogenic material will be destroyed." Hence the observations of Bonchardet, Kuelz, and Trousseau, that active

<sup>5</sup> Immermann. Copulence. *Ziemssen's Cyclopaedia*, xvi., page 647.



muscular movements are capable of lowering the excretions of sugar, have a rational foundation in the presumption that both these hydrocarbonaceous substances, fat and sugar, are burned up in the muscles under proper conditions, and that both are fuels (so to speak) which if allowed to accumulate become pathological and consequently pernicious. On the other hand, the inappropriateness of much exercise for the enfeebled non-obese cases might soon be made apparent by trial.

(To be concluded.)

# ERYTHROXYLON COCA; ITS PHYSIOLOGICAL EFFECT, AND ESPECIALLY ITS EFFECT ON THE EXCRETION OF UREA BY THE KIDNEYS.<sup>1</sup>

BY ATHERTON P. MASON, M. D.

ERYTHROXYLON coca is a shrub growing in various countries of South America. The leaf is the part of the shrub used medicinally, or perhaps it were better at the present time to say, physiologically. The leaf is rather oval in shape, and about two inches in length. It has a bitter, pungent taste when green. The natives collect the leaves and dry them carefully in the sun. A large amount is produced annually. The dried leaves taste like tea.

Although this is a comparatively new drug to us, yet its history shows that it has been in use among the aborigines of South America for many centuries, and they appear to have regarded it with very high favor. They attributed a divine origin to it, and this fact led the Spaniards, after their conquest of the natives, to prohibit its use; but later their religious scruples gave way, and this seems to bear considerable testimony to the value of the drug, for the cause of the change in their views was due to the fact that they found that the natives could do more and better work with, than without, coca. Their method of taking the drug was to chew the leaves mixed with a little ashes or lime.

The principal constituents of the coca leaf are first, *coca tannic acid*, a peculiar tannin, reacting green with iron salts; second, *cocainin*, a fixed crystallizable alkaloid of a bitter taste, and producing numbness of the tongue; third, a volatile alkaloid, *lygrina*, which was obtained by Lossen as a thick, pale yellow oil of a burning taste and alkaline reaction.

In regard to the physiological effect of coca it seems to be pretty well determined in case of animals. Briefly stated, in large doses it causes tetanic convulsions; in medium doses it diminishes and then extinguishes sensibility; in small doses it causes hyperæsthesia, dilatation of the pupils, and diminution of movement, apparently from loss of coordination. The action of the heart is first increased, then diminished. In regard to man results are not nearly as definite. Until very recently the amount of the drug imported has been small, and the quality generally not by any means the best. The only point upon which experimenters seem agreed is that it enables the user to perform labor with less fatigue than he otherwise could. Christison observed that it entirely prevented fatigue after long-continued walking. The weight of evidence seems to show that habitual excessive use of the drug is deleterious to mind and body.

Experimenters are not agreed as to the effect of coca on the excretion of urea. Ott found that the amount of urea in the urine was diminished during its

use, while Gazeau found that it was increased. On account of this diversity of opinion it seemed that it would be interesting, and possibly of some value, to undertake a series of experiments with coca, paying particular attention to this point.

Before speaking of its action on the excretion of urea I wish to allude briefly to its effects in other ways. During my experiments I used coca leaves, Wyeth's fluid extract of coca, and Thayer's fluid extract of coca. Shortly after taking the drug I felt slight weakness in the legs, passing away gradually. My spirits were more buoyant, and walking (which was the form of exercise I took mostly) seemed easier. It seemed to produce a sort of dream-like condition, and I would walk almost automatically at times. I always noticed dilatation of the pupils. I felt fresher in the evening after a long walk when I had taken coca than when I had not, and often noticed a tendency to wakefulness in the former case on going to bed. On the whole, I think that I obtained more decided effects from the fluid extracts (especially Wyeth's) than from the leaves, and the former are certainly more convenient to take.

I computed the amount of urea by the hypobromite of sodium method. The solution of hypobromite of sodium was made by dissolving 50 grammes of caustic soda in 125 cc. of water, and when cold adding 12 cc. of bromine. This solution, added to urine, decomposes the urea, setting free nitrogen. The apparatus used was first a large test tube having two bulbs blown at the end; into the mouth of this tube fitted a rubber

TABLE I.

| FOR TEMPERATURE OF 15° C.  |  | FOR TEMPERATURE OF 20° C.  |  |
|--|--|--|--|
| Amount of water (in cc.) displaced by nitrogen generated from 2 cc. urine. | Corresponding amount of urea (in grammes) per 1000 cc. of urine. | Amount of water (in cc.) displaced by nitrogen generated from 2 cc. urine. | Corresponding amount of urea (in grammes) per 1000 cc. of urine. |
| 1  | 1.281  | 1  | 1.261  |
| 2  | 2.502  | 2  | 2.512  |
| 3  | 3.842  | 3  | 3.788  |
| 4  | 5.124  | 4  | 5.044  |
| 5  | 6.494  | 5  | 6.305  |
| 6  | 7.686  | 6  | 7.505  |
| 7  | 8.967  | 7  | 8.827  |
| 8  | 10.248   | 8  | 10.088   |
| 9  | 11.629   | 9  | 11.349   |
| 10   | 12.810   | 10   | 12.610   |
| 11   | 14.091   | 11   | 13.871   |
| 12   | 15.372   | 12   | 15.132   |
| 13   | 16.653   | 13   | 16.393   |
| 14   | 17.934   | 14   | 17.654   |
| 15   | 19.215   | 15   | 18.915   |
| 16   | 20.496   | 16   | 20.176   |
| 17   | 21.777   | 17   | 21.437   |
| 18   | 23.058   | 18   | 22.698   |
| 19   | 24.339   | 19   | 23.959   |
| 20   | 25.620   | 20   | 25.220   |
| 21   | 26.901   | 21   | 26.481   |
| 22   | 28.182   | 22   | 27.742   |
| 23   | 29.463   | 23   | 29.003   |
| 24   | 30.744   | 24   | 30.264   |
| 25   | 32.025   | 25   | 31.525   |
| 26   | 33.306   | 26   | 32.786   |
| 27   | 34.587   | 27   | 34.047   |
| 28   | 35.868   | 28   | 35.308   |
| 29   | 37.149   | 29   | 36.569   |
| 30   | 38.430   | 30   | 37.830   |

stopper having two holes through it; through one of them ran a glass tube of small size which was connected by rubber tubing to a 50 cc. burette inverted in a 250 cc. urine jar nearly full of water; a solid glass rod passed through the second hole in the stopper. Two cc. of the urine to be tested were put into one bulb of the glass tube, and 5 or 6 cc. of the hypobromite of sodium solution into the other, and then the rubber

<sup>1</sup> Graduation Thesis.

stopper connected with the burette as above stated was crowded in tightly. The connection was then complete. The water in the burette was brought to 0 cc. by pushing in or drawing out the glass rod in the rubber stopper. The urine and hypobromite of sodium were then allowed to mix, and after effervescence ceased the number of cc. of water in the burette displaced by the nitrogen generated was noted. The temperature of the water was then taken, and the amount of urea in the whole quantity of urine tested was estimated by Table I.

I first tried the coca towards the end of the summer of 1881. My diet was the same every day during the continuation of the experiments, and consisted of bread, milk, roast beef, and coffee. I made but few trials at that time. The mode employed was to do a certain kind and amount of work in a definite time one day without, and another day with, coca. I think I did not take enough of the leaves (which were not first quality, I suspect) at a dose. I did not experience much effect from the drug. However, as I noted the results I will subjoin them:—

TABLE II.

| HOURS.     |               | AMOUNT OF URINE. |               | UREA.       |               |
|------------|---------------|------------------|---------------|-------------|---------------|
| With Coca. | Without Coca. | With Coca.       | Without Coca. | With Coca.  | Without Coca. |
| 4          | -             | 265 cc.          | -             | 4.4 grms.   | -             |
| 24         | 4             | 735 cc.          | 269 cc.       | 20.00 grms. | 4.64 grms.    |
| 12         | 24            | 690 cc.          | 675 cc.       | 8.65 grms.  | 22.44 grms.   |
| 12         | 12            | 540 cc.          | 700 cc.       | 9.02 grms.  | 9.02 grms.    |
| 6          | 12            | 345 cc.          | 400 cc.       | 5.99 grms.  | 9.04 grms.    |
| -          | 6             | -                | 340 cc.       | -           | 5.38 grms.    |
|            |               | 2995 cc.         | 2975 cc.      | 48.45 grms. | 50.88 grms.   |

Leaving out of account the two days when I estimated the urea for the whole day, the results almost exactly balance. I think the coca had no effect to speak of, and only put in this table to show the average amount of urea passed.

The second series of experiments began about the middle of October, 1881, and lasted for nearly two months. The form of exercise taken was walking. The same route was walked over in the same time, first without and then with coca. Through the kindness of Prof. R. T. Edes I obtained the leaves direct from Parke, Davis & Co., of Detroit, Mich. They were much stronger and fresher than the leaves I had been using previously. I took a larger quantity (twenty to thirty grammes) at a dose than before, and felt the effects heretofore described. I took these walks on Saturday afternoons, with the exception of the two twenty-two-mile walks. These I took from 10.30 A. M. to five P. M., eating no food during the walks. It gradually grew colder, and the effect of this is shown in the gradually increasing amount of urea. This is very marked in the last two walks that I took in this series, one being with coca and the other without.

The walks were each eleven miles, and occupied only three hours, but the excretion of urea was considerably above my average. The thermometer stood at the freezing point on both these walks. I give the results in Table III.

TABLE III.  
(1.) With Coca.

| Hours. | Miles. | Amount of Urine. | Amount of Urea. |
|--------|--------|------------------|-----------------|
| 4      | 16     | 180 cc.          | 3.54 grammes.   |
| 6.5    | 22     | 319              | 5.15            |
| 3.5    | 13     | 359              | 3.80            |
| 3      | 11     | 234              | 4.25            |
| 3      | 11     | 255              | 5.20            |
| 20     | 73     | 1319 cc.         | 21.94 grammes.  |

(2.) Without Coca.

| Hours. | Miles. | Amount of Urine. | Amount of Urea. |
|--------|--------|------------------|-----------------|
| 4      | 16     | 420 cc.          | 5.52 grammes.   |
| 6.5    | 22     | 315              | 6.73            |
| 3.5    | 13     | 292              | 4.10            |
| 3      | 11     | 220              | 4.62            |
| 3      | 11     | 286              | 5.55            |
| 20     | 73     | 1533 cc.         | 26.52 grammes.  |

Computing from this table, we find that with coca the excretion of urea per mile is .300 gramme, per hour is 1.097 grammes, per 100 cc. of urine is 1.66 grammes; without coca the excretion of urea per mile is .363 gramme, per hour is 1.326 grammes, per 100 cc. of urine is 1.73 grammes.

Before proceeding to draw any conclusions I will give the results of the third series of experiments. This series extended from March 14 to May 1, 1882:—

TABLE IV.  
(1.) With Coca.

| Hours. | Miles. | Amount of Urine. | Amount of Urea. |
|--------|--------|------------------|-----------------|
| 2.75   | 11     | 152 cc.          | 2.85 grammes.   |
| 2.5    | 10     | 104              | 2.75            |
| 2.5    | 10     | 145              | 2.75            |
| 2.5    | 10     | 129              | 2.40            |
| 2.5    | 10     | 239              | 3.80            |
| 2.5    | 10     | 212              | 3.46            |
| 2.5    | 10     | 190              | 2.40            |
| 3      | 8      | 210              | 3.49            |
| 3      | 10     | 210              | 3.83            |
| 3      | 12     | 210              | 4.10            |
| 3      | 14     | 200              | 4.74            |
| 2.5    | 10     | 186              | 3.34            |
| 2.5    | 10     | 110              | 2.67            |
| 3.5    | 15     | 250              | 4.99            |
| 3.5    | 15     | 256              | 4.66            |
| 4      | 16     | 310              | 5.25            |
| 9      | 31     | 272              | 5.50            |
| 2.5    | 10     | 354              | 3.12            |
| 57.25  | 222    | 3758 cc.         | 66.50 grammes.  |

(2.) Without Coca.

| Hours. | Miles. | Amount of Urine. | Amount of Urea. |
|--------|--------|------------------|-----------------|
| 2.5    | 10     | 164 cc.          | 3.70 grammes.   |
| 2.5    | 10     | 220              | 3.30            |
| 2.5    | 10     | 155              | 2.80            |
| 2.5    | 10     | 110              | 2.00            |
| 2.5    | 10     | 155              | 3.10            |
| 2.5    | 10     | 218              | 4.10            |
| 2.5    | 8      | 272              | 4.16            |
| 3      | 10     | 250              | 4.45            |
| 3      | 12     | 232              | 4.45            |
| 2.5    | 10     | 240              | 4.23            |
| 4      | 16     | 459              | 5.58            |
| 2      | 8      | 90               | 2.27            |
| 3.5    | 15     | 339              | 5.02            |
| 3      | 10     | 220              | 3.80            |
| 3      | 10     | 285              | 5.13            |
| 3      | 10     | 180              | 3.40            |
| 2.5    | 10     | 258              | 3.31            |
| 48.5   | 185    | 2850 cc.         | 63.94 grammes.  |

Comparing (1) and (2) we find that 222 miles walked while under the influence of coca caused an expenditure of 66.5 grammes, while 185 miles walked without coca caused an expenditure of 63.94 grammes of urea. Computing from these figures we find that with coca the excretion of urea per mile is .299 gramme, per hour is 1.161 grammes, and per 100 cc. of urine is 1.769 grammes, while without coca the excretion of urea per mile is .345 gramme, per hour is 1.318 grammes, and per 100 cc. of urine is 1.660 grammes.

If we compare these results with those obtained in the same manner from Table III. the almost exact correspondence of the excretion of urea per mile with coca in both series is, to say the least, quite striking, in Table III. being .299 gramme, and in Table IV. .300 gramme. The excretion per mile without coca corresponds pretty closely, and the same may be said of the excretion per hour without coca. With regard to the excretion per hour with coca, Table IV. exceeds Table III. by .064 gramme, and the excretion per 100 cc. of urine in Table IV. is diametrically opposed to that in Table III.

What conclusions, then, are we justified in drawing from the figures before us? That less urea was excreted when coca was used than when it was not used is undeniable, but that this decrease is due to the effect of coca seems to be somewhat questionable. Looking at Tables III. and IV. we see that more urine is passed when no coca is used than when it is used. This is especially noticeable in Table IV., where the total amount of urine passed in 48.50 hours' walking, without coca, exceeds by 92 cc. the amount passed in 57.25 hours' walking with coca. Increase in the amount of urine causes the amount of urea to increase absolutely, and diminish relatively. Coca does not seem to prevent this to any great extent, though it does somewhat, I think. When walks were taken on cold, damp days both the amount of urine and the urea were increased, but generally less increased when coca was taken than when it was not. Atmospheric conditions seem to stand in the way of coming to any definite conclusion, yet some of my walks, with and without coca, taken under atmospheric conditions as nearly alike as was possible, lead me to believe that coca does have an effect on the urea excretion, and, furthermore, the very close correspondence of the excretion of urea per mile with coca in Tables III. and IV. strengthens this belief. I am at a loss to explain the cause of the excess of urine when not using coca. I am not aware that the days when I took walks without coca were to any extent colder or damper than other days when I used coca. Possibly coca has some diaphoretic effect, but I never noticed any, or perhaps it acts upon the kidneys in such a way as to diminish the excretion of water.

There is one thing pretty certain to my mind, and that is that coca is an excellent thing, in every respect, for a long walk. On Saturday, April 29th, I took the thirty-one-mile walk recorded in Table IV. It took me from nine A. M. to six P. M. I did not hurry at all, and walked the whole with perfect ease. I had no desire for food during all the time, and could easily have gotten along without any supper. In the evening I walked four or five miles more. I took thirty-two cc. of fluid extract of coca in two doses, and chewed about twenty grammes of leaves for this walk, and to the influence of the coca I attribute the ease with which it was accomplished. Now, as regards the urea in this case. The amount of urine was very small

(272 cc.), yet at that rate over 700 cc. would be passed in 24 hours, an amount not much less (and even larger) than I passed at times during 21 hours while experimenting last August. Yet the amount of urea then was at least 20 grammes for the 21 hours, while at the rate at which it was excreted during my nine hours' walk it would have amounted to less than 14 grammes in 24 hours. I know of no cause for such a marked diminution unless it was the coca. Surely going without dinner could not cause it. I regret that there have been no more opportunities for these long walks. I am convinced that excellent results would follow the trial of it in this way.

My experiments with coca have not come to as much as I had hoped; still I have had the satisfaction of demonstrating to myself the practical value of coca. It has had a good effect upon me both mentally and physically. It has almost always produced exhilaration, and without exception has prevented fatigue. Hence in conclusion I will say that I am pretty well convinced that, in my own case at least, the ease with which walking has been accomplished by the aid of coca is attributable to the united action of two effects of coca. One of these effects is stimulation of the nervous system, the other is the retardation in some way of the process of metamorphosis, so that work is done with a less expenditure of force with than without coca. Although no positive conclusion has been arrived at in this paper, yet the results of the few experiments I have undertaken seem to point to the usefulness of coca, and hold forth inducements to prosecute the investigation.

## RECENT PROGRESS IN ANATOMY.

BY THOMAS DWIGHT, M. D.

### THE BRAIN AND ITS MEMBRANES.<sup>1</sup>

The scarcity of material for a report induces us to press into service Mr. Lewis's book, which deserves perhaps a separate notice. It is a reappearance of a number of separate papers that were published in *Brain*, on macroscopic and microscopic methods of research. The directions for microscopic work are very minute, and show that the author is not only very deeply read in the matter, for he gives the methods of very many authorities, but that he can give also the results of personal experience. We find nothing that it seems appropriate to quote, and refer those interested to the original papers. One or two points of the coarse anatomy may be mentioned.

The first relates to the membranes, and is interesting in connection with Dr. Tuke's paper. It is curious how diverse views are still entertained concerning the arachnoid. Mr. Lewis, although describing the so-called parietal layer as simply a layer of nucleated polygonal epithelium lining the dura mater, nevertheless

<sup>1</sup> The Human Brain. Histological and Coarse Methods of Research. By W. Bevan Lewis, L. R. C. P. London: J. and A. Churchill. 1882. [Sent to the JOURNAL for review.]

Atlas d'Anatomie Topographique du Cerveau et des Localisations Cerebrales, par E. Gaxoy, Médecin Major de 1re classe des Hôpitaux Militaires. Octave Doin, Paris, 1882.

Sur la valeur de la taille et du poids du corps comme termes de comparaison entre la masse de l'encéphale et la masse du corps; par M. L. Manouvrier, et la discussion de cette paper. Bulletins de la Société d'Anthropologie de Paris. Tome V. (3rd série) 1re fascicule, January to March, 1882.

Note on the Anatomy of the Pia Mater, by Dr. J. Batty Tuke. Edinburgh Medical Journal, June, 1882.

less speaks of a space intervening between it and the dura which he apparently accepts on the authority of Key and Retzius. Even if such a space can be demonstrated with the microscope we should be unwilling to speak of it as one of the "great" cavities, of which Mr. Lewis gives four as follows:—

"(1.) The subduralraum betwixt dura mater and the parietal arachnoid.

"(2.) The arachnoid cavity formed by the arachnoid sac.

"(3.) The subarachnoid cavity betwixt visceral arachnoid and pia mater.

"(4.) The epi-cerebral space between pia mater and cortex."

The so-called parietal layer of the arachnoid has had but a doubtful existence for a long time, and the term subdural space has generally been applied to the space beneath it, formerly the arachnoid cavity. Dr. Tuke goes further still, and disputes the existence of the visceral layer, which lies outside of the pia and bridges over the sulci without following the pia mater into them. He bases his views on microscopic sections of the brains of men and monkeys which, to quote his own words, show "that over the curved surface of each convolution a membrane exists investing it closely. This membrane, the pia mater, consists of two layers of a distinctly fibrous character, for the most part bound together by connective tissue so intimately as to be inseparable, and to give us every right to consider it as one membrane. *Between these two layers and in the connective tissue the vessels permeate. No membrane external to this exists except the dura mater.* But when this investment approaches a sulcus the two layers separate, the outer bridging the fissure, the inner dipping into it. . . . In the angular space thus formed the arteries lie naked, or at most are supported by very fine fibrous trabeculae; but as they enter the brain substance they receive from the investing layer fine hyaline sheaths." Dr. Tuke admits that these two layers are much less closely connected over the cerebellum, and that they are quite distinct around the spinal cord; still he insists that the outer is clearly continuous with the outer layer of the pia mater. Thus he arranges the membranes and spaces as follows: The dura mater, the subdural space, the pia mater, and the intra-pia-matral (sic) space or spaces. It is evident that, if we give up the parietal layer of the arachnoid, much of this appears at least to be merely a matter of nomenclature, and that it would do as well to say that the arachnoid and pia mater are closely united on the summits of the cerebral convolutions. Dr. Tuke, however, thinks that his views are important as giving an explanation of the openings of the peri-vascular lymph spaces around the vessels that penetrate the brain. He dismisses Ball's theory that they open into a space below the pia mater, on the ground that it is impossible, as their walls come from the pia mater itself. He objects, if we mistake not, to the view that they open into the subarachnoid space on the ground, first, that there is no such space (which, if true, is sufficient alone), and next, that they could not pass through the pia mater. It seems to us, however, that he is begging the question by adopting his own definition of the pia mater. Granting that the sheaths come from the pia we see no difficulty in conceiving that the peri-vascular spaces open on its outer surface. According to Dr. Tuke, they open into the intra-pia-matral spaces, but we do not feel sure that this is not practically the same thing.

Mr. Lewis gives the following method of obtaining the cranial capacity, which is a modification of one used by Dr. Haek Tuke. The *calvarium* being removed, a hole is trephined in the frontal bone and a wedge-shaped piece cut out of the occiput. The foramina are plugged with clay, which is also put into the cut made by the saw; when the skull-cap has been replaced it is secured by several turns of a bandage covered with clay. Paraffine is poured in through the hole in the frontal bone, which makes a beautiful cast, and does not shrink on hardening as plaster-of-Paris and white wax both do. When it is hard the top is again taken off, and the wedge-shaped piece cut out of the occiput is also removed to give a chance to press the cast out gently from behind. The cranial capacity is obtained by measuring the mould by displacement.

We now take up the question of the significance of the weight of the brain and, of course, the influence of disturbing conditions must not be neglected. Mr. Lewis quotes Bastian for the following: (1) Length and nature of illness; (2) mode of death (vascular engorgement favoring high weight); (3) certain neuroses, as epilepsy; (4) all conditions, including sclerosis; (5) atrophy; (6) congenital micro or megaloccephaly. He then continues: "The student must also take into consideration the relationship between weight of brain and the age and sex of the individual as well as the *weight and height of body.*" How delightfully vague all this is will appear presently.

Gavoy's Atlas, without having much that is new in it, might very fairly have a more ambitious title, for it is a handsome book giving a *résumé* of recent studies of the brain and skull, localizations, the topography of the convolutions, their relations to the skull, etc. Gavoy writes as follows: "By counting only the largest skulls of each race, those, that is, that exceed a certain fixed mean, as M. Le Bon has done, we find that the superiority of one race over another is characterized by a greater number of large skulls. But this particular fact, as it may vary with the group of skulls examined, cannot serve as a basis to establish the superiority of one race over another and the degree of intelligence which distinguishes them. We must, then, conclude that craniometry is as yet inadequate to determine the relative degree of intelligence of different races or individuals, and that with regard to its functions the quality of the cerebral substance is more important than its quantity."

The discussion at the *Société d'Anthropologie* is curious as showing that the great complication of the problem is being in some degree acknowledged, and is made more interesting by the feeling which appears to exist among different members. It began by a paper read by M. Manouvrier on the 2d February last, in which he pointed out, what by the way is sufficiently clear, namely, that the height alone is a very unsatisfactory index of the volume of the body. Short men are apt to be stouter than tall ones, and again, a difference of say an inch in the height of two lean men is of less consequence (as representing the bulk) than between two stout men. M. Manouvrier pointed out that in spite of the inexactness of the height as a guide, several authors had taken it as a basis of calculations to show the effect of the size of the body on the weight of the brain. He considers the weight of the body a better standard than the height, though he admits that it is far from satisfactory; indeed, after long diseases ending in death it must be more variable than

the height. M. Manouvrier was also very severe on M. Le Bon's conclusions and methods, and though he did not mention him by name, referred to him unmistakably. One passage may be quoted which shows among other things that some of the members appear to make their criticisms with a directness that leaves no place for politeness: "One result of forgetting the elementary considerations that I have just recalled has been the appearance, in recent years, of assertions as little scientific as the following: 'Woman tends to become more and more different from man in regard to the size of the brain and consequently in intelligence.' The author of this assertion, which has been reproduced a thousand times in various works, would certainly never have made it had he understood better than he did the value of the factor height as a term of comparison between the size of the brain and the size of the body, if he had taken into account the means in Broca's register instead of only some of them, and, finally, if he had considered the sexual difference in the height according to race."

Manouvrier, however, does not consider all existing work valueless, but thinks that it has been shown that the absolute cerebral weight increases with the size of the body, and that the relative cerebral weight decreases with the increase of the latter. By way of obtaining greater accuracy he suggests that hereafter when the brain is weighed not only the height should be measured, but also a measure of the breadth should be taken, which would not be influenced by the amount of fat, and recommends for this the distance between the acromions. He thinks it would be well also to take the distance of the top of the sternum from the spine of the first dorsal vertebra. Notes should be taken of the strength and usual vigor of the individual, and when possible, a humerus and a femur should be kept together with the skull and brain. These bones were to be kept to serve as bases for a new standard of the size of the body, of which more details are promised.

M. Le Bon did not appear to be pleased with the paper; for when it was concluded he remarked that M. Manouvrier's theoretic reflections were without value in the presence of facts, and that they did not affect the statements of the relations between the height and the weight of the brain that had been published. He intimated, moreover, that it was more of a job than M. Manouvrier appeared to be aware of to get the size of a body by calculation.

M. Manouvrier replied, and brought up a new charge about the relation of the circumference of babies' heads to their weight in the two sexes, and concluded by asserting that M. Le Bon by a wrong method had arrived at false results, namely, that boys' heads are relatively larger. He pointed out that M. Le Bon had left out two cases in which the child's weight was particularly small, and one in which it was very large, but yet had left in one very large boy who had a large cranial circumference.

M. Le Bon replied that it seemed evident to him that it was M. Manouvrier whose conclusions were contrary to truth, but he reserved his reply for the next meeting.

M. Pozzi continued the discussion. He mentioned that recent researches had shown that not only the optic thalami and corpora striata but also the surface of the brain had a direct effect on the muscles. The brain, therefore, is the organ of thought, and at the same time, much more than had been supposed, an or-

gan regulating motion, so that it is logical to believe that its weight would have some relation with muscular development. As a comparison to the weight of the brain he suggests the weight of the great pectoral muscle and that of the superficial muscle of the calf, which indicate very fairly the development of their respective limbs. He, moreover, would have them taken from subjects of not more than average intelligence, so as to avoid the "disturbing influence of this element."

M. Manouvrier thought that there was no great difference between M. Pozzi's views and his own. He thought, however, that the changes muscles may undergo, both before and after death, make them less desirable than bones, and he prefers, therefore, the weight, or, better still, the volume (to be obtained, we presume, by displacement) of the humerus and femur.

M. Parrot then alluded to a new standard of comparison. He said that wishing to record not the absolute but the relative weight of brains he had sought for such a standard, and had rejected both bones and muscles, as he thought both gave too varying results. So he turned his attention to the visceral system, and chose the heart, which he says varies as little as the brain, and, in spite of the usual phraseology, is the most "brutal" of all organs. What he can possibly mean is not evident, for every one knows that no organ of the body so quickly reacts to the emotions of the soul. Neither do we feel much confidence that, as M. Parrot claims, the relative weight of the brain to that of the heart will give us the most exact measurement of the respective influence of intelligence and of muscular development (*motricité*) on the former organ. He calls this the *cephalo-cardiac index*, which is calculated by ascertaining how many grammes of brain there are for every ten grammes of heart.

The discussion was resumed a fortnight later, and M. Topinard began by speaking of the register of weights and measurements kept by Broca. First of all, however, he detailed the method of weighing the brain which Broca was accustomed to follow. After allowing ten minutes for the fluids to run off, the whole encephalon was weighed, and then each of the chief divisions—the cerebellum, the medulla, the pons—was weighed separately. The membranes were then removed, which, together with the escaping serum, were kept apart, and then each lateral half of the divisions above mentioned, and also of the frontal and other lobes, was weighed separately. As may be imagined by those who know how great a worker Broca was, the number of cases observed is very great. According to M. Topinard they throw light on four questions, the age, the sex, the height, and individual variations. The deductions concerning the age are very curious. The groups of brains from persons of fifteen, twenty, and twenty-five often have a mean weight greater than at subsequent periods, but as it is hardly possible to imagine that the brain has already reached its maximum at twenty, some explanation must be sought for. Broca thought that the mortality at this age occurs chiefly among those whose brains have grown "rapidly and violently," and thus that the high means are accidental. The next important phase is from the age of thirty to thirty-five, at which in both sexes the brain usually attains its maximum weight. After this the weight decreases, and after sixty or sixty-five the decrease is more rapid. The weights of brains of from forty-five to sixty years offer some contradictions

and irregularities, for which the following explanation is offered. At this period death is most active among brains at the two extremes, that is, those which are the most developed, and those which have made the greatest progress in their course of atrophy. We must at this point anticipate a criticism we had meant to reserve till the end, to remark that, after all, these explanations seem to be entirely without any rational basis, and, indeed, are little else than arbitrary assertions used to explain away perplexing facts.

The results of the comparative weight of the brain in the two sexes at the different ages are rather curious:—

| Age.     | Difference, in Grammes. |
|----------|-------------------------|
| 25 to 35 | 202                     |
| 35 to 45 | 173                     |
| 45 to 55 | 151                     |
| 55 to 65 | 140                     |
| 65 to 75 | 102                     |
| 75 to 85 | 105                     |

Thus we see a steady diminution from youth to old age of the difference in weight in favor of the male brain. M. Topinard did not state whether the exception in the last stage was due to the relatively small number of brains weighed. He then went on to say that woman, being smaller than man, has necessarily less brain, and consequently instead of comparing absolute weights we should compare the relative weight of the brain to the height in the different sexes.

With regard to the height, he found that the tallest people had heavier brains absolutely but not relatively. He concluded as follows: "If we take men and women of corresponding height, that is to say, if we eliminate the influence of height on the weight, and then separate the large brains, those above 1450 grammes for men and 1300 for women, and then compare the totals in each, we find that 20.1 per cent. of the men have brains weighing more than 1450 grammes, and 11.3 per cent. of the women have brains above 1300 grammes, which appears favorable to the statement that a smaller number of women than of men have brains above the average."

M. Le Bon and M. Manouvrier then took up the discussion, chiefly on the accuracy of the former's calculations. We shall not go into the details, which are none of the clearest, but we cannot help quoting a remark of M. Le Bon's on the use, or rather the abuse, of statistics. He accuses his adversary of reasoning like a man who, wishing to state the comparative wealth of the inhabitants of a French and of an Irish village, trusts solely to averages. In the former village he supposes that every one has a little fortune of four or five thousand francs, and that in the latter there is one millionaire to ninety-nine paupers. Common sense, he says, will tell us that the former are the better off, but simple averages will show the contrary. He is, we think, however, unjustly severe on the measurements which M. Manouvrier would have to supplement the height. He insisted that male children have both absolutely and relatively a greater cranial circumference than female.

It cannot be said that any very valuable results can be traced to this discussion, or that it is probable that the very laborious studies of able men are apt to solve it if they are continued solely on the present basis.

#### A CORRECTION. THE POSITION OF THE STOMACH.

In our last report<sup>1</sup> we referred to a paper by Professor Lesshaft on the position of the stomach, which was read at the International Congress last summer. The reports that we then had were but meagre and apparently incorrect. We wrote that in the discussion which followed the reading of the paper "Professor Allen Thompson thought that the stomach was situated almost transversely," and that "several other anatomists were of the same opinion." In the official report we find that Dr. Thompson said that like many others he had described the position of the stomach as too completely transverse. He thought it would be more correct to describe the main axis as placed obliquely.

#### Reports of Societies.

##### STATED MEETING OF THE GYNÆCOLOGICAL SOCIETY OF BOSTON.

HENRY M. FIELD, M. D., SECRETARY.

FIRST THURSDAY OF FEBRUARY, 1882. WILLIAM G. WHEELER, M. D., president, in the chair. A. P. CLARK, M. D., read by appointment, a paper upon

##### REMOVAL OF INTRA-UTERINE FIBROIDS,

of which the following is a digest:—

CASE. Mrs. P., thirty-six years of age, native of Illinois, strong, well developed, accustomed to out door pursuits, skilled also in use of fire-arms, and proficient in hunting, etc. By a former marriage had had three children; remained a widow two years; had lived with a second husband three years, during which time had never been pregnant. For past year had suffered from pain in the pelvic region and observed considerable catarrhal discharge; menstruation painful; very nervous, and her husband asserted at times delirious; betrayed signs of hysteria; would be quiet for a time and then be suddenly seized with severe suffering; no elevation of temperature, and but slight acceleration of pulse; required frequent doses of opium, but chloral hydrate rather increased her excitement; often vomited, but gave no signs of disease of stomach or liver; urine normal; vaginal examination disclosed an abundance of thick, stringy mucus escaping from os, os patulous but without evidence of laceration, uterus enlarged and somewhat retroflexed.

Patient continued to suffer, and under occasional observation, until July of last year, when the doctor was so fortunate as to get hold of a growth from above and drew down somewhat within the cervix, and this without necessity of dilating. Next morning patient reported herself more comfortable than for weeks before. With Dr. Keniston's assistance, she was etherized and placed in Sims' position. Conjoined pressure externally over the fundus brought the tumor down into position, speculum was dispensed with, and firm pressure was all that was required to expose cervix for operation. A finger was now passed into the uterus around the tumor, to determine its nature and size. The growth was found to fill the uterine cavity completely, and it was with much difficulty that the fundus could be reached. It proved to be very hard and densely fibrous, and removable only by dragging down with forceps and cutting to pieces with curved scissors. After entire removal, uterus was

<sup>1</sup> March 3, 1882.

found to present a long diameter of four and a half inches. Very little blood lost during operation. Uterus was then washed out with warm carbolized water by means of a fountain syringe. Patient recovered without untoward symptoms and with but the slightest constitutional disturbance, so that by the latter part of the same month she was able to resume control of her household. After this, had a sudden chill, followed with considerable purulent discharge; whereupon she speedily regained her strength and considers herself in good health.

Emmet remarks in his recent work that he was the first to use scissors for cutting away fibroids. — we shall see reason to doubt this statement later. — although scissors had been previously used in France and Germany for dividing the pedicle of a polypus. This was in 1863, and since then his method has become general. But there is one danger in this mode of operating, namely, of inversion of the uterus; and this especially towards the close, when the operator is anxious to remove the entire growth up to its attachment. The organ is the less able to resist the traction exerted upon it because of the atrophy and degeneration its walls have undergone. Such accident might imperil the life of a patient, already somewhat exhausted. When it appears imminent, when the fundus begins to assume a thimble or cup-like shape, it is better to leave behind a portion of the tumor, trusting that the residuum will slough away and be discharged. Such necessity was first impressed upon the reader in a case in which he assisted.

Emmet hardly refers to this danger, but reports a case wherein inversion was beneficial, as enabling him more effectively to remove the mass. But this is offset by reports of other cases, two of which were fatal.

The diminished suffering and comfortable rest the patient enjoyed the night after the tumor was drawn down — in the case reported — are explained by the diminished blood supply occasioned by the traction. A case by H. W. Jackson, Esq., is reported in *Braithwaite*, 1881, of spontaneous expulsion of three large fibroids. He remarks: "Continued expulsive efforts arrested the circulation of blood in the tumors and their death and consequent extrusion followed as a necessary consequence."

Instead of scissors, Thomas, of New York, and Simpson, of Edinburgh, have each recommended a curette of their own make, respectively, for cutting through fibroids of sessile base. Such instruments have been greatly multiplied and are all more or less dangerous; too often they but meet an imagined demand of the enthusiastic inventor. Allusion to Dr. Robert Greenbald's olive-shaped cautery for interstitial fibroids and brief consideration of the etiology of fibroid growths followed.

Atthill, in 1874, reported a case of ovoid fibroid of the anterior wall of uterus, of the size of a hen's egg, removed by the galvanic knife, — the knife consisting of a coil of platinum wire one half inch in length, connected with a galvanic battery. The operation was tedious, as the tissues were vascular, and the flow of blood was sufficient to cool the wire on each stroke of its cutting edge. Cauterization controlled all hemorrhage except from two vessels which had to be ligated. Cicatrization of the stump was slow, and the uterus afterwards assumed a globular form. The smell from the slow cauterization was most disagree-

able; and the reporter considers that the advantage accruing from diminished risk of hemorrhage was more than counterbalanced by these objections.

The écraseur was formerly more in use than now. The reader briefly discussed its more prominent characteristics.

William Ross Jordan, in 1873, reported two cases of removal of large fibroids by enucleation. The cervix was first dilated and an exploratory finger then passed; the cervix was divided by scissors, and the tissues between the uterine wall and the tumor were separated; an incision into the lowest and most prominent part of the growth was made by a bistoury. Subsequent removal was aided by ergot and traction exerted by vulsulum forceps. Condyl's liquid freely used. Time required for completion of the operation several days.

Protheroe Smith, writing in 1872, says when the fibroid mass is projected into the uterine cavity, covered only with membrane, and when it becomes polypoid, it can easily be removed by ligature, écraseur, or scissors. When the tumor is sessile in form and distinct from the structure of the uterus, the cervix may be dilated, and the mass enucleated piecemeal by ligature or écraseur. This plan he had followed for more than seven years, which carries the operation by scissors as far back as 1865 — two years after Emmet's claim to have first so applied them. But as Smith says his method extended back farther than seven years, it may be doubted whether Emmet was actually the first thus to use the scissors. At all events, Smith was much in advance of the gynæcologists of his day in the treatment of fibroids, as to certain other details.

In 1868 McClintock thus enumerates the methods by which nature secures the expulsion of the fibroid. (1.) By interstitial absorption. (2.) Simple detachment or separation. (3.) Calcareous transformation. (4.) Sloughing or disintegration. (5.) Expulsion by uterine contraction. He also indicates three ways by which separation by detachment may be brought about. (1.) Pedicle may give way by simple atrophy. (2.) When pedicle is slender it may snap in the act of extrusion of tumor from uterine cavity. (3.) It may be destroyed by constriction on the part of os uteri or os tium vaginae. Still, the tumor may be too large or dense for spontaneous expulsion, and here the surgeon must interpose to save the life of the patient. This he illustrates by reports of two cases.

Spencer Wells, in his Notes of an Autumn Holiday in America, relates, among other pertinent facts, that Atlee gave, as an internal remedy in fibroids, ammonium chloride in ten-grain doses, two or three times a day, for weeks or months together. He promised Spencer Wells that he would try calcium chloride, with a view to producing calcification of the nutrient vessels of these growths.

In 1840 Velpeau, and soon after Amussat, began to remove hard submucous tumors by a process termed enucleation; details of two such operations were given, the latter being done in 1859. In these the scissors were used, and thus it appears this instrument was used full four years before Emmet claims to have made the first use of them. Velpeau's method was afterwards modified by recourse to Simpson's gastrotome and otherwise, as detailed by the reader. Occasionally pregnancy had followed recovery from this operation.

The method of Duncan, published in 1870, was next

described, resorted to when the discharge, serous, bloody, and purulent, was so profuse as to endanger life. This scheme, confessedly, had no claim to elegance or brilliancy.

In a case of Dr. Jas. Whiteford's, of fibroid complicated with vascular polypus, the growth was freely excised with a bistoury, and a solution of perchloride of iron injected into the uterus. A sharp metritis followed, but patient was soon better, and after six months the tumor was expelled with pains like those of labor, but more severe.

A case is reported in the Boston Medical and Surgical Journal, 1875, of a large fibroid presenting the appearance of the last month of pregnancy. Woman was too weak for operative procedure, but treatment by ergot and support was followed for some time, and finally a fibroid was discharged with a torrent of clear fluid. Good recovery.

Upon occasion of an interesting report of a fibroid by Dr. Wheeler, before the Medical Improvement Society, Dr. H. R. Storer remarked upon the lengthening of the uterine cavity occasioned by fibroids, a condition not often present in ovarian disease. Dr. J. B. S. Jackson observed that if a fibroid project outwardly towards the peritonaeum, its growth may not cause enlargement of the uterine cavity, whereas an ovarian cyst, attached to the body of the uterus, will usually enlarge this organ. The fibroid is non-malignant. Dr. Tilt asserts that the microscope shows the tumor consists of fibrous tissue, with striae of inorganic muscular fibre.

Among other exceptional cases the case of Dr. Bowditch was recalled, where a fibroid was discharged through the rectum, this having been accomplished by a process of adhesive inflammation, etc. The paper closed with dubious or unfavorable opinion expressed upon Hewson's "dry-earth" treatment, and the method by electrolysis.

[In the discussion following Dr. Clark's paper, A. P. Weeks, M. D., served as secretary *pro tem*.]

The CHAIR asked for experience of Fellows in the hypodermic ergot treatment of fibroids, stating that he himself had used it in several cases, but usually with negative results.

DR. WELLS replied he had two cases under observation two years ago; one of the semi-elastic variety, with feel like that of cystic growth, of the size of a man's two fists, the other half this size, uneven, lobulated, and firm. Both patients suffered much from metrorrhagia, over which subcutaneous ergot exerted no power; indeed, it seemed to increase the flow in one case. A long veterinary needle was then procured, and injections of iodine made into the substance of the hard tumor, with good effect. Hemorrhage diminished from thirty-five to ten napkins, and the tumor since then does not seem to have increased much in size.

DR. MARY thought subcutaneous ergot of value in those cases only in which it could produce muscular contractions sufficient to constrict the vessels, or where the walls of the uterus can be brought into apposition to arrest hemorrhage. In one case, seen in consultation, ergot thus used was without avail, but afterwards gave relief introduced per os. In review of the paper, he would say inversion is a point worthy of attention, but there is not so much danger of inversion from traction used as there is danger of opening the fundus, especially when the scissors are used. Dr. Thomas's curette is the safer instrument, especially as with it not

so much tension is required, only enough to put the fibres on a stretch. Second. Galvano-cautery should be put out of the question, the more so as we are uncertain as to the amount of tension we use. Third. The development of fibroids is a question still *sub judice*. Their method of nutrition is very peculiar, for, as is well known, their nutrient vessels do not pass through the capsule to enter the growth, but, on the other hand, the growth receives its nutrition from the capsule. Fourth. Calcification, by administration of calcium, is one of the droll thoughts which have their origin in theoretical speculation. Fifth. Dry earth, applied after the manner of Dr. Hewson, is the work of an enthusiast, of a man who reasons upon insufficient premises. The speaker had himself operated upon a case, of curious history, since the last meeting. The woman had been subjected to Hewson's method for several months, and the fibroid was said to have been lessened one half in size. Coming under his own care, he performed *ovariotomy*, and removed a *multilocular ovarian cyst*. A careful examination of the pelvis revealed the fact that there did not exist a uterine fibroid, nor was there evidence that one had ever existed. Another large fibroid, which he had had under his inspection, went under the personal care of Dr. Hewson, and was said to be arrested or very much diminished after about a year's treatment. Had recently examined the patient, and, to himself, the growth seemed rather to have increased in size. The English treat fibroids in a far less heroic manner than we. They use ergot, resort to incisions, in a word, appear to temporize. Dr. Thomas's success by the rapid method has been exceptionally gratifying during the past two years.

DR. STORER also regarded Dr. Hewson's assertions the claims of an enthusiast. Misunderstanding or misrepresentation in respect of a case of his own had subjected him to annoyance. After the patient had been under the dry-earth treatment for a time, the report was widely circulated that a complete cure had been effected, even to the restoration of flexion, when in fact no more improvement was apparent than was fairly attributable to the efforts of nature. Still, Dr. Hewson's method may be worthy of trial in intractable cases. Dr. Storer had used potassium bromide with marked results, but the ammonium chloride, as advised by Atlee, had been wholly negative in its effects. Had applied the bromide in one case where there was marked enlargement of the anterior wall of the uterus, the patient taking it continuously for months. The growth lessened in size until it could no longer be perceived by external manipulation, and the patient dying some time after of another affection, a very small fibroid was found evidently undergoing a process of disintegration. He had always been of the opinion that ergot should not be used for its expulsive effect, but rather with view to produce local ergotism, dry gangrene, and degeneration. Fibroids should be divided into several classes: First, sub-peritoneal. These may not occasion much inconvenience, and are best left alone; they are very liable to shrink or shrivel after the establishment of the menopause. Second, purely interstitial. Third, submucous. If these be quiescent or slowly increasing and occasioning little annoyance, they are best left alone. The doctor further remarked that in his experience, with many physicians and many gynecologists, he had witnessed very diverse schemes of treatment, and some that were of dubious value or positively baneful. In surgery of this nature he would



especially emphasize the value of Listerism; doubtless cases have gone wrong that might have been saved had proper antiseptic measures been taken. He would remark, finally, it is better to let intra-uterine fibroids alone. Would cite an illustrative case: He once made an exploratory abdominal incision, and, finding a large fibroid tumor, advised letting it alone. Patient recovered, afterward married, and has lived fifteen years very comfortably.

Dr. W. S. BROWN raised the question why it is that so many upon whom exploratory incisions have been made seem thereafter and thereby improved. He had had but little experience with ergot employed hypodermically, but had used it as a hemostatic per os. A patient who had sub-peritoneal, lobulated fibroid was treated with ergot with marked success, in so far that it restrained the hemorrhage, which was the chief difficulty. A year later electrolysis, after Dr. Cutter's method, gave such relief that for two years she was entirely free from metrorrhagia, but it has since returned. One case of interstitial fibroid, as large as an orange, was partly removed, since when there has been no hemorrhage, and patient has been practically well. Was of the opinion that the wire was preferable to the chain cæraseur, as it does not drag in so much tissue, and so is more manageable.

Dr. STOREY, in reply to Dr. Brown's question, said the good effects of such instrumental interference were partly moral; a favorable influence was exerted upon both physician and patient, their mind was set at rest, etc.

Dr. WARNER had observed that interference of various sorts was often followed by a diminution of the growth; how this was brought about we did not know. Had witnessed it in many instances. In one case, particularly, a large fibroid disappeared after the subsidence of a peritonitis induced by an attempt to dilate with sponge tents.

Hereupon a discussion followed upon the use, dangers, etc., of tents, in which Drs. Brown, Warner, and Marcy chiefly took part.

Dr. MARCY recalled a case of interstitial fibroid so large as seemingly to fill the entire pelvic cavity, very firm and immovable. Undertook its enucleation, but having made the abdominal incision, so severe hemorrhage ensued he was forced to abandon the operation. The patient recovered, and now the tumor has very much diminished, and instead of being fixed can be turned freely in the cavity, and appears pediculated. It was not adherent.

Dr. BROWN recalled that among Dr. Tait's *résumé* of one hundred and ten cases is the report of a case of a tumor of ten pounds' weight, which was caused to disappear by abdominal section, undertaken to remove ovaries. Tait condemns enucleation or removal except when the tumor protrudes from the os. The doctor further remarked that he had inferred from his reading that the English were afraid of surgical interference in extra-uterine and interstitial tumors, even though they presented at the os and lay in the vagina.

#### A MODIFIED CURETTE.

Dr. MARCY presented a modification of Dr. Thomas's curette, having a fenestrum in the bowl, through which the end of the finger may be passed, to serve as more rational guide for the instrument.

The society then went into executive session, after which it adjourned.

## THE AMERICAN DERMATOLOGICAL ASSOCIATION.

THE sixth annual Congress of the American Dermatological Association met at Newport, on August 30, and the two following days, holding two sessions daily.

#### ANNUAL ADDRESS.

The President, Dr. J. NEVINS HYDE, of Chicago, in his annual address reviewed the progress of five years, and congratulated the members upon the present prosperity of the Association; he also called attention to the number and value of the contributions made during its brief existence by the Society to the province of dermatology, analyzing and classifying the papers presented, and stated that the statistics of the Society are based upon no less than sixty thousand cases of skin disease recorded by competent observers, members of this Association. In conclusion, he offered several suggestions with a view of adding interest to the annual meetings. He recommended that some prominence be given upon the programme to the exhibition of specimens, mounted sections, medicinal substances, drawings, etc.; that a clinical portfolio be opened to receive memoranda of interesting observations of not sufficient importance to be regularly announced; that a standing committee be formed to obtain information upon certain specified subjects; and, finally, that steps be taken towards increasing the membership of the Association.

#### MYXO-ANGIOMA OF THE SKIN.—DERMATITIS PAPILLARIS CAPITILII.

Dr. C. HEITZMANN presented a communication entitled Studies on Myxo-Angioma of the Skin; Clinical and Microscopical.

He stated that this disorder was purely local and was very common, being found often on what are considered to be healthy persons. It has been improperly called *teleangiectasis*, which simply means dilation of vessels, but this is actually a new growth of vascular tissue, and hence forms an *angioma*. A characteristic feature is that upon pressure the blood is emptied from the vessels, which afterwards refill; in children they get quite dark during a crying spell, some are of a bright red, others of a more venous character. They are very rarely congenital, except those of a warty character. They may be stationary or growing, painless or tender, rarely ulcerating, but occasionally serious hemorrhage may occur in this way. Billroth describes three varieties (1) in the superficial layers of the skin, with much development of the capillaries, *simple angioma*; (2) where the glandular elements are involved, *lobular angioma*, and which may be composed almost entirely of capillaries, but may have also much arteriole structure; and (3) *cavernous angioma*, which is nearly all venous, the structure imitating that of the corpora cavernosa. When a section was examined microscopically it was found that surrounding the vessels were free nuclei, homogeneous basis substance and granular matter, presenting the characteristics of the *myxomatous* form of new growth, in which have been developed a number of new blood-vessels, produced by sprouting from the walls of the old capillaries, which at first are solid, as pointed out by Stricker, and afterwards become hollowed out.

Dr. HYDE read a paper on Dermatitis Papillaris Capillitii, in which he spoke of a peculiar form of papillary eruption, usually occurring at the back of the

neck near the junction of the scalp. The patches are raised, distinctly circumscribed, not discolored, nor decidedly painful, yielding to pressure; they may be as large as the palm of the hand. Puncture affords exit to a considerable amount of purulent fluid followed by a mucoid material tinged with blood; after removing the contents the cavity slowly fills again with bloody fluid, and thus may be several times emptied in succession. The affection is very slow in its course, is decidedly papillary at its beginning, and involves the deeper structures of the skin, the epidermis escaping. It seems like a form of folliculitis, closely resembling "kerion," but is not parasitic.

These papers were freely discussed by the members, and other cases cited in illustration of the latter disease, which by some was attributed to irritation, as by a coarse collar, an explanation which was not admitted by the author.

#### PSORIASIS.

In the evening session Dr. R. W. Taylor read some Notes on Psoriasis, in which he referred to the statement of Wilson that this disease was an outgrowth of hereditary syphilis, and referred to a number of cases in which he had found this taint; in about twenty-five per cent. of the patients coming under observation he was able to trace syphilis in the family. He asked other members to pursue this inquiry, and report their observations.

Dr. WHITE said that he could not see more than a coincidence of the two diseases in the case referred to, and thought that an equal number of patients with eczema or other disease, from the same station in life of the cases of psoriasis, would give an equal percentage of syphilitic antecedents. Psoriasis does not protect against syphilis, nor does the latter influence the course of the former, which, moreover, is not cured by anti-syphilitic treatment. These views were generally concurred in by all who discussed the question.

Dr. GEORGE H. ROHÉ reported Two Cases of Acute General Psoriasis following Vaccination. One case was that of a physician, twenty-eight years of age, who had never previously suffered from any skin affection nor from syphilis. After an unsuccessful revaccination with bovine virus, last January, the punctured spot became scaly, very itchy, and reddened. In the course of the following two weeks the entire body, except the palms of the hands and the soles of the feet, became covered with small, red, scaly papules, which rapidly enlarged at their border, the eruption being more profuse on the outer aspect of the arms, thigh, and back and front of the trunk. The itching gave great annoyance to the patient. Arsenic only aggravated the affection, which yielded in three weeks to warm alkaline baths, with fluid extract taraxacum and acetate of potassium given internally. The second case was that of a boy of nine years, who, three weeks after being successfully vaccinated with bovine virus, developed general psoriasis, which yielded to Fowler's solution.

#### CALX SULPHURATA.

Dr. HENRY G. PIERARD read a paper on Calx Sulphurata, in which he recalled the recommendation of Ringer as to the use of sulphide of lime in acne, and indented it. He attributed the variable effects reported by different observers to the great difference in composition. Some specimens obtained from druggists contain no sulphide of lime. He recommended small

doses (one hundredth to one fifth grain) given frequently, in preference to the larger doses usually given.

#### OFFICERS AND PLACE OF MEETING.

At the business meeting held before the general session the following nominations were made:—

*Officers for the ensuing year:*—President, Robert W. Taylor, of New York; Vice-Presidents, I. E. Atkinson, of Baltimore, and A. R. Robinson, of New York; Secretary, A. Van Harlingen, of Philadelphia; Treasurer, Geo. H. Rohé, of Baltimore.

*Time and place of meeting.*—Lake George, on the Wednesday nearest the first of September, 1883, and the two following days.

This was unanimously adopted at the meeting on the following day.

(To be concluded.)

### Recent Literature.

*The Psychology of the Salem Witchcraft Excitement of 1692 and its Practical Application to our own Time.* By GEORGE M. BEARD, M. D. New York: G. P. Putnam's Sons. 1882.

The object of the writer and the contents of this little book are best stated by the following extract from the preface:—

"Great trials of this kind are landmarks of human non-expertness; measures of the cerebral force of nations; they tell us how low we stand, how slowly we advance; they are educators of the future, and may most wisely be studied in scientific detail by the psychologist and philosopher. There are times in the evolution of delusions, and in the history of nations—in which delusions are organized—when non-expertness in any special line—long restrained through circumstances or negligence—becomes a volcano; the low mutterings and reverberations that are at once so frequent and so slight, but so harmless as to cause no alarm, suddenly cease, and from the long quiet crater an eruption appears, darkening the sky and burying the earth in its fiery streams. Such was the witchcraft excitement in Salem in 1692; such was the Guiteau excitement in Washington in 1882; the one marking the death of the dogma that the innocent should be condemned to death for the fancied crime of witchcraft, on spectre evidence; and the other marking the death of the dogma that ability to know right from wrong is proof of responsibility, and that the insane who commit murder should be hanged.

"As the twenty victims of the Salem judicial massacres were nearly the last of the immense army of murdered witches, so Guiteau will be nearly the last important lunatic ever hanged on this continent; and through all time his trial will stand as the Salem witchcraft trials have stood, as a historic memorial of the power of passion reinforced by superstition."

*The Physician Himself and What he should Add to the Strictly Scientific.* By D. W. CATHELL, M. D. Baltimore: Cushing & Bailey. 1882.

This is an essay on personal questions in medical practice. The advice given to guide the physician in his conduct toward his patients and the public is sufficiently sound and sensible, and may be read with profit by those who feel that they require instruction on this subject.

## Medical and Surgical Journal.

THURSDAY, SEPTEMBER 7, 1882.

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## REPORT OF A SELECT COMMITTEE OF THE HOUSE OF COMMONS ON CONTAGIOUS DISEASES ACTS.

IN the last issue of the JOURNAL we noticed the annual report of the Assistant Commissioner of Police, in England, concerning the operation of the Contagious Diseases Acts during the last year, reserving for comment this week the more important and voluminous report to the House of Commons from the select committee on these acts accompanied by the proceedings of the committee. This report has been printed by the House of Commons, and is at once a carefully drawn, an interesting, and a convincing document.

The committee were first appointed in June, 1879, on motion of the Secretary of State for War, for the purpose of inquiring into "the administration, operation, and effect of the Contagious Diseases Acts, 1866 and 1869, and were also empowered to receive evidence concerning similar systems in the British Colonies, or in other countries, and to report whether the Acts should be maintained, amended, extended, or repealed."

Since that time the committee have examined seventy-one witnesses and sat sixty-eight days. Their inquiries were confined to the operation of the Acts in Great Britain and Ireland; as it was found that too great delay would be inevitable in reaching a report were foreign countries and the British Colonies included, and that owing to the difference between English and foreign and colonial habits and social institutions, scarcely any additional light would be thrown on the questions under consideration.

The first Contagious Diseases Act was passed by Parliament in 1864 and repealed in 1866, and the present Acts were passed in 1866, 1868, and 1869. Want of space prevents our giving the details of these Acts, nor is that necessary. The important provisions, those which make a study of the operation of the Acts of general interest to the physician or the sociologist everywhere, are contained in the sections which deal with the periodical medical examinations of common prostitutes, and their detention, if diseased, in a hospital. By section 15, where information on oath is laid before a justice by a superintendent of police that he has good cause to believe that a certain woman is a common prostitute, and either is resident within the limits of a place to which the Act applies or being resident within ten miles of those limits, has, within fourteen days before the laying of the information, been within those limits for the purpose of prostitution,

the justice may, if he thinks fit, issue a notice calling on such woman to appear at a certain time and place. On being satisfied of the truth of the information the justice may order the woman to be subjected to a periodical medical examination by the visiting surgeon for any period not exceeding one year, for the purpose of ascertaining whether she is affected with a contagious disease. Any woman may, by a voluntary submission in writing, signed in the presence of the superintendent, subject herself to a periodical examination for any period not exceeding one year. If on examination the woman is found diseased she may be detained in hospital. Any woman desiring to be relieved from examination may apply in writing to a justice, who, if satisfied she has ceased to be a prostitute, or if, with his approval, she enters into recognition for her good behavior during three months, may order her to be released therefrom. "The periodical examinations" according to present practice take place at intervals of a fortnight. The Acts apply to thirteen districts — called "subjected districts" — in Great Britain, and two in Ireland, selected on account of the number of soldiers and sailors quartered in them, and the amount and virulence of venereal disease they gave proof of in periods anterior to the passing of the Acts.

The Acts have previously been the subject of a report of a commission appointed in 1870 to consider their operation as the result of a strong opposition to them in which several ladies were very active.

The present committee divided their inquiry into two branches: (1.) The hygienic effect of the Acts, especially on the health of the army and navy. (2.) The constitutional, moral, and social aspects of their principles and administration.

In regard to the first branch of their inquiry, which was practically confined to the army, the committee declare themselves to be of the opinion that the Acts have successfully served the two objects to which they were directed, the diminution of venereal disease, and the increased efficiency of the army. The Acts have had in reality but an inadequate trial. In the earlier years, from 1866 to 1869, they were not in full efficiency. The three following years were not a sufficiently long period to develop their full influence, and their utility thenceforward has been diminished up to 1879 by the action of Lord Cardwell's order." (An order depriving soldiers affected by venereal diseases of pay, and consequently producing concealment of disease.) "The benefit conferred since 1866 is great, but it is only an earnest of what the Acts may be expected to do hereafter for the health and efficiency of the army." They report a very general opinion on the part of the medical profession, both in and outside of the subjected districts, that on hygienic grounds the Acts should be maintained.

In pursuing the second branch of their inquiry, namely, the operation of the Acts as regarded in their constitutional, moral, and social aspects, the committee, duly impressed with the great delicacy and difficulty of the considerations involved, take up first the main objections to the Acts made on other than hygienic

grounds. In answer to the objection that they involve in theory the recognition and encouragement of vice by the state, the committee reply that "the Acts do not give prostitution more toleration than it enjoyed before their existence or than it now enjoys where they are not in force. It is not the Acts but the administration of the ordinary law that gives it toleration. All the Acts have done is to insist that the toleration permitted by the institutions of the country shall be exercised with less detriment to public health." They are of the opinion that "this objection to the system involves fundamentally the opinion, which, however, the opponents of the Acts strenuously reject, that prostitutes who have no intention of leaving their calling should not be provided with the means of cure, lest their freedom from disease should encourage men to associate with them." "The insistence on religious and moral influences make the system in principle an ally and not an enemy of religion and morality." The objection that the Acts violate constitutional principles the committee do not share, stating that "the prostitute, in order to prevent the spread of a dangerous disease, is compelled to submit to measures which are not in themselves indecent, and which virtuous women often undergo voluntarily. The examination is not in itself, and apart from the causes which necessitate it, a dishonor, and the compulsion to which the prostitute has to submit is the result of her own misconduct." A third objection that the Acts, in practice, increase vice by making it safe, is met by the answer that the class of men most protected by the Act is, as a rule, composed of those who gratify their vicious passions without the slightest regard to any sanitary consequence. It is also pointed out that this objection, founded on the supposed tendency of the Acts to secure immunity from disease, is urged by the very persons who contend that they have, from a sanitary point of view, proved a complete failure. A fourth objection, that the Acts affect unfairly the female sex, is disposed of by the reply that they are not directed against women, but against a class, namely, prostitutes, and that no corresponding class exists among the male part of the population. The objection that virtuous women may be and are brought under their operation was considered by the committee to be of the gravest kind, and if sustained fatal to the maintenance of the Acts; they therefore spared no labor in probing it to the utmost, and as a result they are not satisfied that in a single case the action of the police has been marked by the carelessness and misconduct somewhat recklessly attributed to them, but find, on the contrary, that they have hitherto discharged a novel and difficult duty with moderation and caution.

Another objection was that the Acts have increased clandestine prostitution. This the committee did not find borne out, and they believe, on the whole, that "the deterrent effect of the Acts and their judicious administration have diminished the number of clandestine as well as public prostitutes."

On the other hand, the committee are of opinion that no room for doubt can exist that the following

advantages, other than hygienic, have been conferred by the Acts: (1.) A diminution of prostitution in subject districts. (2.) An almost entire suppression of juvenile prostitution. (3.) Fallen women have been rescued from the frightful state of filth and disease in which they had previously lived, and thus been placed under conditions in which they for the first time become amenable to humanizing and reforming influences. (4.) Public order and decency have been promoted in the districts in which they are in force.

After thus reviewing the various arguments which have been urged against and for the Acts, and dissecting the evidence by which these have been supported, the committee report that they would not recommend either a repeal, an extension, or any amendment of the Acts. An extension is not thought desirable on the ground that public opinion is not yet quite ripe for it.

#### EIGHTEENTH ANNUAL REPORT OF THE BOSTON CITY HOSPITAL.

THE Report of the Boston City Hospital for 1881 and 1882 records few changes in the general administration of the institution, but gives simply the details of the year's work. There have been received for treatment during the time covered by the report 4,382 patients, who spent an average of twenty-three and one fourth days each in hospital. In the outpatient department 12,015 patients made 38,676 visits, and 1735 individuals were examined for admission and rejected, 106 being refused for lack of accommodation. Five hundred and sixty-seven patients were admitted with accidental injuries, and of all the patients received into the hospital 139 died within forty-eight hours after admission.

The same world-wide complaint of overcrowded charitable institutions is to be found here. The temptation to crowd the buildings beyond their actual capacity has been resisted, and the actual number treated was less the past year than the year before. During the previous year it was attempted to provide, in some way, for all urgent cases, by putting beds in corridors, and in places unsuitable for the proper treatment of the sick. It was soon found that those under treatment were not as well cared for; the nursing force became overworked, and the attempt to treat an excessive number was so manifestly injurious as to compel the restriction of the admissions to the actual capacity of the wards.

An attempt to remedy the necessity of rejecting worthy cases was sought in devoting one ward hitherto devoted to women to men, which was successful only so far as to transfer the greater number of rejections from the males to the female applicants.

The last report estimated that "the city incurs an expense of at least ten thousand dollars annually, for the treatment and board of patients who, having no legal settlement, are properly chargeable to other cities, towns, or the State." Accurate investigation has shown that during the past year there has been expended more than \$21,000 on such patients.

The trustees seem to be well-nigh discouraged from any attempt to discriminate in the bestowal of charities, as the following would seem to indicate:—

"It has been demonstrated here, as at other hospitals and dispensaries, that large numbers apply for treatment who come from the surrounding towns and cities, and hence have no claim on the hospital, or who, living within the city, are well able to employ a physician at home. This distribution of medical charity, more or less indiscriminate, has long been an abuse. The evil can be only remedied when a more correct public sentiment on the subject is established in the community."

The use of tents during the summer months, to which we alluded not long ago, is referred to as one "of paramount importance in the recovery of serious cases." It is to be hoped that the same satisfactory measures will be adopted on the medical side of the house. The 178 cases of typhoid fever would seem to offer an abundant field for open-air treatment. Many of the cases of chronic pneumonic phthisis, of which there were 210, would find a fair substitute for the impossible journey to the far West in the free access of our own atmosphere, from which many of them have been debarred by the nature of their labors or their own careless habits.

The space devoted to the Training School would indicate that it is a matter of pride and paramount interest to the superintendent, who says of it, that by its closer incorporation with the true work of the hospital, by the improved methods incident to its growth, and by a superior class of pupils, it has greatly enhanced the value of the hospital in its relation to the public, and in its work of caring for the sick of this city.

If the positions taken by its graduates may be considered a fair test of its merit, the City Hospital Training School certainly ranks high.

We have only hinted at the more interesting portions of the report; it well deserves the notice of all interested in the welfare of the institution.

#### THE EFFECT UPON HEALTH OF PROLONGED HEAT AND DRYNESS AS SHOWN BY DEATH-RATES.

We have brought together, for comparison, the total death-rates and highest and lowest death-rates of the thirty-five cities and towns in Massachusetts reporting to the State health officer for the years 1881 and 1882. After so unusual a period of continuous heat, with absence of rain, as prevailed in this State from early in July till the middle of August, it is a matter of interest to observe the effect from a comparative point of view upon the general health.

Although the extreme heat subsided about the middle of August, the dryness still continues. The level of the subsoil water, although now low, resisted for a long time the effects of the drought which soon parched the surface of the soil, on account of the heavy rainfall during the spring months.

The death-rates for the two years are calculated from the census population of 1880, and any error of course affects the death-rates of the year 1882

more unfavorably than those of 1881. There have been no especial epidemics, however, and the real increase in sickness and mortality is to be attributed to the heat and dryness.

AUGUST, 1881. For the week ending August 6th the total death-rate was 29.16, ranging from a minimum of 4.20 in Fitchburg to a maximum of 51 in Salem. Mean temperature at the Signal Office in Boston 73° F.; total rainfall at Boston .13 in.

August 13th, total death-rate 27.58, minimum 10.79 in Gloucester, maximum 51.78 in Salem. Mean temperature (Boston) 73° F.; total rainfall (Boston) .21 in.

August 20th, total death-rate 28.67, minimum 7.70 in Newburyport, maximum 15.33 in Holyoke. Mean temperature 62° F.; total rainfall .81 in.

August 27th, total death-rate 22.85, minimum 8.41 in Fitchburg, maximum 37.78 in Salem. Mean temperature 67° F.; total rainfall .15 in.

AUGUST, 1882. For the week ending August 5th total death-rate 30.73, minimum 8.15 in Lynn, maximum 51.98 in Fall River. Mean temperature (Boston) 71° Fahr.; total rainfall (Boston) .00 in.

August 12th, total death-rate 33.34, minimum 8.64 in Malden, maximum 56.52 in Salem. Mean temperature 74° Fahr.; total rainfall .53 inches.

August 19th, total death-rate 30.51, minimum 7.91 in Gloucester, maximum 48.98 in Salem. Mean temperature 70° Fahr.; total rainfall .45 inches.

August 26th, total death-rate 24.29, minimum 15.60 in Springfield, maximum 42.03 in Brockton. Mean temperature 63.4° Fahr.; total rainfall .46 inches.

The response of the death-rate to a prolonged elevation of temperature, is well exhibited in the foregoing if taken in connection with the records of the month of July; the effect of falling subsoil water is hardly exhibited in so small a period.

The constantly high death-rate of the city of Salem under all circumstances in both years is striking, and one might infer something unsatisfactory in the administration of its sanitary interests.

#### MEDICAL NOTES.

—A series of experiments has been recently conducted by Herr Kissling, of Bremen, with the view of ascertaining the proportions of nicotine and other poisonous substances in the smoke of cigars. His paper, in *Dinglers Polytechnisches Journal*, gives a useful *résumé* of the work of previous observers. Only a small part of the nicotine in a cigar is destroyed by the process of smoking, and a relatively large portion passes off with the smoke. The proportion of nicotine in the smoke depends, of course, essentially on the kind of tobacco; but the relative amount of nicotine which passes from a cigar into smoke depends chiefly on how far the cigar has been smoked, as the nicotine contents of the unsmoked part of a cigar is in inverse ratio to the size of this part—that is, more nicotine the shorter the part. Evidently, in a burning cigar, the slowly-advancing zone of glow drives before it the distillable matters, so that in the yet unburnt portion a constant accumulation of these takes place.

It would appear that in the case of cigars that are poor in nicotine, more of this substance relatively passes into smoke than in the case of cigars with much nicotine; also that nicotine, notwithstanding its high boiling point, has remarkable volatility. — *Scientific American*, August 12, 1882.

— A modification of the Esmarch method of producing artificial bloodlessness is reported as having been in vogue for some time in Australia, where, indeed, it is supposed to be the genuine Esmarch method. A stout ring of small size, made of rubber tubing, is rolled up the limb from the extremity, driving the blood before it. When the desired height has been reached a pad of cloth is introduced under the ring, over the artery, to produce additional compression, and the ring remains *in situ* during the operation.

### Discipline.

#### CONFERENCE OF STATE ANALYSTS OF FOOD AND DRUGS AT MONTREAL.

DURING the late meeting of the American Association for the Advancement of Science, held at Montreal, there were many informal discussions held among those members present who held official appointments under the several laws for the prevention of the adulteration of food and drugs, passed in the United States and Canada, as to the special merits and defects of their several statutes, and as to the advantages that would result from the formation of an association, similar to that already in England, of those holding such public appointments in America.

It was uniformly agreed to by all as of vital importance for the successful execution of all such laws that the analysts themselves should on no account act as inspectors to collect samples, and as a general rule should not even know from what sources the articles had been obtained. This relieving them from any suspicion of personal bias is of very great importance to the analysts, as there is always quite enough outcry against them at first without their having to do anything to make themselves personally obnoxious. The collection of samples by the inspectors should of course be under the direction of the analysts, as they are the ones presumably best informed as to the classes of goods most likely to be adulterated, and they can, moreover, thus arrange for the selection of such classes of articles as they can most conveniently carry on the analysis of at the same time.

The formation of a society of the Public Analysts seemed desirable, as furthering their meeting from time to time to discuss and examine new methods, and to decide upon certain definite processes of analysis to be used in the case of each sample which may be submitted to them. Without such uniformity of methods there can be no just comparison of the results obtained. They should also agree upon the certain definite limits of variability to be submitted to their several State Boards of Health for their approval. In short, association among the Public Analysts of America, it is hoped, would do for them and the cause which they represent all that which the Massachusetts Medical-Legal Society has done and is doing for the Medical Examiners in this State, and what the English Society has done for the Public Analysts there.

#### CONCERNING THE TREATMENT OF THE WOUND OF PRESIDENT GARFIELD.

AN ADDRESS BEFORE THE PHYSIOLOGICAL SOCIETY OF KIEL, DELIVERED FEBRUARY 2, 1882.

BY DR. FRIEDRICH ESMARCH,  
Professor of Surgery in the University of Kiel.

TRANSLATED FOR THE BOSTON MEDICAL AND SURGICAL JOURNAL BY R. STANSBURY SUTTON, M. D., PITTSBURGH, PA.

IN the Boston Medical and Surgical Journal of November 24, 1881, I find a letter from the senior surgeon of the Pennsylvania Hospital, Dr. William Hunt, in which he speaks of the symptoms of President Garfield's wound, defends the attending physicians against the charge that they had not done enough, and finishes with an attack on the antiseptic method in the following language:—

"Much has been said in this case of the antiseptic method. It was, as I believe, used to a very great extent. Its practice was complete with the exception of the spray. I agree with all my heart with the German surgeon who says, 'Away with the spray.' But can there be a better commentary on the improved theory of antiseptic surgery than the case of the President? I protest earnestly against this theory, or at least against its effect on the contemplation of many people, that all the elements which produce septic poison must come from without. I have too much respect for Mr. Lister to assume that he believes what the extreme followers of his school teach. The influence of such a doctrine on the young generation of physicians and surgeons is bad, because it leads to restricted intuitions, and prejudices plain diagnosis. Its leads far too much to the outside, for the putrefactive element, in my opinion, comes much oftener from within than from without. Was not the injury to the vertebra in this case a sufficient cause of the septicæmia? It may be a useful thing to first drive out all the rats, and then to fill the holes with poison, and shut them up, but it is a bad thing when we fill the holes with poison, shut them up, and leave the rats within. They will continue to dig and make new holes. The restricted antiseptic believer looks about the room, and not at the patient, while he ought to look at both, and to pay proper attention to all septic possibilities."

These utterances of an esteemed American surgeon induce me to communicate my opinion of the treatment of President Garfield's wound, inasmuch as I see in different American and English medical periodicals, of which I get a sight, that the wound of the President and its treatment has been publicly discussed by the most celebrated surgeons of America, and very different opinions have been expressed. The *North American Review* for December, 1881, contains four articles, which emanate from well-known authors. In the first article, Dr. Hammond, author of the *Hand-Book of Military Hygiene*, finds fault with the attending physicians, because they have not tried to remove the ball. He further says, "The original injury was not a fatal one, but the President has not had all the advantages that modern surgery offers." Marion Sims, on the contrary, asserts that the wound of the President was absolutely mortal; that the injury of the vertebra was of necessity a cause of septicæmia; that it was impossible that the President could have died

without it, and that it was impossible that he could live with it. John Ashurst and Hodgen then again defend the treatment of the attending physicians, and the former intimates that there has not been sufficient care taken to nourish the patient. On the whole, I am compelled to agree with Dr. Hammond's last sentence, but from quite a different standpoint.

In order to argue my opinion of the case, I will premise an abridgment of the history of the illness which Dr. Bliss has published in the *Medical Record* of October 8, 1881, and to this I will append, at appropriate places, short critical remarks.

President Garfield, on the morning of July 2, 1881, at nine o'clock, received a revolver shot; it came from near by, from behind, and from the right side, and entered his back. The ball entered four inches from the middle line of the back, close above the eleventh right rib, fractured it, and passed on, and remained in the body. The President fell, lost consciousness for a short time, vomited. He was carried into an adjoining house, laid upon a mattress. Being very "collabrit,"<sup>1</sup> they gave him stimulants. The first physician who saw him, Dr. Townsend, immediately put his finger into the wound, but without finding the ball.<sup>2</sup> Dr. Bliss soon arrived, and found the President very pale, "collabrit," the respiration sighing (8 to 10 per minute), the pulse very small, weak, frequent (about 120 per minute), face and hands covered with cold perspiration. The patient complained of a feeling of heaviness and deafness, later of stinging and pain in the lower extremities.<sup>3</sup> Dr. Bliss immediately examined the wound,<sup>4</sup> out of which some blood was flowing, with a Nélaton's probe, which he inserted to a depth of three and a half inches, and which, as it was withdrawn, stuck fast in the fragments of the crushed eleventh rib, and was only loosened by pressure on the sternal end of the rib.<sup>5</sup> Then he put the little finger of his left hand into the wound,<sup>6</sup> but did not feel anything but torn tissue and solid blood-clots. Then he inserted a curved silver probe, downwards in front, and behind in different directions, to find the canal made by the bullet. Even now, not feeling anything, he concluded that the ball, after fracturing the rib, had passed on into the liver, and he desisted from a further examination of the wound, and explained his opinion to the assembled physicians. I learn from the *Medical Record*<sup>7</sup> that the physician, General Wales, then examined the wound with his finger. Because the President earnestly desired to be brought to the White House, a "temporary dressing"<sup>8</sup> was put on, and he was driven rapidly in an ambulance over a road, part of which was bad, to his home. The President, being asked, declared that the movement of the ambulance did not give him "disagreeable feelings."<sup>9</sup> After his arrival he was laid upon a bed, and his condition was carefully examined. The great prostration continued, the extremities were cold, the respiration slow, sighing, the pulse very weak. He sometimes vomited, and there was profuse perspiration over the

whole body. He often complained, with a hoarse voice, of violent pain in the lower extremities, for the relief of which morphia was injected under the skin. On account of his great prostration, his clothing was not removed until five o'clock p. m. (up to this time no antiseptic dressing of any kind was applied), because they supposed it might be dangerous. They found the margin of the wound somewhat discolored, and imputed it to blood effused into the tissues. They dressed the wound with carbolic wadding, and wrapped up the body in warm flannel.

The urine was retained until six o'clock p. m.;<sup>10</sup> a catheter was passed, and six ounces of clear, not bloody,<sup>11</sup> urine was evacuated. The catheter was not used again, and the stools were normal from the day following to the end of the case. At ten p. m. pulse 158, temperature 36° C., respiration 35, the collapse at its highest. The physician general thought he was dying. All the physicians, of whom three or four were always sitting by the bed, were of the same opinion. At 11.20 p. m. the reaction began, the pulse sunk to 120, the respiration to 18, the temperature rose to 37° C. The carbolic dressing had shifted, and must be reapplied.<sup>12</sup> During the night a discharge of dark blood continued from the wound, and made further changing of the dressing necessary.<sup>13</sup> On the following morning the discharge had ceased, and the bandage was adherent to the skin. The night was tolerably good, with the aid of morphia injected, but the pains in the legs continued, and were accompanied with hyperæsthesia of the scrotum. On the morning of July 3d the condition was very satisfactory; the temperature and respiration were nearly normal, the pulse 115. The primary reaction had reached its highest point (pulse, respiration, and temperature?) at two p. m. Some tympanitis was evident, but no trace of peritonitis, no pain on pressure, no stretching of the abdomen at any time. At ten p. m. pulse 120, temperature still 38° C., respiration 20. On the following morning, July 4th, Dr. Agnew, of Philadelphia, and Dr. Hamilton, of New York, came to a consultation. The President had passed a tolerably good night, with slight interruptions had good sleep, the disposition to vomit had disappeared, and the pain by means of morphia was arrested. The temperature was 37.8° C., pulse 104, respiration 19.<sup>14</sup> Notwithstanding, a new examination of the wound was made, and the track of the bullet sought after with sounds and flexible bougies, etc.<sup>15</sup> They arrived at the conviction that neither the liver, nor the kidneys, nor the intestine, nor the peritonæum were injured,<sup>16</sup> and withheld operative interference. The pains in the legs, the hyperæsthesia of the scrotum, the disposition to vomit, had by the evening of July 4th gradually disappeared, and the case progressed, with slight uncertainties, but quite satisfactorily, until July 23d. The digestion was tolerably good, the wound suppurated, the temperature was always normal in the mornings, a slight fever appeared sometimes in the evenings. On July 21st an accumulation of pus was discovered under abdominal covering; it was evident under the twelfth rib, reaching to the

<sup>1</sup> Collabrit is probably faint.

<sup>2</sup> Medical Record, vol. xx., No. 3, p. 57. That he first washed and disinfected his hands is not stated.

<sup>3</sup> Concession of the spinal marrow.

<sup>4</sup> Of antiseptic precautions nothing is said.

<sup>5</sup> Without the spray, a dangerous procedure.

<sup>6</sup> That he first washed and disinfected his finger is not said.

<sup>7</sup> Loc. cit., page 71, 4.

<sup>8</sup> What is that?

<sup>9</sup> From which it was to be inferred that the vertebra were not dislocated.

<sup>10</sup> Spasm of urethra.

<sup>11</sup> Also no injury of the kidneys.

<sup>12</sup> An antiseptic dressing should not so easily shift its position.

<sup>13</sup> It was impossible that the bandage could have been very thick.

<sup>14</sup> Also the whole condition very satisfactory.

<sup>15</sup> Wherefore? Dr. Hamilton, by his own report, desisted from probing with the sound. Concerning the proper disinfection of the instruments and the remaining antiseptic precautions nothing is said.

<sup>16</sup> Which they should have known without this examination.

middle erector spinae, and under the latissimus dorsi and at every change of the bandage it was carefully squeezed out toward the external bullet wound.<sup>1</sup> On the evening of July 23d a chill occurred, followed by a temperature of 40° C., pulse 124, and respiration 26 per minute. An incision was made over pus accumulation down to the broken rib, of which a small splinter was removed. The chill again occurred in the evening, at eleven o'clock, and again during the following night. Because there was not much improvement they enlarged the opening on July 26th, and removed another small fragment of the broken rib. Upon pressure on the abdomen, between the umbilicus and spina anterior, above and behind, a peculiarly white and consistent pus flowed out of the wound, which, as it seemed, had not before this time come in contact with the air? On August 6th a rise in temperature again occurred, and they discovered a hard tumefaction in the right groin (*Darnbringrube*). A flexible catheter could be passed seven inches downwards toward this tumefaction. From this time this was done twice a day, for the purpose of washing out the matter, by means of an irrigator filled with a solution of permanganate of potash.<sup>2</sup> On August 8th the President was etherized, and the wound again enlarged; by means of a long probe a still deeper canal was discovered, and a counter opening was made near the anterior superior spine of the ilium. At first it was supposed that the bullet had gravitated, but it proved to be only a retro-peritoneal settling of the pus caused by the broken rib. (Later the hard tumefaction entirely disappeared.) From this time until August 14th a tolerably satisfactory condition continued, when it was followed by repeated vomiting and great prostration, and a moderate rise in temperature. They withdrew the nourishment by the mouth, and resorted to nutrient enemata, and the stomach again became quiet. On August 18th a tumefaction of the right parotid gland appeared, and subsequently suppurated. An incision was made, but little discharge followed it. An abundant supply of pus and dead tissue did not occur until after the abscess had spontaneously opened into the mouth and external auditory canal, and after several incisions had been made; these wounds healed almost entirely before death. The general condition meanwhile grew but little better; small abscesses appeared in the axilla and in other parts. On the sacrum several bed sores appeared. In addition a severe bronchitis and a choking up of the under part of the lungs, especially of the right, came on. The President was now and then delirious, and the margin of the bullet wound looked badly.

On account of the great heat and the questionable healthfulness of the White House, it was resolved to remove the President to the seashore. On September 6th he was taken to Ellerton Cottage, Long Branch, with all possible precaution and rapidity (sixty miles per hour); he endured the journey well, with slight fatigue at the end of it, and was on the following and for a few days evidently better, so much so that he dismissed some of his physicians. But on September 17th, at eleven a. m., a violent chill suddenly occurred, and was followed by a rise of temper-

ature and violent convulsive pains in the chest (*mediastinum anticum*), which recurred from time to time until death. On September 18th the chill again occurred, followed by a rise of temperature and increasing prostration. On the morning of September 19th two chills occurred, then there was a temporary improvement, when suddenly, at ten p. m., death occurred, as if from some internal injury.

At the close of this report Dr. Bliss says that most approved antiseptic dressings were used<sup>3</sup> during the entire progress of the case.

From the detailed report of the autopsy, which is signed by Dr. Bliss and four other physicians, we take the following data. The external bullet wound was cicatrized and depressed, and was three and a half inches to the right of the spinous processes of the vertebral column, in the tenth intercostal space. A deep incision, from the operations of July 24th, and August 8th, was parallel with the upper margin of the twelfth rib. The twelfth rib was found broken one and one fourth inches to the right of the transverse process of the twelfth dorsal vertebra, a fact not discovered during life. The bullet then entered the upper part of the right side of the first lumbar vertebra, a quarter of an inch in front of and below the intervertebrate foramen, and had also injured the intervertebral cartilage lying above it; passed through the body of the vertebra in a diagonal line, inclining toward the left and front, and made an exit half an inch from the median line.

The spongy substance of the vertebra was destroyed, the fragments were somewhat dislocated, and a few splinters were in the neighboring soft parts. From the canal made by the bullet several deep cracks ran upwards to the twelfth dorsal vertebra and downwards to the next intervertebral cartilage. Both cartilages were partly destroyed by ulceration. The vertebral canal was not opened, the spinal marrow and its membranes were not injured, but were quite normal.

The bullet was lying two inches from the column, behind the peritonæum, in the fatty cellular tissue, closely under the margin of the pancreas. It was perfectly encapsuled in a fine cellular cyst, which contained besides the bullet a thin layer of inspissated pus and a small residuum of blood clot. From the cyst, the track of the bullet behind the pancreas was for an inch entirely obliterated and healed. That portion of the bullet's course, which was between the broken eleventh rib and the first dorsal vertebra, was considerably enlarged, and the pus had broken through the adipose cellular tissue behind the right kidney and had descended between the peritonæum and fascia as low as the groin. The adipose tissue in the neighborhood was infiltrated from inflammation.

The physicians supposed this gravitation of pus was in the canal<sup>4</sup> made by the bullet. Behind the liver, between this and the transverse colon and its mesocolon, an abscess, four by six inches, was found; in it lay the gall bladder. It was surrounded by a thick pyogenic membrane and fresh adhesions. It contained about two ounces of a greenish-yellow fluid, a mixture of pus and bile, but there was no opening in it communicating with the wound. The liver was neither injured nor inflamed. That portion of the bullet canal which led from the obliterated section of it to

<sup>1</sup> Concerning the danger of the act of squeezing out the pus from wounds, especially when there are bone splinters in it, Stromeyer (*Max.*, page 126; *Chirurgie*, page 796) and I. Rossetonien, page 22; Verelap, n. 14th, page 80; *Handbuch d. Chirurgie*, Technik, page 1, sect on 2, have spoken repeatedly and earnestly.

<sup>2</sup> At all events an obsolete and methodical method of disinfection.

<sup>3</sup> This means very little. There is a great difference whether a wound is treated with antiseptic dressings or whether it is treated according to the principles of the antiseptic method. It is evident that sometimes bad mistakes were made in the latter.

<sup>4</sup> Perhaps it was made artificially by the catheter?



the left side of the spine was filled with a blood clot, which extended to the left, meeting a coagulum of irregular shape, nearly as large as the fist, and which came in sight from behind the greater curvature of the stomach, when they had detached the large end of the latter. The blood clot came from an opening four tenths of an inch in length in the trunk of the splenic artery, two and a half inches to the left of the celiac axis, and must have formed several days before death, for the everted margins of the opening were connected by firm adhesions with the adjacent cellular tissues, forming a continuous wall on the border of the clot. The peripheral portions of the clot were deposited in tolerably firm concentric layers (false aneurism). The blood had broken through the peritonæum behind the spleen, and so got into the peritoneal sac.

Doubtless this tearing of the tissues by the extravasated blood was the cause of the violent paroxysms of pain which occurred before death. Both lungs were the seat of hypostatic pneumonia, but neither in them or in other organs were metastatic abscesses found, excepting the left kidney, in which was a small abscess one third of an inch in diameter.

From the history of the case, including the post mortem, I draw the following conclusions:—

(1.) President Garfield did not receive an absolutely mortal wound.

Neither liver nor peritonæum were injured. There was no peritonitis. No important organ was injured, excepting the bony spinal column. The vertebral canal was not opened, the spinal marrow was found uninjured. The injury to the vertebra was not of itself mortal; it might have healed very well had it not been for the suppuration. There are in military surgery enough examples of the healing of such wounds.

(2.) The bullet was not the cause of the suppuration; it probably carried no septic material into the wound, for it was encapsuled, and the adjoining part of its track was healed.

(3.) The cause of the suppuration, the septic material, must have been put in from outside, and different actions in the treatment are to be accused of that.

First. The immediate examination of the wound with the bullet probe and finger, which were probably not disinfected (without antiseptic precautions).

Second. The repeated examination on the third day (probably in the same way) by several physicians.

Third. The entirely insufficient antiseptic method in the treatment of the wound (bandage technique deficient).

Fourth. The squeezing of the wound on July 21st.

1 Every sportsman knows that the stag soon recovers from that shot which is called a hollow shot. (Hohlschuss.) This is the name for a high shot, in which the bullet injures neither the bowels, large vessels, or spinal marrow. The large vessels lie close to the lower border of the vertebral bodies, the spinal marrow on a level with the upper border of the same,—the shot passing between perforates the body of the vertebra. If the shot goes through the spinal marrow the stag breaks down immediately from paralysis of his hind legs, and does not live when the hunter approaches to give him the death stab. If the aorta or vena cava is injured he does not fall immediately, but soon after, and dies from hæmorrhage.

But the high, or hollow shot, is considered by hunters a bad shot, because they do not get the game by it. The stag does not die afterwards because no surgeon comes to his assistance to insert septic matter into the wound by fingers or probes. The stag does not die if the shot strikes a vertebral process. The stag falls because the hind legs are momentarily paralyzed by the concussion of the spinal marrow. If the hunter now approaches, the stag now goes on by means of its front legs, like a sea dog, pulling the hind legs after it; suddenly it jumps up, and using all four legs makes its escape good. This sportsmen call a "Krell-chuss," a fool shot.

Fifth. The then daily probing and spouting of the wound with an insufficiently antiseptic fluid. (A method of disinfection out of use.)

Sixth. The omission of a free incision of the pus cavity (August 8th).

A metastatic inflammation of the parotid gland did not appear before the 18th of August; it did not amount to real pyæmia. The President did not die of pyæmia, but of hæmorrhage after his strength was exhausted by the septic fever, the bronchial catarrh, and the hypostatic pneumonia. The blood came from an opening in the splenic artery, which was perhaps made by the bullet or a bone splinter; but probably extended afterwards, slowly by reason of the suppurative process, from a point bruised by the bullet or a bone splinter.

It is probable that before the fatal hæmorrhage occurred a spurious aneurism had formed, which opened under the suppurative process. If suppuration had not occurred, the injury to the artery might not have been followed by evil consequences. It seems that our exhortations to place first in the treatment of shot wounds the principle "do not do any damage," and the fine observations of Pirogoff, Klebs, Reyher, Bergmann, and others on the manner of curing the worst bullet wounds without suppuration, have not made any influence on our colleagues beyond the ocean. It is true that the public still think the bullet most dangerous; the soldier is happy when you put into his hand the bullet which you have cut out. But the surgeon should know that the bullet itself does not do any damage in the most of the cases; the damage which proceeds from it is caused by it in its course; the damage which is added to it mostly proceeds from the examiner's fingers.

It seems that the attendant physicians were under the pressure of the public opinion that they were doing far too little. But according to my opinion they have not done too little but far too much.

If they had entirely omitted the search after the bullet, and immediately after the injury dressed the wound in a real antiseptic way, the President might perhaps be still alive, like our Emperor, from whom Von Langenbeck did not cut out a single one of all his many small shots.

#### THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

THE annual meeting of this Association at Montreal was adjourned August 30th, after a session of a week, successful alike in the number of attendants, the abundance of the material presented, and the hospitality of the local committee and of the inhabitants of the city generally. Nine hundred and fifty members registered during the session, and three hundred and twenty-five new members were elected.

A number of distinguished men were present from abroad, including Dr. W. B. Carpenter, of London. Herbert Spencer, who was at one time expected, did not appear. While the attendance from the United States was in the aggregate large, it was noticed that the older eastern colleges were not so well represented as the younger institutions of the West. The few who were present from the larger centres of scientific inquiry, however, included some very distinguished names. The absence of many others is doubtless to be accounted for by the fact that the students who live in a constant atmosphere of scientific research feel less the

necessity of that stimulus of numbers which constitutes so important an advantage to workers less favorably situated in their customary surroundings. The advantages and disadvantages of such congresses are clearly put by a correspondent in the *Nation*, who says:—

"Some of the best scientific men in the country are very shy of them, believing that science is to be promoted by hard work in quiet hours, and that its results are to be communicated to learned bodies and placed on record in careful memoirs rather than announced to popular assemblies and reported in the newspapers. There is no doubt that the gaining of momentary applause is a very unworthy motive to inspire intellectual exertion, and many a capable person is impeded for life by yielding to the insidious temptation to be popular and to be talked about. There is also no doubt that many second-rate productions are brought forward in such assemblies as these. But there is another side to the matter. The opportunities which are afforded to the scientific men of this country and of Great Britain, France, Italy, and Germany, by their annual summer conferences are very great. Acquaintances are formed among those who are working in the same line, the younger men have easy access to those who have won renown, the older men discover the youths who are of promise; many a call to a professorship, many an appointment on a scientific investigation, has turned on such introductions as these meetings afford. The specialist who is in danger of becoming narrow is liberalized by contact with other workers; early information is obtained of inquiries not yet enough matured to be published; suggestions and counsels are freely interchanged."

The presiding officer of the session was Principal Dawson, of McGill College. The annual address was by the retiring president, Professor Brush, of New Haven, who gave a critical review of the history and present status of American mineralogy. After this introduction the Association divided itself into its nine special sections, each presided over by a vice-president,—"the nine capital vices of American science," as some one styled them. These sections all being in session at the same time much valuable material was presented before very small audiences, the members suffering from the *embarras de richesse*. This same fault, it will be remembered, has been found with the arrangement of the sessions of our National Medical Association, and could be in a measure avoided if only half the sections were in session at once. More than two hundred and fifty papers were presented, many of them of course of interest only to specialists. Among others which will attract more general attention we may mention, under obligation to the report in the *Nation*, the following:—

The address in the Mathematical and Astronomical Section was read for its author, Professor Harkness, of the Naval Observatory, on the Transits of Venus. It was an historical and, to a moderate extent, a critical review of what has been hitherto done in the observations of such transits, with particular reference to the results attained in 1871 and to those which are to be expected in 1882. Dr. H. C. Bolton, of Trinity College, gave a review of the recent work of the Chemical Section, and then took for his theme the history of chemical literature, especially in its early aspects. Mr. E. B. Elliott, the statistician, of Washington, introduced the work in Economic and Statistical Science

by a statement of the province which this new section is designed to fill. In Physics the speaker was Professor Mendenhall, of Columbus, Ohio, who was formerly in Japan, and he made an address on the methods to be pursued in teaching physics in colleges. Professor W. P. Trowbridge, of Columbia College, in the Section of Mechanics, made a strong plea for the promotion of experiments in mechanics, in close connection with theoretical studies. He dwelt upon the extraordinary demands now made by the public on engineers, and gave many illustrations of what experiment has done, and instances of what it may do in the future, to determine problems of profound importance. In the Biological Section, Dr. W. H. Dall, of Washington, gave an account of what has been accomplished in this country toward a knowledge of the biology of the mollusks. In the related Section of Histology and Microscopy, Professor Tuttle, of Columbus, Ohio, questioned the propriety of a special microscopical section, and in the section last to be named, the Anthropological, a paper by Dr. Daniel Wilson, of Montreal, was read on Some of the Physical Characteristics of Certain Native Tribes in Canada.

A great deal of curiosity was manifested to hear Mr. A. Graham Bell on the use of an induction balance in detecting the presence of metal in the human body,—a line of inquiry into which he was brought by the attempt to discover the position of the ball which destroyed the life of President Garfield.

The students of natural history gathered round Dr. Asa Gray, with enthusiasm as he reviewed the history of the study of the American Flora, with sketches of the original work of Michaux, Pursh, Torrey, etc., with some mention of his own labors, and with instructive hints as to that which remains for younger botanists to undertake. The Geological Section is always well attended, and the communications of Hall, Dawson, and Carpenter gave importance to its meetings this year. Besides these speakers there was Dr. Rae, with a valuable account of his Arctic explorations, and Commander Bartlett, of the United States Coast Survey, with a wonderfully interesting *résumé* of the results he has reached within the last two or three years in the study of the Gulf Stream, as to its currents, its depth, and its temperature. Professor Dwight, of Vassar College, brought before the Section a new collection of fossils which he has discovered in a locality hitherto unnoticed near Poughkeepsie. In the Physical Section the most remarkable paper was that of Professor Rowland, describing the new gratings which he has made at the Johns Hopkins University for the study of the solar spectrum. He exhibited the results obtained by these gratings in photographs of the spectrum, which far surpass any that have hitherto been made. The ethnologists listened to an account of some personal observations upon the inner tribal life of the Omaha Indians which have been made by Miss Fletcher during her residence among them.

The next meeting of the Association occurs at Minneapolis, and the officers announced are as follows: President, Professor C. A. Young, of Princeton; Vice-presidents of Sections: Mathematics and Astronomy, W. A. Rogers, of Cambridge; Physics, H. A. Rowland, of Baltimore; Chemistry, E. W. Morley, of Cleveland; Mechanical Science, De Vaulson Wood, of Hoboken; Geology and Geography, C. H. Hitchcock, of Hanover; Biology, W. J. Beale, of Lansing; Histology and Microscopy, J. D. Cox, of Cincinnati; An-

thorology, O. T. Mason, of Washington; Economical Science and Statistics, F. B. Hough, of Lowell.

The excursions and receptions which had been interspersed liberally among the scientific proceedings were continued by the committee in charge as long as any visitors remained. It must have been somewhat appalling to the tired committee men when a dispatch was received the last evening of the congress, saying that the British Association for the Advancement of Science would meet with their Montreal brethren in 1884. But the munificent hospitality displayed on this occasion will undoubtedly respond heartily to this additional and heavy demand.

### THE LOCAL TREATMENT OF DIPHTHERIA.

The details of a severe epidemic of diphtheria in Bessarabia are reported in the London *Medical Record* for August 15th. Thousands of cases had occurred, and the region originally attacked was devastated of

children, when the disease invaded the neighborhood of the reporter, Dr. Julius Kuppler. In the details of the treatment pursued there is nothing especially new, except perhaps his theory of the local treatment, which aimed not primarily at disinfection of the exudation but at irritation of the muscular structure of the pharynx. On this point he says:—

"Contraction of the subjacent tissue ought, by causing such a superficial dimensional change as was incompatible with its cohesion, to release the membrane from its position, as the placenta is peeled off the uterine parietes by the contractions of the latter; the idea was indeed contained in the use and sanction of emetics. He endeavored, by continued slight tickling of the fauces, to promote hourly contractions of the constrictors, and had the good fortune to find the attempt successful. Further observations, that thin elastic membranes were much harder to release than large thick ones, corroborated the correctness of the proceeding, the former being capable of more easily accommodating themselves to the movements."

### REPORTED MORTALITY FOR THE WEEK ENDING AUGUST 26, 1882.

| Cities.                          | Population by Census of 1880. | Reported Deaths in each. | Deaths under Five Years. | Percentage of Deaths from         |                |                      |                |                       |
|----------------------------------|-------------------------------|--------------------------|--------------------------|-----------------------------------|----------------|----------------------|----------------|-----------------------|
|                                  |                               |                          |                          | The Principal "Zymotic" Diseases. | Lung Diseases. | Diarrhoeal Diseases. | Typhoid Fever. | Diphtheria and Croup. |
| New York.....                    | 1,205,590                     | 701                      | 307                      | 39.90                             | 6.67           | 24.57                | 1.70           | 3.83                  |
| Philadelphia.....                | 846,984                       | 356                      | 142                      | 12.08                             | 1.63           | —                    | 3.09           | 5.07                  |
| Brooklyn.....                    | 566,689                       | —                        | —                        | —                                 | —              | —                    | —              | —                     |
| Chicago.....                     | 503,304                       | 302                      | 185                      | 45.02                             | 3.31           | 31.45                | 4.63           | 3.31                  |
| Boston.....                      | 362,535                       | 161                      | 77                       | 37.88                             | —              | 28.56                | 5.59           | 1.86                  |
| St. Louis.....                   | 350,522                       | —                        | —                        | —                                 | —              | —                    | —              | —                     |
| Baltimore.....                   | 332,190                       | 145                      | 63                       | 30.61                             | 1.37           | 8.96                 | 1.37           | 8.96                  |
| Cincinnati.....                  | 255,708                       | 121                      | 63                       | 33.04                             | 7.43           | 7.43                 | 5.02           | 5.78                  |
| New Orleans.....                 | 216,140                       | —                        | —                        | —                                 | —              | —                    | —              | —                     |
| District of Columbia.....        | 175,638                       | 81                       | 27                       | 28.38                             | 4.94           | 20.98                | 2.47           | 2.47                  |
| Pittsburgh.....                  | 156,381                       | 83                       | —                        | 40.94                             | —              | 22.88                | 12.04          | 3.61                  |
| Buffalo.....                     | 153,137                       | —                        | —                        | —                                 | —              | —                    | —              | —                     |
| Milwaukee.....                   | 115,578                       | 80                       | 55                       | 30.00                             | 7.50           | 26.25                | —              | 1.25                  |
| Providence.....                  | 104,857                       | 50                       | 25                       | 40.00                             | 2.00           | 38.00                | 2.00           | —                     |
| New Haven.....                   | 62,882                        | 37                       | 15                       | 37.83                             | 5.40           | 32.42                | 2.70           | —                     |
| Charleston.....                  | 49,999                        | 40                       | 19                       | 20.00                             | —              | 7.50                 | 5.00           | 2.50                  |
| Nashville.....                   | 43,461                        | 15                       | 5                        | 26.66                             | 13.33          | 6.66                 | 6.66           | —                     |
| Lowell.....                      | 59,485                        | 27                       | 11                       | 18.52                             | 11.11          | 14.81                | —              | —                     |
| Worcester.....                   | 58,295                        | 32                       | 24                       | 40.00                             | 6.24           | 37.50                | 3.13           | 3.13                  |
| Cambridge.....                   | 52,740                        | 17                       | 9                        | 23.52                             | —              | 23.52                | —              | —                     |
| Fall River.....                  | 49,006                        | 27                       | 23                       | 70.36                             | 3.07           | 59.25                | —              | 3.07                  |
| Lawrence.....                    | 39,178                        | 15                       | 7                        | 40.00                             | 6.66           | 40.00                | —              | —                     |
| Lynn.....                        | 38,284                        | 25                       | 13                       | 40.00                             | —              | 32.00                | 8.00           | —                     |
| Springfield.....                 | 33,340                        | 10                       | 5                        | 60.00                             | —              | 30.00                | 10.00          | —                     |
| Salem.....                       | 27,598                        | 22                       | 7                        | 13.62                             | —              | 9.08                 | 4.54           | —                     |
| New Bedford.....                 | 26,875                        | 21                       | 9                        | 47.62                             | —              | 47.62                | —              | —                     |
| Somerville.....                  | 24,985                        | 12                       | 6                        | 16.66                             | 16.66          | 16.66                | —              | —                     |
| Holyoke.....                     | 21,851                        | 18                       | 8                        | 50.00                             | 16.66          | 38.88                | 16.66          | —                     |
| Chelsea.....                     | 21,785                        | 11                       | 2                        | 72.72                             | —              | 27.27                | —              | 18.18                 |
| Taunton.....                     | 21,213                        | 9                        | 6                        | 11.11                             | —              | 11.11                | —              | —                     |
| Gloucester.....                  | 19,329                        | 5                        | 3                        | 20.00                             | —              | —                    | —              | 20.00                 |
| Haverhill.....                   | 18,475                        | 14                       | 6                        | 49.98                             | —              | 21.42                | 7.14           | 21.42                 |
| Newton.....                      | 16,995                        | —                        | —                        | —                                 | —              | —                    | —              | —                     |
| Brocton.....                     | 13,608                        | 11                       | 7                        | 36.36                             | 9.09           | 36.36                | —              | —                     |
| Newburyport.....                 | 13,537                        | 5                        | 4                        | 60.00                             | —              | 60.00                | —              | —                     |
| Fitchburg.....                   | 12,405                        | 8                        | 4                        | 62.50                             | —              | 50.00                | —              | —                     |
| Malden.....                      | 12,017                        | 6                        | 1                        | 16.66                             | —              | —                    | —              | 16.66                 |
| Sixteen Massachusetts towns..... | —                             | 46                       | 24                       | 41.31                             | 4.35           | 34.78                | —              | 2.17                  |

Deaths reported 2513 (no reports from Brooklyn, St. Louis, and New Orleans); under five years of age 1162; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 850, consumption 255, lung diseases 107, diarrhoeal diseases 335,

diphtheria and croup 95, typhoid fever 80, whooping-cough 40, scarlet fever 36, malarial fever 20, small-pox 16, cerebro-spinal meningitis 14, measles six, erysipelas three, remittent fever two, typhus fever two, puerperal fever one. From whooping-cough, New York 23, Philadelphia and Chicago, four each, Pittsburgh

two, Baltimore, Cincinnati, Milwaukee, Lowell, Worcester, Fall River, and Springfield one each. From *scarlet fever*, Cincinnati 11, New York eight, Philadelphia five, Chicago four, Baltimore three, Chelsea two, Boston, New Haven, and Woburn one each. From *malarial fever*, New York 10, Baltimore four, Chicago and District of Columbia two each, Cincinnati and Charleston one each. From *cerebro-spinal meningitis*, Chicago four, New York and Philadelphia two each, Boston, Baltimore, Milwaukee, Fall River, Fitchburg, and Quincy one each. From *small-pox*, Baltimore six, Cincinnati five, Philadelphia three, Nashville two. From *measles*, New York four, Boston and Baltimore each one. From *erysipelas*, Chicago two, Chelsea one. From *typhus fever*, New York two. From *remittent fever*, Charleston and Springfield one each. From *puerperal fever*, Chicago one.

Fifty-five cases of small-pox were reported in Baltimore, Cincinnati 30; typhoid fever 19, diphtheria 11, scarlet fever six in Boston; scarlet fever seven, and diphtheria one, in Milwaukee.

In 35 cities and towns of Massachusetts, with a population of 1,057,341 (population of the State 1,783,086), the total death rate for the week was 24.29, against 30.51 and 33.34 for the previous two weeks.

For the week ending August 5th, in 175 German cities and towns, with an estimated population of 8,395,020, the death-rate was 28.8. Deaths reported 4643: under five years of age 2814;

diarrhoeal diseases 481, consumption 462, lung diseases 313, diphtheria and croup 144, scarlet fever 90; typhoid fever 62, whooping-cough 55, measles and röteln 28, puerperal fever 15, small-pox (B-then two, Königsgberg one) three, typhus fever (Düsseldorf one) one. The death-rates ranged from 16 in Lubbeck to 52.9 in Posen; Königsgberg 37.2; Breslau 36.9; Munich 28; Dresden 31.2; Berlin 33.8; Leipzig 17.3; Hanburg 27.9; Cologne 33.3; Frankfurt a. M. 20.8; Strasburg 34.1.

In the 28 English towns, with an estimated population of 8,469,571, for the week ending August 12th, the death-rate was 21.1. Deaths reported 3425: acute diseases of the respiratory organs (London) 223, diarrhoea 439, whooping-cough 97, scarlet fever 80, measles 59, fever 45, diphtheria 24, small-pox (London four) eight. The death-rates ranged from 11.9 in Halifax to 31.6 in Sunderland; Plymouth 15.4; Bristol 18.4; London 19; Brighton 21; Birmingham 22.7; Liverpool 23.8; Leicester 24; Braintree 25.8.

For the week ending August 12th, in the Swiss towns, population 494,390, there were 33 deaths from consumption, diarrhoeal diseases 21, acute diseases of the respiratory organs 15, diphtheria and croup four, typhoid fever three, measles two, whooping-cough two, puerperal fever one. The death-rates were, at Geneva 11.4; Zurich 8.1; Basle 18.7; Berne 21.8.

The meteorological record for the week ending August 26th in Boston, was as follows, according to observations furnished by Sergt. O. B. Cole, of the U. S. Signal Corps:—

| Date.            | Barom-eter. | Thermom-eter. |          |          |            | Relative Humidity. |             |             |            | Direction of Wind. |             |            | Velocity of Wind. |             |            | State of Weather. <sup>1</sup> |             |                       | Rainfall.         |  |
|------------------|-------------|---------------|----------|----------|------------|--------------------|-------------|-------------|------------|--------------------|-------------|------------|-------------------|-------------|------------|--------------------------------|-------------|-----------------------|-------------------|--|
| August, 1882.    | Daily Mean. | Daily Mean.   | Maximum. | Minimum. | 7.23 A. M. | 3.23 P. M.         | 11.23 P. M. | Daily Mean. | 7.23 A. M. | 3.23 P. M.         | 11.23 P. M. | 7.23 A. M. | 3.23 P. M.        | 11.23 P. M. | 7.23 A. M. | 3.23 P. M.                     | 11.23 P. M. | Duration, Hrs. & Min. | Amount in inches. |  |
| Sun., 20         | 30.244      | 60            | 77       | 52       | 77         | 48                 | 70          | 65          | NW         | E                  | E           | 6          | 5                 | 3           | C          | F                              | C           | —                     | —                 |  |
| Mon., 21         | 30.278      | 61            | 77       | 52       | 69         | 52                 | 58          | 60          | NW         | E                  | SW          | 4          | 9                 | 10          | C          | F                              | C           | —                     | —                 |  |
| Tues., 22        | 30.164      | 66            | 80       | 55       | 72         | 55                 | 78          | 68          | W          | SE                 | SW          | 4          | 9                 | 7           | F          | F                              | C           | —                     | —                 |  |
| Wed., 23         | 30.044      | 61            | 83       | 60       | 74         | 52                 | 73          | 66          | W          | SE                 | SW          | 5          | 9                 | 5           | F          | F                              | C           | —                     | —                 |  |
| Thurs., 24       | 29.828      | 69            | 81       | 64       | 91         | 80                 | 76          | 82          | S          | E                  | W           | 4          | 6                 | 0           | O          | O                              | C           | —                     | —                 |  |
| Fri., 25         | 29.890      | 66            | 76       | 62       | 65         | 47                 | 78          | 63          | NW         | E                  | E           | 12         | 7                 | 2           | C          | O                              | F           | —                     | —                 |  |
| Sat., 26         | 30.185      | 61            | 77       | 57       | 74         | 72                 | 78          | 75          | NE         | E                  | S           | 4          | 12                | 3           | F          | O                              | O           | —                     | —                 |  |
| Means, the week. | 30.090      | 63            | 83       | 52       |            |                    |             | 69          |            |                    |             |            |                   |             |            |                                |             | 3.10                  | .46               |  |

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; X., clearing.

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM AUGUST 27, 1882, TO SEPTEMBER 2, 1882.

BROWN, J. B., lieutenant-colonel and surgeon. Granted leave of absence for six months on surgeon's certificate of disability. S. O. 200, A. G. O., August 29, 1882.

ALDEN, CHARLES H., major and surgeon. Granted leave of absence for three months. S. O. 196, C. S., A. G. O.

BILL, J. H., major and surgeon. Granted leave of absence to December 1, 1882. S. O. 196, A. G. O., August 24, 1882.

SMITH, A. K., major and surgeon. Granted leave of absence for one month on surgeon's certificate of disability. S. O. 131, Department of Arizona, August 22, 1882.

HEBARD, V. B., major and surgeon. Assigned to duty at Fort Wingate, N. M. S. O. 172, Department of the Missouri, August 28, 1882.

MISS, C. E., captain and assistant surgeon. The leave of absence granted him in S. O. 147, July 28, 1882, Department of the Missouri, is extended two months. S. O. 196, C. S., A. G. O.

SKINNER, J. O., captain and assistant surgeon. To take charge of medical director's office, Department of Arizona. S. O. 131, Department of Arizona, August 22, 1882.

BARTON, CHARLES C., assistant surgeon. Assigned to duty at Fort Grant, A. T. S. O. 130, Department of Arizona, August 21, 1882.

OWEN, WILLIAM O., Jr., first lieutenant and assistant surgeon. Assigned to temporary duty at Vancouver Barracks, W. T. S. O. 114, Department of the Columbia, August 11, 1882.

EGAN, P. R., assistant surgeon. Assigned to duty at Fort Bowie, A. T. S. O. 134, Department of Arizona, August 25, 1882.

WAKEMAN, W. J., first lieutenant and assistant surgeon. Now at Omaha, Neb., to report to the commanding officer, Fort D. A. Russell, Wyo., for duty. S. O. 88, Department of the Platte, August 25, 1882.

MACAULEY, C. N. B., first lieutenant and assistant surgeon. Assigned to temporary duty at Fort Columbus, N. Y. S. O. 147, Department of the East, August 25, 1882.

THE Eighth Annual Meeting of the Tri-State Medical Society (Indiana, Illinois, Kentucky) will be held at Terre Haute, Ind., September 26, 27, and 28, 1882. President, J. M. Holloway, Louisville, Ky. Secretary, G. W. Burton, Mitchell, Ind. Treasurer, F. W. Beard, Vincennes, Ind. J. E. Link, Terre Haute, Ind., Chairman of Committee of Arrangements. William Porter, St. Louis, Mo., Chairman of Committee of Programme.

BOOKS AND PAMPHLETS RECEIVED.—The *Mulum in Parvo* Reference and Dose Book. By C. Henri Leonard, M. A., M. D. Popular Edition. Detroit, 1882.

Officieller Katalog für die Allgemeine Deutsche Ausstellung auf dem Gebiete der Hygiene, Gesundheitspflege und Gesundheitstechnik und des Rettungswesens. Berlin, 1882.

Third Annual Announcement Memphis Hospital Medical College, Session 1882-1883.

The Treatment of Fracture of the Lower End of the Radius. By R. J. Lewis, M. D., Philadelphia. (Reprint.)

## Original Articles.

## A STUDY OF SOME POINTS IN THE PHYSIOLOGY OF DIGESTION.

BY C. L. DANA, A. M., M. D.,

Professor of Physiology in the Woman's Medical College of New York.

## THE FUNCTION OF THE CARDIAC AND PYLORIC PORTIONS OF THE STOMACH.

SOME time ago, in connection with my physiological lectures, I performed an experiment with the object of testing the function of the two divisions of the stomach. It would have no value alone, but it tends to confirm the observations of others, and may serve as a convenient text for the discussion of the subject of the present article.

And first a word in regard to the histology of the stomach as recently described.

The inner surface of the gastric mucous membrane is lined with cylindrical epithelium. The epithelial cells have two zones. The upper—that next the free surface—is the thicker, and is composed of protoplasm which is being changed into mucus (paraplasm of Kupfer<sup>1</sup>). The lower zone is protoplasm, and contains the nucleus. Many of the cells upon examination show the goblet shape which indicates the discharge of their mucoid contents. It is these surface cells which secrete most of the mucus that lines the stomach in the intervals between digestion.

The glands of the fundus are simple straight tubes, only occasionally branching at the base. Near the orifice they are lined with the cylindrical epithelium of the surface. In the remaining portion the gland is lined with small columnar cells, the "chief cells" of histologists, and with large oval cells, the "border cells." The latter are placed between or external to the former.<sup>2</sup>

The glands of the pyloric end of the stomach are compound, as a rule, and are larger than those of the fundus. They are lined with an epithelium formerly confounded with that of the surface, but now believed to be essentially like the "chief cell" of the fundus.<sup>3</sup>

As regards the functions of these different glands and cells, the following views have the latest and strongest support:—

In the fundus there is secreted a juice which is very strong in acid (about .5 per cent.), and is also strong in pepsin. In the pyloric end there is secreted an alkaline viscid fluid which is strong in pepsin. The "chief cells," and the lining cells of the pyloric glands which resemble them, are especially concerned in secreting pepsin; the "border cells" are especially concerned in secreting the acid (HCl) of the gastric juice.<sup>4</sup> The pepsin in the chief cells is thought to be partly in a perfected and soluble condition, partly in an insoluble form, analogous to that of zymogen in the pancreas.<sup>5</sup> The acid of the gastric juice transforms this insoluble

"mother ferment" into the active and soluble pepsin.<sup>6</sup>

The evidence for the above view is as follows:—

(1.) Partsch,<sup>7</sup> Swiecki,<sup>8</sup> and others find that in the esophagus of the frog there is secreted an alkaline pepsin-building fluid, while in the stomach the secretion is acid. The esophageal and gastric glands are distinctly separated. Now the gland cells of the frog's esophagus resemble very closely the "chief cells" of mammals, while the gland cells of the frog's stomach are identified with the "border cells" described above.

(2.) Snippings from the gastric mucous membrane digest the more quickly the greater the number of "chief cells" they contain.<sup>9</sup>

(3.) Heidenhain,<sup>10</sup> who is the most prominent advocate of this view, has made a series of experiments which, he considers, settles definitely the question of the function of the pyloric glands. He isolated a portion of the fundus of the stomach in eight dogs and a portion of the pylorus in six dogs, of which latter three lived. By means of fistulae he obtained the secretion from these different parts. That from the fundus was uniformly acid, containing, as an average of thirty-six tests, .52 per cent. of free HCl, while the average in the ordinary gastric juice of the dog is about .3 per cent. It contained pepsin in good amount. The secretion from the pyloric fistulae was constantly alkaline, very viscid, glassy in appearance, and rich in pepsin, though poorer than the fundus secretion. Upon the addition of acid fibrin is energetically digested.

This seems very conclusive. It should be stated, however, that Friedinger,<sup>11</sup> Von Wittich, Wolhügel, and a few others have, until recently, at least, denied this peptic power of the pyloric secretion, one of their reasons being that infusions of the mucous membrane are not active. According to my observations, the pyloric and cardiac portions of the stomach are more sharply distinguished in the dog than in man. So that we cannot draw inferences too confidently.<sup>12</sup>

(4.) My own investigations have simply a slight confirmatory value.

In the first place, in examining the stomachs of dogs killed during active digestion (and I have examined over fifty), I often noticed a large amount of thick, viscid, glassy-looking substance covering the pyloric end of the stomach. It was evidently secreted during active digestion, since I have not observed it in empty stomachs, and, therefore, was not mucus, but the same fluid obtained by Heidenhain from his pyloric fistulae. It lined the pylorus, and extended through the sphincter. It seemed admirably adapted for lubricating the surface and helping along the passage of food. Such a function would not be superfluous in an animal like the dog, whose stomach so often contains ragged pieces of bone and foreign matters,

<sup>6</sup> Langley (Journal of Phys., January, 1882) thinks there is no free pepsin in the cells, but only the pepsinogen.

<sup>7</sup> Partsch, C. Archiv f. mikros. Anat., xiv, 2, p. 179, 1877.

<sup>8</sup> Swiecki. Schmidt's Jahrbuch, clxxiv, p. 132.

<sup>9</sup> Ebstein and Grützner. Pfüger's Archivs, vol. vi., p. 1, 1872. Hermann's Elements of Physiology, p. 137, 1880.

<sup>10</sup> Heidenhain, R. Archiv f. Physiol., xix., 2 u. 3, p. 148, 1879. Also, Breslau Arzt-Zeitung, i., 4, p. 32, 1874; also in Archiv f. Physiol., xviii., p. 169, 1878, and in Hermann's Handbuch der Physiol., V. der Absonder. p. 1879.

<sup>11</sup> Friedinger. Wiener Sitzungsber., October 1871. See also Hermann's Elements of Physiol., loc. cit. Ebstein and Grützner, and Klemensiewicz confirm Heidenhain.

<sup>12</sup> In a very recent article (reviewed in the Berliner klinischer Wochenschr.) upon the secretion of the acid of the gastric juice, it is stated again that HCl is secreted in the pyloric end of the stomach. The statement is not sufficiently supported as yet.

<sup>1</sup> Kupfer. Berlin. klinische Wochenschr., xv., 47, p. 703, 1878.

<sup>2</sup> Heidenhain and Rollett first and independently described these cells.

<sup>3</sup> Kupfer. Vide loc. cit. Also Grützner. Archiv f. Physiolog., xx., 8 u. 9, p. 395, 1879.

<sup>4</sup> Edinger. Archiv f. mikr. Anat., vol. xvii., p. 193, thinks there is really but one kind of cell, and that the border-cells are developed from the chief cells. Herendorfer supports this, as I think, untenable view.

<sup>5</sup> Langley (J. N.). Journal of Physiol., vol. iii., Nos. 3 and 4, p. 269, 1882, thinks that pepsin is not found in the living stomach, but only pepsinogen. The granules of the gland cells are this pepsinogen.

and I cannot but think that the pyloric secretion has a lubricating as well as digestive function.

*Experiment.* A large dog, weighing about sixty pounds, was etherized, the stomach opened by an incision near the pylorus, and the organ thoroughly washed out. A ligature was thrown around the cardia (to prevent subsequent vomiting), and another ligature at about the junction of the cardiac and pyloric portions of the stomach. Previous to applying the latter ligature half an ounce of coagulated egg-albumen, cut up into half a dozen pieces, was inserted in the fundus. A like amount was inserted in the pyloric portion, and the incision carefully closed with a continued suture. The stomach of this dog was nearly as large as that of a man, and the capacity of the pyloric and cardiac cavities was about as two to three. The dog recovered well, sat up, and moved around. He was given enough morphine to prevent his suffering pain. Six hours later he was killed, and the stomach opened. In the cardiac portion there had been absolutely no secretion of gastric juice. There was a little mucus on the surface. The reaction was neutral; the albumen was unchanged. In the pylorus there was considerable of the glairy secretion above referred to. The whole surface being carefully washed off, the fluid obtained was slightly acid. On testing it with alkali and copper in the usual way, a purple violet color, indicating peptone, appeared. The ligatures were found to be tight. That separating the cardiac from the pyloric portion was found to include a strip of the fundus from half an inch to an inch wide. A secretion from this part would explain the acid reaction. In large dogs the fundus and pyloric end are sharply marked off, the mucous membrane in the latter portion being thicker and without rugae. The pieces of albumen were very slightly affected, the sharp edges being eaten off. The shock of the operation, which, owing to an accident, was unusually long, and the presence of the ligatures, had evidently almost entirely arrested secretion. But there was a moderate amount in the pylorus, and, as it seems to me, the fluid was of the same character as that obtained by Heidenhain.

In conclusion, we may consider it established that the fundus glands secrete an acid peptic juice and the pyloric glands an alkaline peptic juice. The latter probably has also some lubricating function. The special function of the "chief" and "border cells" in producing pepsin and acid respectively cannot be laid down so positively.<sup>1</sup>

#### VALUE OF PEPTONES AND OF PANCREATIC EXTRACTS.

I performed one series of experiments to test the comparative absorbability of peptones and beef tea in the stomach.

Pepsin and trypsin under proper conditions turn albuminous bodies into peptone. The transformation is not, however, a direct one. The proteids are first turned into closely allied bodies which have received various names (parapeptone of Brucke, anti- and hemi-albuminose of Kuhnle, propeptone, parapeptone, etc.). It is sufficient for my purpose to say that after the albumen is changed, and before it becomes peptone, it is on cooling precipitable with alcohol. We may speak, therefore, of "the precipitable products of digestion."<sup>2</sup> We shall refer to these again later on.

<sup>1</sup> It may be added that the secretion of Bruner's glands has been found to have peptic properties. As these glands are very similar in structure to those near the pylorus a similarity of function may also be inferred.

<sup>2</sup> Adamkiewicz, Z. Virochow's Archiv, lxxv, 1, p. 141, 1879.

Peptone itself is now agreed to be a hydrate of albumen.<sup>3</sup> It can be turned back into an albuminous body by dehydrating agents and prolonged drying.<sup>4</sup> It is chiefly distinguished by its being, as compared with albuminous bodies generally, quite diffusible (Funke). Upon this fact, as has been supposed, depends its importance as a digestive product.

As to peptone being absorbable and nutritive there can be no doubt. Catillon<sup>5</sup> has shown that the administration of peptone alone may increase the weight and the excretion of urea, and this whether the substance be given by mouth or by rectum. Adamkiewicz,<sup>6</sup> Chapoteaut,<sup>7</sup> Defresne,<sup>8</sup> Raymond,<sup>9</sup> Bergeron,<sup>10</sup> Fowler,<sup>11</sup> have contributed evidence as to the value of peptones. Their relative value is even definitely given. Chapoteaut makes a "conservé de peptone," of which he estimates that one drachm is equal to five drachms of beef. Sanders<sup>12</sup> estimates that one part of flesh peptone is equal to three parts of beef, and one part of bread peptone to three parts of white bread.

So much in favor of the peptones.

On the other hand, some observers<sup>13</sup> have not found the good results described by those just mentioned, who by the way are, many of them, personally interested in the manufacture of the substances they recommend. Again, there is a practical objection to almost all, if not all, genuine peptones, in that their taste is disagreeable.

Finally, it is a question whether they are very much more absorbable and nutritive than ordinary beef-preparations or scraped lean and raw beef. For Adamkiewicz<sup>14</sup> has recently asserted that the diffusibility of a proteid is no measure of its absorbability in the body; and that the "precipitable products of digestion," referred to above, are very easily absorbable, though not at all diffusible.

I made some experiments to test, if possible, the relative absorbability of peptones and beef extract so-called. Schmidt-Mulheim<sup>15</sup> has shown that peptones are rapidly absorbed or carried off in the stomach of dogs.

*Experiment.* Two dogs, therefore, weighing twenty pounds, were taken, and food kept from them for twenty-four hours. Gave No. 1 of beef-peptone (Gant's) two ounces; gave No. 2 of beef-essence two ounces. The preparations were both of about the same consistency.

One hour and forty minutes later both were killed by drowning, and the stomachs examined. No distinct evidence of either beef-essence or peptone could be found in the stomach or intestine. The animals had

<sup>3</sup> Kossel, and Hoppe-Seyler. Schmidt's Jahrbuch, clxxii., p. 231.

<sup>4</sup> Heninger, A. Comptes Rendu, lxxvi., 23, p. 1461, Juin 10, 1876.

<sup>5</sup> Hofmeister, F. Prag med. Wochenschr., iii., 27, p. 271, Juli 3, 1878.

<sup>6</sup> Catillon, A. Bull. de Therap., xeviii., 3, p. 116, 4, p. 169, February 15, 29, 1880.

<sup>7</sup> Adamkiewicz, A. Die Natur u. der Nahrungswert des Peptones. Berlin, 1879. Berlin. Klin. Wochenschr., No. 2, 1878.

<sup>8</sup> Chapoteaut, P. L'Union, 74, p. 947, Juin 12, 1880. Also Clin. Etudes des Peptones. Paris, 1881.

<sup>9</sup> Defresne, Th. Bull. de Ther., xcix., 1, p. 22, 1881, and Ibid., 5, p. 224, 1881.

<sup>10</sup> Raymond, L'Union, 24, p. 319, 1880.

<sup>11</sup> Bergeron, P. J. Gaz. des Hop., 65, p. 515, 1880.

<sup>12</sup> Fowler, G. B. N. Y. Medical Journal, vol. xxix., p. 561.

<sup>13</sup> Sanders, H. (Amsterdam). Die Bedeutung der Verdauung für die Ernährung, etc., S. 1, K. 8, 248 S.

<sup>14</sup> See Jour. de Therap., viii., p. 164, 1881.

<sup>15</sup> Vide loc. cit. Also J. Munk Physiol. des Menschen u. Säugethier, p. 169, 1881. Berlin.

<sup>16</sup> Schmidt-Mulheim, A. Archiv für Anat. u. Phys. (physiol. Abtheil.), 1879, p. 39.

swallowed some water, and the stomachs contained several ounces of a slightly yellowish fluid, which had no smell or taste of beef. So far as it went the experiment tended to show that the beef-essence was absorbed just as rapidly as the peptone in a healthy stomach. The facts of rectal absorption and of the absorptibility of non-diffusible proteids lead to the view that peptones, if more valuable than beef preparations, are so only because they may contain more nitrogenous matter.<sup>1</sup>

A few experiments have been performed to test the value of pancreatic extracts. Although Roberts has called attention to the possible value of such a preparation, there has been until lately no good sample in the American market, so far as I can learn. And the pancreatic ferments have hardly been used at all medicinally in this country. Recently, however, a very active preparation containing the three (or four) ferments of the pancreas has been furnished by Messrs. Fairchild & Co., of this city. It will peptonize milk to a considerable extent or entirely within an hour. Another American preparation has been found by Mr. Moriarta to be active.<sup>2</sup>

The question is, however, whether trypsin or the pancreatic diastase will be of any avail when given by the mouth. It has been very conclusively shown (Ewald,<sup>3</sup> Langley,<sup>4</sup> Kuhne, Mays,<sup>5</sup> Mourrut, Defresne<sup>6</sup>) that the gastric juice under ordinary circumstances digests the pancreatic ferments. Langley brings forward strong evidence to show that each digestive ferment is destroyed in the section of the alimentary tract below where it is secreted. This destruction takes place also within from a few minutes (Langley) to one (Ewald) or in some cases two (Defresne) hours, depending on the amount of ferment and the acidity of the juice.

There is, however, this hope: Defresne and others assert that gastric juice, made acid with *organic* acids, has a much less feeble destructive power, and only *suspends* the activity of the pancreatic ferments.

Now this experimenter, as well as Richet, and, I believe, some other physiologists, contend that hydrochloric acid is secreted chiefly or entirely in the first part of digestion. If, therefore, the pancreatic ferments be given some time after a meal, "guarded," perhaps, as Roberts suggests, with bicarbonate of soda, their activity will not be destroyed.

But, on the other hand, there is very strong evidence

that in reality the *organic* acids are secreted first, and that hydrochloric acid does not appear for nearly an hour, after the ingestion of food.<sup>7</sup> At the best the pancreas ferments must be given with uncertainty, therefore.

Besides, it should be remembered that the stomach is the great organ for digesting proteids, and the attempt to throw any great load upon the pancreas is but a makeshift. According to Bechamp's<sup>8</sup> experiments trypsin is less powerful than pepsin, and others have confirmed his opinion. When very large amounts of vegetable diastase are given, as in the malt extracts, it is possible that some passes into the intestine undestroyed.

In conclusion, I would say that peptones are valuable, but more because they contain much nutriment than because they are very absorbable. They increase metabolism.

Pancreatic extracts have not been proved to be of value when given medicinally, and they are probably destroyed in the stomach. They may be of much use, however, in partially peptonizing foods before such foods are used.

## SOME FACTS EXPLAINED BY MODERN PATHOLOGY.

BY HUGO ENGEL, A. M., M. D.,

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THE old "Humoral Pathologists" were by no means so very wrong. They imagined the existence of a morbid fluid, causing the process of disease according to the locality this fluid either selected for its seat or where it was deposited *volens volens*. So in cases of acute articular rheumatism, if the inflammatory swelling abruptly left the affected joint and the malady assumed the character of cerebral rheumatism, they said that the morbid rheumatic fluid had been carried by the circulation from the joint to the brain. This is only one instance of the old theory of humoral pathology. They gave to the word "metastasis" its modern definition. They recognized, however, the morbid agent as an entity, and while, with their limited means of investigation, they were not able to detect the real causing element, they supposed — and with perfect right — that the pathogenic substance was a foreign body, a something not belonging to the economy of the healthy animal organism, but either developed in the latter by some unknown process of decomposition, or carried from the surrounding atmosphere by way of the respiratory passages, or with fluid or solid nourishment through the alimentary canal into the human system.

Modern science at last has been able to demonstrate *ad oculos* the micro-organisms which cause so many diseases, and which induce a different train of symptoms according either to their own natural peculiarities or to the part of the organism which they have selected as their proper habitation. These parasites have their preferences. While some find the mucous membrane of the throat suitable to their further development, others thrive best where they can get the pure arterial blood from its first source, in the

<sup>1</sup> In estimating the value of the various beef and beef peptone preparations, it should be remembered that a healthy adult requires about four ounces of albuminous matter alone per day. There is nearly this amount in a pound of beef. The nutritive constituents of a pound of beef, therefore, cannot be gotten into much less than thirty teaspoons. The absurdity of the claims made for some beef preparations, for example, "one tea-spoonful represents the nutritive properties of a pound of beef," etc., is therefore apparent.

<sup>2</sup> Mr. D. C. Moriarta suggests in *New Remedies*, May, 1882, the following as a standard test of the proteolytic power of pancreatic extracts: Mix five grains of the pancreatin with twenty grains of bicarbonate of soda and four ounces of water; add to this mixture one pint of milk previously warmed to 140° F., and set aside two hours in a warm place. If the milk is completely peptonized, so that acetic and nitric acids do not produce any precipitates, the pancreatin may be considered of standard strength — in absence of official standard. If five grains is found insufficient, a larger quantity may be taken in a second experiment; or rather, to save time, several experiments may be made at the same time with five, ten, twenty-five, and fifty or one hundred grains of the pancreatin.

<sup>3</sup> Ewald, C. A. Vide op. cit. Appendix.

<sup>4</sup> Langley, J. N. *J. N. Journ. of Phys.*, January, 1882.

<sup>5</sup> Mays, K. *Untersuch. a. d. physiolog. Inst. d. Universit. Heidelberg*, 3, 373.

<sup>6</sup> Defresne, Th. *Etudes Experimentales sur la Digestion*. Paris, 1880. Baillière et Fils.

<sup>7</sup> See in support of this view: Von den Velden, R. (*Strasbourg*), *Zeitschr. f. Physiol. Chem.*, iii., 3, p. 205. Also *Deutsches Archiv f. klin. Medicin.*, xxv., 1, p. 105, 1879. Uffelmann, J. *Deutsches Archiv f. klin. Medicin.*, xxvi., 5 u. 6, p. 431, 1880. Fleischer, R. (*Erlangen*), *Jahresbericht. d. Gesellsch. f. Natur u. Heilkun.* in Dresden, p. 77, 1881.

<sup>8</sup> Bechamp, A. *Comptes Rendus*, xcii., 3, p. 142, 1881.

capillaries of the parenchyma of the lungs; others again seem to like the unadulterated nourishment, as it is ready for them and prepared in the absorbing vessels of the intestinal canal, and again others are not so very particular; they settle down wherever accident has carried them and, as if not satisfied with their abode, they generally try to leave it soon, under great disturbances created in the system at large, by the skin. But they all have one quality alike: sooner or later they feel and make themselves at home (except those last mentioned), and if the tissue, in which they are determined to reside does not willingly accommodate itself to them, they accommodate the tissue to themselves; and in either case the inevitable consequence is that morbid change — first local, but on account of the rapacity and great power of reproduction of these microscopical organisms, presently general — which characterizes the disease caused by these destroyers of the animal kingdom, and especially of the enlightened human race, and of the domestic animals so necessary for the existence of civilized mankind.

The truer a theory, the more clearly facts can be explained for the solving of the mystery of which the theory has been called into life; or, in other words, if for the purpose of elucidating the cause — the why and wherefore of certain occurrences — a theory has been set up, the more such occurrences are explained by this theory, the less is left in mysterious darkness by it, the more correct the theory will be; and as long as every fact connected with the latter finds its explanation by the same, so long will this theory have the advantage over all others, and will, in its special branch of science, be the dominant theory of the day. Humoral pathology left too many facts unexplained; "poisoning" of the nerve-centres, "poisoning" of the life-giving, circulating fluid, were ideas which were not clear and did not penetrate into the real origin of matters. Cellular pathology helped to enlighten our mind greatly on the complicated processes of the different morbid lesions, but it was not till the discovery of the micro-organisms as the causing element of the great class of infectious diseases, that we were able to fully understand many heretofore unexplained facts.

It will be our object in the following to mention a few of the more important points, and to bring together in causal connection certain morbid processes, formerly mysterious, and certain phenomena, till then not understood, with this modern theory of the pathology of infectious diseases.

For a long time it had been observed that when two persons had been married, and the one, who perhaps came from a tubercular stock, say the husband, had at last fallen a victim to tuberculosis, the surviving wife would the sooner be attacked by the same disease, even if she always had been in perfect health and without any hereditary tendency, the more she had come in contact with her husband during the time he had suffered from the phthisical malady. This fact has been so well established that if the wife of such a husband had been sleeping the last year of his life in the same bed with him, if she should have nursed him and swept the room in which he lived, in nine cases out of ten the prognosis would become true that the wife will die within three years from the same complaint. That therefore tuberculosis must be a contagious disease was clear, but the fact was then only fully explained when Koch<sup>1</sup> was able, by

a peculiar coloring process of his own, to visibly demonstrate the tubercle-bacilli as the pathogenic cause of tuberculosis. He showed that the phthisical sputa expectorated and derived from a tubercular cavity were full of these bacilli, and that such sputa, even if perfectly dry, powdered, and kept for the period of several months in the common temperature of rooms, when wafted into the air and inhaled by guinea-pigs, as certainly caused tuberculosis as if these animals had been directly inoculated with true tubercular matter. He was able to prove even in these dust-particles the presence of the tubercle-bacilli, and in a state ready for reproduction. But with sputum not containing these bacilli, no matter from what other source derived, he could never produce the same disease, while his experiments with sputa containing these micro-organisms never failed in a single instance to cause tuberculosis in animals that inhaled them.

Have we not here a plain and undeniable explanation why the surviving member of a married couple will fall sooner or later a victim to the same tuberculosis which had already destroyed the life of the other member? Koch was also able to prove, from the remarkably slow growth and the slow development of these bacilli, how it is that the disease under certain circumstances has such a long period of latency, of incubation, runs frequently so slow a course, and then again, how by the death of the bacilli it may come even to a stand-still. Why, notwithstanding these tubercle bacilli, which especially in large cities must be very abundant, so many persons escape, is a question not so difficult to answer. First, there are persons enough who fall victims to tubercular consumption; one seventh of all people born, and one third of all in the prime of life, die of this frightful malady; and second, some individuals possess a vitality, a power of resistance, strong enough to prevent these micro-organisms from taking hold in their system. There exist, without doubt, specially favoring conditions under which the tubercle-bacilli, as well as all other bacteria, may find a good culture-soil in the system invaded and flourish, — as interruption of the continuity of structure in the mucous membranes, catarrhal affections, alterations in the epithelium, a peculiar composition of the blood, etc., etc. The same circumstances which protect some persons from the many infectious diseases secure others undoubtedly against the inroad of tuberculosis.

That, however, only comparatively few escape may be inferred from the statistics above mentioned, and from the following. If we remember that many patients suffering from tuberculosis are cured of this complaint, or that others, after the disease has come to a stand-still in them, later die of some other malady, and that frequently the interests of the family of the deceased, as life insurance, etc., induce the issuing of a certificate naming another lesion as cause of death, and that ignorance often may do the same, we shall not be so very wrong in supposing that the number of deaths by tuberculosis, as given us by statistics, does by no means represent the actual number of persons who, at some time or other of their life, had been attacked by tubercular phthisis.

That so many of the human race suffer from this complaint cannot be wondered at, and will be explained if we look for a moment at some of the other results of Koch's researches, and of those of some of his co-laborers and successors in this field, as *Cohn-*

<sup>1</sup> Deutsche Medicinal Zeitung, iii., 16, 1882.



heim, Baumgarten,<sup>1</sup> etc. Not alone that they showed us the great danger of allowing phthisical sputa to dry and to spread, one might say, all over the earth, forming in this way, perhaps, the greatest source of infection, but they demonstrated by their investigations that almost all our domestic animals, from the horse and cattle down to chickens and pigeons, were often attacked by tuberculosis; that it was very frequent among them; that the so-called *Porcsuecht* was simply another name for the same disease; that all so-called cheesy degenerations were neither more nor less than the addition of tubercle-bacilli to an already existing inflammatory process; that undoubtedly chickens affected with tuberculosis were frequently eaten, especially as in these, in the beginning, the complaint was not easily recognized; and they proved, by their experiments, that animals fed on such meat, all died of tuberculosis, and lastly, that the milk of cows suffering from tubercles contains the characteristic tubercle-bacilli, and is, therefore, a prolific source of the contagion.

Is the frequency of tuberculosis in the human race now explained or not? Shall we still wonder if suddenly in a family, till then free of the taint, this dreadful disease breaks out, and that after the first others soon fall victims to it? The light thrown upon this subject by these indefatigable investigators must stimulate us in all such cases to detect the source from which the infection originally was derived. Our present knowledge must incite us to increase more and more our power of preventing maladies, and one of the greatest triumphs of modern medicine will be when we have succeeded not only in curing such infectious diseases by discovering bacillicides, but in stamping out this malady, and driving its living cause from the face of the earth.

How long have we been in the dark in finding a cause for the fact that different epidemics of the same disease differ in their severity and character; that the first attacked in a locality by some acute infectious disease, epidemic at the time, generally represent the malady in its worst type, and that towards the end of the epidemic in a given district the complaint assumes a far milder form? The researches of Pasteur especially have explained this fact. If, for instance, a drop of blood of an animal suffering from anthrax is taken and added to a test-tube full of pure beef or chicken tea, and this glass is hermetically closed and kept for any length of time at the common temperature of rooms, and if, say, after a month or two, one drop of this infected solution is added to a fresh quantity of beef, mutton, or chicken tea, similarly preserved and kept, and if this experiment is repeated any number of times, one drop of the solution last prepared will just as certainly cause the severest form of anthrax in an animal inoculated with it as a drop would of the undiluted blood of such an infected animal.

But expose each solution for about a week or two to the action and influence of the atmosphere, before a drop is taken from it to make a fresh solution, and repeat the same experiment in a similar manner a great number of times, it will then be found, provided each solution has been exposed for the time mentioned to the atmosphere, that each succeeding solution, on inoculating an animal with it, will cause a milder case than its predecessor, and at last a solution will be obtained which, while producing no visible general disturbance, and almost none or at least a very trifling

local one, will as effectually protect the animal inoculated with it, for a specified length of time, from an attack of anthrax, as vaccination protects a human being against variola.

These experiments explain why some epidemics are severer than others, why the first victims generally die, and why persons at last may become acclimatized and not be affected any more by infectious diseases specially prevalent in a given locality. In a severe epidemic of yellow fever, for instance, the poison of this disease is in the beginning of an outbreak most powerful; at last it is not able to cause the fever any more, but is still of a sufficient strength to inoculate those who have escaped it, and who continue to reside in the infected locality, effectually enough to guard them from an attack of the disease should it reappear. The secret of acclimatization is thus explained.

It might be well in localities like New Orleans, Havana, Memphis, etc., where yellow fever may be said to be endemic, to take a drop of blood from a person suffering from the disease in its severest form, and while the malady is at its acme, and to form solution after solution, in the manner indicated, and under exposure to air, as described, till at last a solution is obtained of which a drop, if injected under the skin of a sensitive animal, would not cause more than the slightest local irritation. At the approach of an epidemic, or in the beginning of its outbreak, non-acclimatized persons should be inoculated with this solution, and do not doubt that, if analogy warrants conclusions, such a procedure would protect these persons as effectually against yellow fever as vaccination does against small-pox. The experiment might be made so as to bring no danger from the operation to the inoculated individual.

The investigations of Klebs with reference to the bacillus typhosus have, I think, fully demonstrated that the lung and brain complications of typhoid fever, and the enlargement of the spleen as well as the oozing hemorrhages, are not accidental occurrences, but that they are caused by the presence of the bacilli in the lung tissue, in the pia mater of the brain, in the spleen; and in the perivascular spaces of the capillaries of the intestines. We know now that an epidemic of so-called typhoid pneumonia is simply an epidemic of typhoid fever, where the lung complication forms the disease, and where the abdominal symptoms are mostly absent. Klebs found, in such an epidemic at Prague, that the infection had solely been caused by inhalation; the mucous membranes of the nose, pharynx, air passages, and the lung tissue itself were full of the bacilli in every stage of development, while in the intestines a few only could be detected. But commonly the infection takes place by the water or the milk we drink, or by the food we eat, and therefore the abdominal symptoms of enteric fever are usually the most developed, and it is from these that the bacilli may travel to other parts of the body; while if the infection has been caused by inhalation, the primary lesion is found in the lungs, and from here the bacilli reach remoter parts of the system. This explains also why diarrhoea in typhoid pneumonia is — and justly so — very much dreaded; this diarrhoea is simply an indication of a more general infection, of the bacilli not having settled alone in the lung tissue, but also of their presence in large masses in the intestines, increasing thereby the danger of the disease.

For the development of the different forms of necrosis, as so frequently observed in diabetes mellitus,

<sup>1</sup> Centrbl. f. d. Med. Wissenschaft., 1882, No. 15, page 1, et seq.

many causes used to be given. Want of water in the tissues or in the blood, and the substances circulating in the latter, as sugar, acetone, oxalic acid, etc., etc., have all been named as causes. Kraake,<sup>1</sup> however, has proven that for the serious character of these gangrenous and ulcerative processes the presence of air, or rather the presence of bacteria in the latter, is essential, and he reports in the journal cited the following case in support of this view:—

In a diabetic man, fifty-three years old, an enormous carbuncle formed on the left side of the head. The large quantity (five litres) of urine passed daily contained four sixteenths per cent. of sugar. The throwing off of the gangrenous particles after the carbuncle had been laid open with the knife went on favorably, with little increase of temperature. But suddenly, apparently after a slight pressure, on the right biceps and in the left side of the abdomen, hard infiltration was felt; a week later fluctuation followed; the pus was let out; the patient became worse, and twenty-four hours later he died. In the pus were found immense numbers of micrococci; large masses of diplo- and streptococci were observed between the muscular fibres and in the walls of the abscess cavities, and the lungs and spleen were full of them.

Weigert<sup>2</sup> reports a similar case, where, within a short time, an enormous quantity of bacteria was spread over the whole body. While evidently the same causes produce a development of micrococci in a person affected with diabetes, as in any other individual, the blood of such a patient presents, without doubt, specially favorable conditions for the rapid propagation of them, and we have hereby explained the fact why such an ulcerative process, if once begun in a diabetic person, leads so rapidly to a fatal end. We learn from this that in such an individual we must pay the utmost attention to the aseptic treatment of the smallest wound; that even a simple scratch must not be neglected, and the minutest details of a perfectly antiseptic procedure must be insisted upon, if we wish to prevent the fearful invasion of the whole system by bacteria, and to save the life of the patient.

These bacteria have been met with in all septic diseases. There seem, however, to exist special forms of micrococci for every septic process, from the plainest septicæmia to the worst case of puerperal peritonitis. It has been observed by Karewski<sup>3</sup> that the lochial discharge is a fluid in which bacteria especially thrive; that a drop of it exposed to the air outside the vagina for a very short time is immediately infected and soon alive with them, and that they very rapidly propagate themselves, and keep their vitality a long time, even under adverse circumstances. Some lochial discharge, free from bacteria, was kept under aseptic precautions. Repeated examinations proved its continued aseptic condition. Karewski then examined with his finger the sexual organs of a woman suffering from puerperal fever, which ended fatally. A pure culture-fluid in which he dipped this finger became full of bacteria. After two weeks, having washed his hands frequently during all that time, and in the usual manner, with soap and water, he brought the same finger in contact with a part of the lochial discharge, and then cleaned the finger thoroughly with a ten per cent. solution of carbolic acid. After having washed the latter off again

a number of times he brought it in contact the next day with the other half of the aseptic lochial discharge. In a week the first lochie were full of the same bacteria, their development being rapid; the second half was still an aseptic fluid, both having been protected in the usual careful manner against the influence of the atmosphere.

Can we wonder why puerperal fever, if once broken out in a hospital, spreads so rapidly, and that it is sometimes best to tear such a building down? Do Karewski's observations not explain why physicians sometimes have remarkably bad luck with the women they deliver, one after the other dying in succession of the same puerperal fever? Does it surprise us that since the more general introduction of aseptic procedures we hear less of puerperal fever? Is a physician not criminally neglectful who does not use all possible antiseptic precautions when delivering a woman? Those old physicians are right who contended that such women pass with the greatest safety over their confinement in whom the natural delivery has least been meddled with, and who have, as concerns the sexual organs and their manual examination, been left alone. Why are cases more dangerous and more frequently followed by puerperal fever in which the forceps have been used, even if only to accelerate the passage of the head through the vulva in a normal birth? How many of these instruments are kept strictly aseptic or are made so immediately before their use?

Do these investigations and discoveries not open our eyes to a great many evils which it is in our power to remedy?

A great deal has been done already, but still more has to be achieved. With the progress of our knowledge in pathology our art of healing has so far not quite kept even step. Certainly I have mentioned in the foregoing a few instances only of the clear explanations modern pathology has given to hitherto obscure facts, but I shall have gained my purpose if I have been able to draw the attention of others in the same direction. Only a thorough knowledge of all facts and circumstances bearing upon and surrounding a case can produce in a physician that certainty of action which ever will be wanting where speculation takes the place of established facts, but which alone can make us successful in our endeavors to "heal all ills human flesh is heir to."

In England, France, and Germany, the whole population begins already to reap the benefit of these important achievements of modern pathology. In Berlin a commission exists, the members of which are the most prominent physicians, lights in our science and art, who have to instruct the government in the principles upon which public hygiene should be based; they form a coordinate branch of the government, and their decrees are carried out with all the machinery the executive authorities have at their command. In this way, from one common centre, the regulations are distributed to all medical boards established in every state, province, city, and county, and they all supervise the execution of these laws, report their effects, and in return again advise the Central Commission.

— In Berlin they think Pasteur the best man after Koch, as we learn from a correspondent lately there.

<sup>1</sup> Contrib. f. d. Med. Wissenschaft, 1882, No. 14.

<sup>2</sup> Ibidem.

<sup>3</sup> Zeitsch. f. Geb. und Gyn., 1882, No. 7, p. 331, et seq.

GLYCOSURIA.<sup>1</sup>

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Although glycosuria does not frequently fall to the care of general practitioners, it has befallen me to have charge of several cases directly and indirectly, naturally awakening a solicitude not to be appeased by our inchoate literature of the subject.

The fact that one half of these cases undoubtedly originated in neuroses of a mental type could not fail to impress me with the conviction that the diabetic centre in the floor of the fourth ventricle might have become involved by either an extension of a lesion originating above this point or by direct congestion thereabouts. The patients mentioned are engaged in large manufacturing and mercantile enterprises, and uniformly their glycosuric troubles began after having been subjected to great mental strains. This set me to overhauling the subject with the results which I hesitatingly submit in condensed form in the shape of conclusions at the end of this article.

Prout was first in calling attention to the phase of glycosuria known as diabetic coma. The later workers in this field (Petters, Sanders, Hamilton, Kussmaul) somewhat uniformly overlook the neurological aspect of the dyspnoea which ushers in the coma. It is very evident that a nerve degeneration which could cause the interference with the liver functions, and thus induce diabetes, could as well extend to the pneumogastric centres or fibres, and thus produce the respiratory insufficiency directly through failure of innervation.

Petters urged the acetone poison theory as a cause of the coma, but Sanders and Hamilton<sup>2</sup> satisfy us that acetonaemia may exist without the coma. It is sufficiently proven that the blood in these coma cases does evolve acetone, but that it is a factor in the production of dyspnoea seems to have been disproven. Ruppstein<sup>3</sup> gives an equation illustrating the formation of acetone, alcohol, and sodium hydrogen carbonate from sodium ethyl diacetate. In this decomposition the latter absorbs two molecules of water, which fact is again indicative of the abstraction of the blood serum alluded to in another part of this paper as productive of polydipsia.

Quinke<sup>4</sup> and Steel, cited by Gamgee<sup>5</sup> mention two cases where the coma was transitory, which would disparage the neurological view and lead us to search for a chemical or at least less organic cause.

Something in this direction, not alluded to by others, occurred to me when considering the power possessed by animals to deoxidize saccharine substances in fat conversion. By taking a certain number of molecules of carbonic acid, water, and oxygen from glucose, the elements of the ordinary forms of fat are furnished:  $20C_6H_{12}O_6$  (sugar) =  $2C_{55}H_{110}O_6$  (stearin) +  $6CO_2$  +  $10H_2O$  +  $43O_2$ . Quinke, who rejects the acetonaemia theory, concludes that the comatose condition is due to a toxic action and not to a suddenly developed nervous lesion. Gamgee calls attention to the remarkably intense fatty infiltration of the liver in two cases in the Royal Infirmary. Hoppe Seyler<sup>6</sup> states that the pro-

portion of fat increased greatly in the blood in four cases of diabetes.

Notwithstanding the note that in one of the Infirmary cases the blood did not seem to be particularly venous, I cannot help believing that the liberation of such great quantities of carbonic anhydride in fat formation was a direct cause of the coma, at least the view is submitted to physiological chemists as worthy of attention. Then, again, the observations of Foster<sup>7</sup> in support of the acetone theory were instrumental in establishing the lipamic condition of the blood in diabetes, and Czerny's account of symptoms in a case of fat embolism led Sanders and Hamilton to advance the theory that "the peculiar terminal dyspnoea and coma of diabetes are due to lipamia and fat embolism rather than to acetonaemia. Setting aside the acetonaemia theory of diabetic coma as untenable, but being forced to acknowledge that the neuropathic and chemical explanations suffice in some cases, it would seem to justify the view that this diabetic terminal disorder had a multiple origin. In some cases we may conceive that the direct cause is the  $CO_2$  poisoning the blood in lipamia, a view warranted by the fatty infiltration of the liver found in the cases cited by Gamgee; that fat embolism from lipamia may also be a cause in one class of cases, while pneumogastric nervous interference mainly by progressive degeneration either of centres or nerve tracts may account for another series.

A recent contribution against the acetonic idea, the preliminary communication by Dr. Rudolf von Jacksch,<sup>8</sup> may be cited as embodying the following conclusions regarding acetonaemia in fever generally: First, a red color is produced in the urine by the addition of chloride of iron not only in diabetic coma, but during the course of diabetes without coma, and with great regularity in the eruptive stage of some acute exanthemata. Next come Siebold and Bradbury,<sup>9</sup> who state that instead of acetone it is aceto-acetic ether that is found in diabetic urine, and setting forth the statements of Tichborne and Atfield, it seems by no means established that the chemists are certain of their tests for either the one or the other of these alleged glycosuric accompaniments.

Lubimoff<sup>10</sup> found "the inferior ganglion of the vagus-trunk atrophied and abnormally rich in pigment," and Henrat<sup>11</sup> once observed a tumor of the right vagus at the level of the root of the lung." Though in neither of these cases is there mention of coma, it is worth while to admit the strong probability of this aspect of the disease not to be due to any single cause in all cases, but often to separate or conjoint causes, among which, in my opinion, the  $CO_2$  poisoning may rank first, fat embolism second, and pneumogastric failure third. On the matter of fat and glycogen-production from sugar and starch in the animal body an interesting chapter may be found in Foster's Physiology, recently published.<sup>12</sup>

Before dismissing the consideration of fatty infiltration it would be well to call attention to the statements of Beale, Frerichs, and others, that hepatic fat diminution is the rule in glycosuria, and that infiltration oc-

<sup>1</sup> Concluded from page 221.<sup>2</sup> Gamgee, *Physiological Chemistry of the Animal Body*, vol. i., page 169.<sup>3</sup> Centralblatt, 1874, No. 55.<sup>4</sup> Weber Coma Diabeticum, *Berliner klinisch Wochenschrift*, 1880, No. 1.<sup>5</sup> Op. cit.<sup>6</sup> *Physiologische Chemie*, page 482.<sup>7</sup> *Diabetic Coma Acetonaemia*, *British Medical Journal*, 1878, vol. i., p. 78.<sup>8</sup> *Träger Medicinische Wochenschrift*, October 5, 1881.<sup>9</sup> *Martin's Chemists and Druggists' Bulletin*, January, 1882.<sup>10</sup> *Virchow's Archiv*, vol. lxi., p. 145.<sup>11</sup> *Bull. de la Soc. Méd. de Reims*, 1874, No. 13 (cited by Senator).<sup>12</sup> *Foster's Physiology*, edited by Reichert, American edition, 1880, p. 590, et seq.

curs in the corpulent, while fatty degeneration of the liver may occur as the result of cachexia and pulmonary phthisis.

As to the cause of the polydipsia, a view that at one time I regarded as original with myself alone, but which I find has been already urged, seems to satisfy the conditions, but the view has not been properly worked out heretofore.

Setting all theory aside, the simple fact remains that there is an excess of sugar produced in the system in this disease; it is also undeniable that this sugar has an amylaceous origin. Now, if we take the chemical formulae of starch and sugar it is obvious that in the conversion of the one into the other *water is abstracted* from the system. Thus  $C_{12}H_{20}O_{10}$  (starch)  $2C_6H_{12}O_6$   $H_2O$  (starch sugar) differ by  $4H_2O$ , and in the formation of two molecules of dextrose (Kekulé's term for starch sugar, Miller suggesting the word glucose as generic) from one molecule of starch four molecules of water disappear. The great thirst in cholera is known to be due to the loss of the watery constituents of the blood, and the diabetic thirst may be similarly caused. That the great amount of fluid ingested in the latter disease should fail to assuage thirst is not to be wondered at when we consider that the sugar production goes on comparatively at a distance from the intestine in viscera and vessels not readily accessible or to be rapidly reached by draughts of water intended to resupply the abstracted serum. This process may be compared to the attempt to extinguish a fire in some inner room of a house by deluging the building and all the other apartments with water.

The new science of organogeny promises to give us clearer ideas of hepatic functions as well as broader views of man's position in the animal scale. Heretofore we have been compelled to rest content with the meagre details set forth so voluminously by Richard Owen, but upon which Huxley improved immensely. Gegenbaur inaugurated with Haeckel an era in these matters, and to-day the appearance of Balfour's second volume on embryology, devoted more especially to vertebrates, is hailed by biological and pathological students everywhere with satisfaction.

Comparative cellular pathology and histology generally, in connection with a less narrow physiological chemistry, will achieve wonders in the future toward a better understanding of the life processes.

When we consider how much vagueness there is in the writings of those who have sought an explanation of the office of the liver, as well as of other structures in the animal economy, a vagueness prevailing in the works of such as Claude Bernard and Frerichs, is it not time to think that want of catholicity is at the bottom of our ignorance? Of course it is not to be expected that one or a score of investigators can cover a universe of comparative histological observations, but it is safe to assert that until organogeny has been thoroughly worked out in other vertebrate forms than man we are doomed to narrow minded views of the significance of important viscera.

#### CONCLUSIONS.

Glycosuria is a more appropriate name for the disease known by the several designations diabetes mellitus, mellituria, etc., though glycemia is the true pathological condition.

The literature is more voluminous than satisfactory, and consists mainly of repetitions of the older views.

Too many changes have been rung upon the necessity for abstinence from amylaceous diet, urine analysis, etc., and too little has been accomplished in the way of autopsies or a consideration of the probability of rational chemical treatment.

Statistics are lacking in establishing heredity and other matters as factors. Climatic influences do not seem to have been considered at all, and especially have the neurological bearings of the disease received too little attention except in the routine of "diabetic vaso-motor tracts."

Similarly the liability to the disease of sexes and at different ages is only apparently settled.

Too many undiscriminated sources of error have been mixed up with the records as far as I have examined them.

The causes of glycosuria are multiple, hence the necessity for individualization in diagnosis and treatment.

The Bernardian view that "glycogenesis is a normal physiological phenomenon accompanying all the manifestations of life in animals and plants," deserves serious consideration in connection with accordant modern biological revelations. The tendency has been to consider the disease from the pathological stand-point alone. Nevertheless Bernard does not seem to have laid any stress upon the liver being simply the sugar-forming organ *par excellence* only, and that every organ, in fact every cell, possesses this function to a greater or less extent.

Comparative histology and physiological chemistry promise to become powerful aids in clearing up obscure points in disease, and inasmuch as we are to consider glycemia from the physiological rather than the pathological stand-point, especially should the recent science of organogeny be cultivated.

#### REPORT ON PROGRESS IN THE PATHOLOGY OF DISEASES OF THE NERVOUS SYSTEM.

BY S. G. WEBBER, M. D.

##### CEREBRAL LOCALIZATION; SENSORY REGION.

THEODOR PETRINA<sup>1</sup> reports six cases of his own in which there was disturbance of sensation in the limbs which had lost their motor power, where also after death there was found only lesion of the cortex of comparatively old date, such that the influence of shock or pressure could be excluded, and the symptoms could be referred directly to the lesion. Where sensation was affected the lesions were limited to a rather narrow region. The lower part of Broca's convolution, the convolutions of the *Isle* underlying this, the lower third of the anterior central convolution, the anterior upper surface of the first temporal convolution, the upper third of both central convolutions, and the superior parietal lobule, that is, all the convolutions in the psycho motor zone around the fissure of Rolando.

The loss of sensation from lesion of these localities consisted in a more or less decided weakening of the sense of pressure, or of pricking, or of locality and temperature, or of several of these. The sense of taste, smell, and color was not affected. These "cortical" anaesthesias differ in this limitation of loss of sensation from those hemianesthesias which follow a

<sup>1</sup> Ueber Sensibilitäts-Störungen bei Hirnrinden-Läsionen. Zeitschrift für Heilkunde, 6, 1881, p. 375.

destruction of the posterior third of the posterior limb of the inner capsule (the *carrefour sensitif* of Charcot).

Cortical lesions of the occipital convolutions give rise to no sensory paralysis. He concludes that the most anterior portions of the frontal convolutions and the surface of the entire occipital lobe are not the seat of sensory centres.

#### PARAMYOKLONUS MULTIPLEX.

N. Friedreich<sup>1</sup> reports a case of clonic spasm in a man fifty years old; the muscles affected were several in both upper and lower extremities, the affection being symmetrical on the two sides. During sleep and voluntary motion this spasm ceased; the motor power and coordination were not affected. The nutrition and electrical irritability of the muscles were normal. Sensation was normal; the cutaneous reflex irritability and patella and tendon reflex were increased.

The spasm consisted of a short and rapid, frequently recurring contraction of the biceps and triceps brachii, and supinator longus of both arms; of the vastus externus and internus and rectus femoris of both legs; also, less markedly, the adductor, the biceps femoris, and semitendinosus. These muscles contracted in their totality, not with fibrillary contractions, though the limbs were not always moved. The contraction of any one muscle was not isochronous with the contraction of other muscles, but each moved independently. Forty to fifty contractions of one muscle occurred in a minute while the spasm was most severe; ten to twenty when least severe.

The cause of this affection was a severe fright received five years previously by the bursting of a circular saw, though he was otherwise uninjured by the accident.

A very few applications of galvanism were followed by a cessation of the spasm.

He considers that the seat of the affection was in the spinal cord; that certain groups of ganglion cells of the anterior cornua had acquired a condition of increased irritability.

#### CAN POTT'S DISEASE OF THE SPINE OCCURRING IN CHILDHOOD BE CURED WITHOUT DEFORMITY?

O. H. Allis,<sup>2</sup> reviewing the causes which give rise to deformity in Pott's disease; the change in the position of the bones, of their spinous processes; also the defect in their growth resulting from injuries to their apophyses, concludes: "The deformity is consequent upon unequal development, and no art can prevent it. The arrest of disease is at best a compromise. In the disease under consideration the child, from a sickly, half-paralysed object of commiseration, can be made sound, happy, and useful, and it is folly to ask more."

#### PARESIS OF OPPOSITE LEG IN HEMIPLEGIA.

Brown-Séquard<sup>3</sup> stated that he has found since 1860 in every case of nearly complete hemiplegia depending upon a unilateral encephalic lesion, that there is at least a slight paralysis of the opposite leg, considered healthy. He is certain of this, not only from the difficulty which the patient has of standing upright on that leg, but also from measuring the force of the voluntary motions of the thigh, the leg, and the foot by the aid of

Axenfeld's dynamometer. Comparing the strength of the legs in patients attacked with hemiplegia of considerable degree, but retaining all their intelligence and power of will, with the strength of a healthy person of same age and sex, there is always considerably less strength on the sound side in the hemiplegic. The arm is almost always affected too, but in less degree. Hence in severe hemiplegia due to unilateral cephalic lesion there is often besides the *crossed* paralysis a slight *direct* paralysis.<sup>4</sup>

#### NERVE STRETCHING IN LOCOMOTOR ATAXIA.

Dr. Langenbuch<sup>5</sup> has had an experience with about one hundred cases of nerve stretching in locomotor ataxia. The value of the result depends upon (1) the age and strength of the patient; (2) the character and stage of his disease and its complications; (3) upon the appropriate conducting of the operation and success in obtaining a rapid healing of the wound; (4) the subsequent treatment.

He refers to the severe strain which it is to lie in bed quiet for eight to fourteen days, and that it requires a certain amount of strength to bear this and also the shock of the operation. He has found that ataxic patients do not bear well lying still, and soon lose strength. Hence old and decrepit patients are not suitable for operation, and should be operated upon only with a guarded prognosis. It is also well not to operate upon too corpulent patients. The habit of using morphia is also unfavorable to success. With females it is best to operate immediately after the catamenia.

It is more difficult to judge as to the state of the disease, whether it is such as to render an operation proper. He says: "I have operated in very advanced cases, which to all appearance were very unfavorable, where the patient had not left his bed for two or three years, and have seen the patient get on his feet again; also, I have been able to accomplish only very little in relatively early cases which had neither much pain nor any symptoms of bladder disturbance. This uncertainty of prognosis as to the result of the operation will continue as long as we do not know the extent of peripheral and central nervous tissue which is irreparably diseased or otherwise, and the nature of the histological changes."

The advanced stage of the disease he does not consider in itself an absolute contraindication for the operation, for we can never know whether the nuclei of the affected nerve fibres are destroyed or remain so as favor the restoration of the fibres. But in old cases the prognosis should be cautious.

Since the favorable result of the operation cannot be determined under half a year or longer, our experience is as yet defective.

The place for the operation is of great importance. If the sciatic nerve is exposed near or under the gluteal, five muscular branches of the nerve may be torn across, and there may follow atrophy of the flexor muscles. He exposes the nerve in the middle of the thigh, under the belly of the biceps, where no muscular branches are given off.

There is danger, if the nerve is disturbed too much, that it may be caught in the scar and suffer compression from the contraction of the cicatrix.

<sup>4</sup> Gaz. Hebdom., January 27, 1882, p. 62.

<sup>5</sup> Ueber Erfolge und Misserfolge der Nervenentleerungen bei der Tabes und ihr verwandten Krankheiten. Berliner kl. Wochenschr. March 20, 27, 1882, p. 179.

<sup>1</sup> Virch. Arch., 86, 1881, p. 421.

<sup>2</sup> Philadelphia Medical Times, January 28, 1882, p. 273.

<sup>3</sup> Soc. de Biol., January 21, 1882.

He makes an incision through the skin eight or ten centimetres long on the posterior surface of the thigh in the middle of its height and somewhat to the inside of the middle line. After dividing the adipose tissue, the posterior cutaneous nerve is seen under the fascia and is to be put aside without injury; the biceps and semitendinosus are to be separated with the knife; the deeper connective tissue is to be taken up by forceps and divided by knife, not torn, until the nerve is laid bare; veins must be avoided. The nerve is placed between two well-disinfected sponges, to avoid pressure, and then taken between thumb and index and middle finger.

Experimenting on the cadaver, he found that when the sciatic was stretched only slightly the traction could be felt in the spinal canal. Severe stretching is not desirable, but only moderate. The operation is to be performed antiseptically, a drainage tube being kept in for thirty-six to forty-eight hours. The subsequent treatment must be followed carefully for a long time. After the patient is able to get up he must be trained in standing and walking with moderation and care not to overtax himself; he must be exercised in standing and walking with his eyes closed.

Massage of the legs, especially in the vicinity of the wound, electricity, and warm baths are valuable adjuncts, as well as iodine and iron internally.

Where there is improvement not all the symptoms are equally relieved. The author does not give any *résumé* of the results obtained.

This paper, read before the Berliner Med. Gesellschaft, January 25th, gave rise to a discussion in which Westphal mentioned nine cases of ataxia, five of neuralgia, and several others, and said "according to my experience, which includes some cases upon which Herr Langenbuch operated, it follows that in no case of so-called spastic paralysis, of tabes, and of paralysis agitans has good result been obtained by nerve stretching; I will not deny that the pain of tabes has been temporarily relieved in individual cases, but never permanently."

As an explanation of the improvement supposed to have followed the operation, Professor Westphal suggests that it may be looked upon as a psychological phenomenon on the part of both patient and physician.

Bardeleben gave a *résumé* of the results obtained in his experience, disclaiming responsibility for the operation, as he only operated when asked to. He had obtained no good result; it was generally without benefit to the patient.

Küster said he had operated once without benefit to the patient, and once the patient expressed himself as well satisfied.

Senator mentioned a similar experience in that there was no benefit, or the relief was only temporary. He thought the operation should be condemned or given up.

Israel mentioned two cases which had not been previously mentioned. One was rather worse after than before the operation; the other was benefited for a while, but then lost what he had gained. He fractured his patella, and was confined to bed as a consequence. He gained again nearly as much as by the nerve stretching.

He had also performed the operation in other cases of disease of the spinal cord without benefit to the patient.

Hahn had operated upon twenty-five patients nine times for neuralgia; there was almost always a return of the neuralgia in six to eighteen months; in one pa-

tient the return was delayed for two and a half years; in that case, owing to a secondary hemorrhage, it was necessary to resect the nerve, and a piece of it was removed. In tonic and clonic spasm and epilepsy of peripheral origin he had obtained temporary benefit; in trismus, tetanus, and cases of disease of the spinal cord he had obtained no benefit.

Remak had had experience with only one case, in which Langenbuch operated, and reported<sup>1</sup> as materially benefited. Remak, however, considered the result negative.

The discussion before the Berlin Medical Society was continued on February 1st.<sup>2</sup>

Steinen reported one case of ataxia in which there was visceral neuralgia. Langenbuch stretched both sciatics. After a few days there was a temporary improvement, but it only concerned the pain; the ataxic symptoms were not benefited, and soon the pain returned as bad as before. He also mentioned another case in which Langenbuch had stretched the nerves for pain in the feet; the neuralgia returned soon after the operation; then learning that he practiced masturbation, Langenbuch stretched both *nervi pudendi*. The patient died.

Sonnenburg mentioned a case in which he had operated at the request of the patient, stretching one nerve. The patient was very much benefited, both legs being improved, but he understood that the patient had a return of his symptoms.

Langenbuch then corrected or explained a few of the criticisms which had been made in regard to three of the cases, but gave no summary of his results.

Moriz Benedikt<sup>3</sup> thinks the operation should not be too hastily condemned, that the "panic at Berlin was perhaps a legitimate reaction against the early sanguine expectation, but it went much too far." His experience in three cases of ataxia, of which he gives brief reports, was favorable. In four cases of spinal spasm, lateral sclerosis, the spasm ceased, but the paralysis was less benefited.

Others have reported several cases of nerve stretching in locomotor ataxia with temporary benefit, especially in relief of pain and anesthesia.

## Reports of Societies.

### AMERICAN DERMATOLOGICAL ASSOCIATION.

SECOND DAY'S SESSION. THURSDAY, AUGUST 31, 1881.

At the opening of the morning session Dr. WM. A. HARDWAY, of St. Louis, reported a chronic case of skin disorder, and exhibited a life-sized portrait in colors of the patient affected with what he designated as

#### A PIGMENTED NEOPLASM OF THE SKIN.

When first seen, a year before, the appearances were nearly the same as at present. The patient, forty years of age, acknowledged gonorrhea some ten years before, but denied syphilitic manifestations. The attack of gonorrhea was followed by vegetations behind the glans penis, and about the same time (1871) he noticed enlarged glands in different parts of his body. It should also be stated that he had suffered from auricular discharge from childhood; in 1868 he had passed

<sup>1</sup> Berlin, kl. Wochenschr., 1881, No. 26, p. 373, Case VI.

<sup>2</sup> Berlin, klin. Wochenschr., April 24, 1882.

<sup>3</sup> Ein Wort zur Frage der Nervendehnung bei spinalen Affektionen. Wien, med. Presse, No. 13, 12, 1882.

through an attack of varioloid. When the enlarged glands appeared he took iodide of potassium, on his own responsibility, to reduce them, for several months. Subsequently papules appeared on his face, and he stopped the remedy. As they subsided they left a brown staining of the skin; afterwards pigmented spots appeared without being preceded by papules, and as they increased in size some of them coalesced, forming patches irregular in size. He then sought medical advice, and was put upon mixed treatment, and was subsequently treated at the hot springs, by mercurial inunctions, but even this vigorous anti-syphilitic course made no impression upon the spots nor upon the enlarged glands. When seen by Dr. Hardaway the skin, except in the parts affected by the pigment deposit, was perfectly healthy. The spots were very marked upon the face, especially upon the forehead and cheek, where they were irregularly oval and quite large; other spots existed on the knees and insteps, varying in size from that of a split pea up to one two inches long by one in width. The larger ones were upon the face and neck. As regards the color, it was, on the face, pinkish in the centre, but the borders were tawny or orange-hued; the small ones were entirely of this color. The larger patches had a smooth epidermic covering, not scaly, rather depressed in the centre, and they were traversed by blood-vessels which did not extend to the border: this orange-hued border was about one eighth inch in width, and was slightly elevated, and like the small spots of the same color; the surface was slightly cracked or frayed. Upon pinching up the spots the skin was found to be somewhat infiltrated, but it was not hard, the patches were freely movable. The centre of the large spots appeared to be undergoing involution, but the skin was not atrophic, there was no difference in sensibility, and perspiration appeared on the surface as on the normal skin, though possibly less freely. The spots were not painful nor tender, and only produced inconvenience from the disfigurement they occasioned. The health of the patient was good in other respects.

The growth was considered to be an instance of pigment deposit, a pigmentary neoplasm of the skin. A piece of the large patch was sent to Dr. Heitzmann, who examined it microscopically, and designated it a pigmented medullary sarcoma of the skin, and gave an unfavorable prognosis accordingly.

The wound made by taking out the piece for examination was united by sutures, and healed readily by first intention.

DR. A. R. ROBINSON, of New York, reported the result of original investigations in the histology of the skin in a paper on

#### THE NERVES OF THE SKIN.

After referring to the medullated and non-medullated nerves, and the current views as to their course and termination, he gave the results of his personal observation, and presented a number of microscopic sections illustrating his views, which are briefly as follows:—

The non-medullated nerves form plexuses both within the skin and epidermis; in neither situation did he find the nerves ending with free extremities. The majority of the medullated fibres pass into the papillae and form loops, the fibres returning either into the corium or into neighboring papillae.

In describing the structure of the tactile corpuscles he declared that the striated appearance depends upon

nerve fibres and upon the neurilemma. This was proven by the action of a weak solution of caustic potash upon gold specimens. He reviewed the evidence in favor of the corpuscle being a structure within which the nerve fibres terminate; denying its correctness, and maintaining that the corpuscle represents only a nerve plexus, basing his view upon the following facts:—

I. Medullated nerve fibres, not connected with tactile or Pacinian corpuscles, form loops within the papillae, and return to the corium or neighboring papillae.

II. Non-medullated nerve fibres form loops and plexuses within the papillae and epidermis, and probably do not terminate by free extremities.

III. In the majority of tactile corpuscles two nerves can be observed to be in connection with it; the one at the base, and the other generally at the upper part.

IV. Instead of a single medullated fibre at the upper part there are sometimes two medullated or two or more non-medullated.

V. That the nerve entering at the base can often be seen winding upward toward the apex and forming the transverse striae which color in gold.

VI. That the nerve within the corpuscle generally retains more or less of its medullary sheath, and rarely divides in this situation.

VII. The complete absence in many corpuscles of any irregularity of contour of the fibre; hence absence of any structure resembling the end-buds of Langerhans.

VIII. The nerve fibre in connection with the corpuscle at its upper part can be seen to be in connection with the transverse nerve striae which appear to come from the winding upward of the afferent nerve.

Thirty-six wood engravings accompanied the paper. DR. JAMES C. WHITE, of Boston, read a paper on the question of

#### THE CONTAGION OF LEPROSY.

Leprosy is a disease most common among persons not in the higher classes of society, nor distinguished either for hygiene or morals. It occurs occasionally in isolated cases where the persons have not visited infected regions, but commonly is found in individuals who have previously been brought in contact with others suffering with this disease. It may occur as late as fourteen years after such residence or exposure to infection, but usually appears much earlier. The general impression at present is that leprosy is not hereditary, although such has long been a popular belief where it prevails. The fact that syphilitic parents may have apparently healthy children, and that syphilitic subjects may live for years among their relatives without communicating the disease, is just as much an argument against the contagiousness of syphilis as it would be against the contagiousness of leprosy; he was therefore inclined to view the term sporadic with great distrust. As the duration of the period of incubation or of latency may be so prolonged, it is evident that many opportunities for infection may pass unnoticed; for instance, contact with leper patients under treatment at the hospitals who are free to come and go in the community.

As regards the frequency of the disease in this country the statistics are defective; there are an unknown number of lepers in the United States. There are foci of the disease in San Francisco, New Orleans, and some places among the Scandinavian settlers in Wis-

consin, and in some of the Eastern cities cases are occasionally reported. There is a leper settlement also in Canada at Cape Breton.

After citing facts to prove the communicability of leprosy, the author claimed that measures of repression should be adopted by the only power able to do so, the government of the United States, through the National Board of Health. He recommended, in conclusion, the enforced isolation of leprosy patients, the prevention of the importation of lepers from other countries, and the discouraging of marriage of lepers.

The evening session was opened by Dr. C. HEITZMANN, of New York, who made some

#### REMARKS ON THE USE OF ERGOT IN SKIN DISEASES.

He said that ordinarily he was not disposed to be enthusiastic with regard to the use of remedies, or the efficiency of drugs; but he had seen such good results from the use of the fluid extract of ergot that he felt warranted in bringing it to the notice of the Association. In certain forms of acne, the large pustular form in the beard particularly, he is accustomed to use it in conjunction with Vlemingck's solution locally. Perhaps five or six per cent. may be set down as incurable, but the rest will be benefited by these remedies; of course they have a tendency to return, but they may be again treated successfully in this way. The second disease is rosacea in both of its forms, but especially in cases marked by the dilatation and new formation of vessels. In these ergot had such good effects that he extended the experiment to other diseases of the skin. He used it in psoriasis without the least result; and in a number of cases of eczema without better effect. In erythema, urticaria, and pruritus, however, the effect was most marked. He reported a case of a gentleman with chronic urticaria who was completely cured by a few half-drachm doses. Although he had used the remedy freely, and had found a few who objected to the taste and refused to take it, he had not seen a single bad effect from the remedy.

Dr. I. E. ATKINSON, of Baltimore, read a paper on

#### A CIRCINATE PAPULAR SYPHILODERM.

Although all syphilographers describe the large flat papular syphiloderm, together with many of its peculiarities, sufficient attention has but seldom been given a form of eruption that always has this syphiloderm as a starting point. This may be, with propriety, designated as the circinate papular syphiloderm. Its claim to special attention consists in its tendency to develop out of the large flat papular eruption by a depression in its centre and a peripheral extension of its limits. In the course of this centrifugal growth the depressed central portion returns to the normal limits of elevation of the skin, while the raised margin forms a narrow, sharply defined, continuous, encircling boundary, whose surface becomes the seat of a rather scanty desquamation. Occasionally, when the desquamation is very copious, the epidermis may be thrown off down to the very lowest layers of the rete mucosum, and the surface of the lesion will then be moist, lightly exuding, and shortly afterward a thin serous or brownish crust is formed, which soon dries and falls off leaving a pigmented surface that slowly returns to its natural condition. With the unelevated centre and the narrow circumscribing border the lesion may attain the size even of a half dollar, and altogether lose all resemblance to a papular eruption, more nearly resembling

severe tinea circinata. The eruption is sometimes accompanied by itching. The patch, by irregular extension, slowly becomes less circular in outline, and when several coalesce curious figures are formed. This eruption belongs to the secondary period of syphilis, from about the third month to the eighteenth month; it affects both sexes, and is preferably located on the back, breast, head, neck, and extremities, though in mild cases a few circles upon the face may represent the entire eruption. A history of syphilitic infection will usually dispel doubt as to the nature of the eruption, the clinical characters of which resemble those of tinea circinata, psoriasis, erythema multiforme, and the late tertiary papulo-tubercular, and tubercular eruptions; from the latter it differs in always starting from a single lesion, while the circular patches of late syphilis represent the peculiar tendency of the disease to group its lesions in a definite manner. The absence of the characteristic microscopic appearances will separate this from tinea circinata, which it otherwise strongly resembles.

#### REPORT OF COMMITTEE ON STATISTICS.

Dr. JAMES C. WHITE, chairman of the Committee on Statistics, presented the tabulated report for last year, containing a total of 11514 cases. He also read the consolidated statistics for the past five years, based upon 58,617 cases of skin diseases reported from the several districts situated in different parts of the United States, presenting much valuable information.

#### AN EXPERIENCE IN SKIN DISEASE.

Dr. JAMES C. WHITE said that he had had an interesting experience in the treatment of corns and warts by a new remedy which had been brought to his notice. It is a combination of extract of cannabis Indica (about ten grains) with salicylic acid (about thirty grains) in collodion (one ounce), which, applied twice daily, causes warts to speedily disappear. In fifty cases he had not had a single failure.

#### A CASE OF PELLAGRA.

A communication from Dr. S. SHERWOOD was read by Dr. Piffard, describing the case of an Italian sailor under treatment in the Long Island College Hospital. He was twenty-five years of age, had never had any skin diseases previously, nor seen any one with the same affection. A spot first appeared in January, 1882, on the forehead, and the disease subsequently spread over the face, hands, and body. No pain, itching, nor other peculiar sensations attended the eruption. Suppurating glands on each side of the neck were found on admission, and considerable febrile movement; at times the temperature had reached 105.5° F. The surface had an erythematous appearance, and there were fissures from which blood exuded. The patient's mind was despondent and dull, so that the history was necessarily imperfect.

#### THIRD DAY'S PROCEEDINGS.

The final session was devoted to the examination of microscopic specimens, exhibited by Drs. Heitzmann and Robinson, and new instruments.

The newly elected officers were duly installed, and the Association adjourned to meet at Lake George next year.

At this meeting Drs. Prince A. Morgan, W. T. Alexander, both of New York, and Dr. H. W. Stillwagon, of Philadelphia, were elected to active membership.

W.



## Recent Literature.

*The Forty-Third Annual Report of the Superintendent of the Boston Lunatic Hospital, for the Year ending April 30, 1882.*

Dr. Theodore W. Fisher, the enterprising superintendent of this time-honored institution for the care of the insane, presents us with an extremely interesting report. While we miss some of those pleasant religious platitudes, which, our English critics tell us, are apt to be copiously scattered through our American insane asylum reports, we find much sound common sense, and some well recorded autopsies by Dr. W. W. Gannett, the pathologist.

After referring to the appropriation which the City Council has made for improvements in the ventilation and heating, and the additions of small wings to serve as dining rooms, Dr. Fisher alludes to the Bethlehem Hospital in London, England, the original "Bedlam," founded in 1547, which was formerly the scene of much cruel treatment of the insane, but is now modernized and furnished with every convenience, and then proceeds to say: "Our own hospital has a briefer history, but one of some interest as showing great progress in the humane treatment of the insane. It is sometimes forgotten that the primary duty of caring for the insane belongs to the cities and towns and not to the State. This was shown in 1837 when the excess of patients in the Worcester Hospital was returned by the State to the counties from whence they came, thus filling the Suffolk County House of Correction and the Boston Almshouse with unwelcome inmates. In their new quarters, these patients were confined in cells, or in wooden cages on wheels for convenience in giving them an airing. Alderman, afterwards Mayor, Eliot was chairman of the committee which reported in favor of a hospital, and in 1839 this building was completed and the insane removed to it." In 1846 the building was enlarged, and a separate building was erected, containing a block of twenty cells constructed of brick, with stone floors and no windows, resembling the cells of a police station. These cells were well warmed and ventilated, and similar to those in other hospitals, but they were unnecessarily strong and forbidding, and were destroyed a few years after by Dr. Walker, who was the first superintendent in the State to abandon the use of cells in the treatment of the insane. In 1853 the hospital was filled to its utmost capacity, but from that time to this, no essential changes have been made in its internal arrangements. The same lack of an adequate classification has existed for over a quarter of a century, and the noisy, violent, and filthy patients are still treated in the lower wards of the main building, to the disadvantage of the quieter patients. While the appropriation referred to will give better administrative facilities, the same lack of classification must still continue.

The daily average number of patients was 177, and 115 were admitted. Of these, thirty-five were emergency cases, and three voluntary patients. The hospital has done a most excellent work in admitting these emergency cases, and many physicians have occasion to thank Dr. Fisher for the good judgment he has shown in receiving them. The recoveries, throwing out emergency cases, were about thirty-two per cent. Two cases relapsed. The percentage of deaths was thirteen, many patients being admitted only to die. Of

the twenty-three deaths, eight were from general paralysis, seven were aged persons, and four were chronic cases.

Instead of there being only 153 chronic and quiet patients as at the date of the last report, there are now 189, the difference being made up of recent and excitable cases. The 101 female patients have to be classified in three wards, and it is almost an impossibility to properly separate the quiet, sick, and timid from the noisy, violent, and filthy. There being no detached building for the excited patients, "a single bad case may disturb the whole wing, keeping patients awake whose recovery depends on their ability to sleep. That some do recover under these conditions is proof of the curative powers of nature, and the value of enforced seclusion from still more disturbing influences outside the hospital." Listen to these words, we beg you, City Fathers, and when you read the neatly printed report, which Dr. Fisher has doubtless sent you, ponder seriously over it, and remember how extremely probable it is, that you, or your wives, or your children, or at least your grandchildren may be the victims of insanity, and, in consequence of a foolish, short-sighted economy, exposed to the unhappy influences to which we direct your attention. While you are still sane, City Fathers, be courageous, and zealously advocate at your council fires the erection of at least one or two detached wards for the violent patients on the hospital grounds.

On the male side of the hospital the number is not so large, but outbreaks of violence are not uncommon, and it is rather surprising to see how well attendants preserve self control under such trying circumstances.

For some weeks before the date of the report, no restraint had been used, seclusion being substituted. Nasal feeding is the only method of forcible feeding in use. The food employed is a pint of equal parts of beef tea, gruel, and cream, to which may be added tonics and stimulants as required.

The usual difficulty in keeping good attendants has been experienced, and the average residence of those in direct attendance on the insane during the last year was only four months! The patients are all in the actual charge of thirteen attendants.

Visiting of patients, contrary to the old rule, has been almost unrestricted, friends dropping in at all sorts and kinds of times. On the whole, *good*, instead of *harm*, seems to result, but it takes much extra time of the attendants, and a larger number will be required to continue it. Unrestricted visiting is being tried at some other hospitals near Boston, we are told, and we shall be much interested to see if it works better than the old plan of *no admittance*.

Dr. Fisher very wisely says that "the change in the number and character of our hospital population should be met by a corresponding change in management." Persons afflicted with perhaps the most terrible of diseases, and placed under a treatment beyond their control, should have every amelioration possible.

Out of the twenty-three deaths there have been four-teen autopsies, which is an unusually good showing. "The importance of complete and thorough post-mortem examinations is especially great in cases of insanity. The impossibility of getting reliable information from the patient, in aid of diagnosis, renders this the only method in some instances of assigning the true cause of death. . . . It also teaches caution in various ways. For example, the discovery of inhalation pneumonia

in general paralysis, suggests the importance of great care in feeding all patients who may be in a semi-conscious condition."

In the appendix we find the post-mortem appearance in six cases of general paralysis described. Want of space prevents giving an account of the remaining eight cases. In five of the six cases of general paralysis marked interstitial changes in the first layer of the cortex were found. In the sixth case, which was the only female case, no such changes were observed. Neither were these changes found in the eight cases not here recorded. In four of the six cases ependymitis of the ventricles existed. In the remaining eight cases it was found only in a case of epilepsy. Atrophy of the brain existed in five of the six cases. In the remaining eight cases in five. Chronic internal pachymeningitis was found in two of the six cases, and in one case only of the eight. Chronic leptomeningitis existed in three of the six cases, and in two of the remaining eight. No attempt is made to draw any conclusions from these few cases. W. C.

*Medical and Surgical Reports of the Boston City Hospital. Third series.*

**PATHOLOGICAL HISTOLOGY OF THE SPINAL CORD.**  
BY S. G. WEBBER, M. D.

Our previous notice of the City Hospital Reports<sup>1</sup> would not be complete without a reference to the careful article by Dr. S. G. Webber on the Pathological Histology of the Spinal Cord. Although made up for the most part of statements of the views of other authors upon the different points discussed, these statements have evidently been carefully verified, and the paper bears therefore throughout the stamp of originality, and forms one of the most convenient and reliable expressions of the best pathological opinion on this subject that is anywhere to be found. It possesses, in fact, so nearly the requirements of a practical manual that it would repay enlargement and amplification from that point of view. It would also have been especially interesting to learn the author's experience concerning the pseudo-pathological changes produced in the cord by post-mortem processes and under the various methods of hardening, since these are rocks not always laid down in the charts of even pretty experienced discoverers, and a cause of very frequent mishaps to tyros.

We miss also some statement as to how far the pathological changes described are compatible with apparent health.

The tone of confidence and authority which pervades the paper gives proof of long and conscientious labor on the writer's part.

The pathological division of the different forms of myelitis into acute and chronic, parenchymatous and interstitial, is no doubt the best that pure histology can now furnish, but it sounds a little barren when we think of the varied aetiology of diseases of the spinal cord, such as exposure, fright, over-exertion, the many poisons, the obstruction of lymph or blood-vessels. We are certainly destined to learn something more from topographical anatomy guided by embryology and physiology. The latest advance in this direction is that made by Dr. Ross, of Manchester, England, in pointing out the probable difference in pathological

relationship between the tissues of earlier and those of later development or differentiation.

If these opinions are verified, a new incentive will be given to the study of the histology of special localities.

The value of Dr. Webber's paper is increased by a number of good plates, made from preparations of his own. J. J. P.

**OPTICO-CILIARY NEUROTOMY. FIFTEEN CASES BY**  
OLIVER F. WADSWORTH, M. D.

The question whether optico-ciliary neurotomy shall be established as an ordinary substitute for enucleation, or whether it shall be placed in the category of unusual and extraordinary operations, is a pressing one among ophthalmologists of the present day. Dr. Wadsworth's paper in the City Hospital Reports contains an account of fifteen cases of this operation, and a candid review of them as far as their bearing upon the question of the substitution of neurotomy for enucleation is concerned. The clinical deductions contained in the review are of great practical value, and impress one as the work of a cultured and honest observer. The anatomical facts, stated as bearing upon the question of the danger of reunion of ciliary nerves, are given in a manner that contrasts quite strongly with the painstaking thoroughness with which the clinical questions involved are handled. After noticing Friedrich Arnold's description of the ciliary nerves, it is stated that "later writers on the anatomy of the ciliary nerves in man, however, so far as I am aware, with a single exception, describe these nerves as all entering the sclera around the optic nerve, and not very far distant from it." Redard is mentioned as the "single exception." Now the fact is that Henle's classical description of the ciliary nerves is almost a literal restatement of Arnold's observations, and we think Henle's views are the same upon this point as those of most leading anatomists. The conclusions of Mooren,<sup>2</sup> that "the extraordinary number of means of communication favoring the development of sympathetic troubles explains that only the perfect separation of these means of communication by enucleation furnishes the possibility of bringing the destructive process to a stop, provided, of course, that the operation is undertaken in proper season; all other methods, such as section of the ciliary nerves, the neurotomy of the optic and ciliary nerves, cannot furnish the same guarantee of the result without regard to the fact that the formation of the cicatrix following the section may of itself favor the conveyance of sympathetic trouble," seems to us more in accord with our present knowledge of anatomy and pathology. Instead, then, of regarding optico-ciliary neurotomy with Dr. Wadsworth, as "advisable in many cases," we should favor its restriction to the small series in which a fair cosmetic result may reward the patient for the extra dangers and the loss of time incident to the operation. D. H.

—The works of Galen, supposed to have been lost, are said to have been discovered in Salonica, by M. Papageorgos. They are in manuscript, and originally formed two hundred and forty-eight sheets, of which one hundred and forty-four are in good condition, twenty-four are mutilated, and eighty are missing.

<sup>2</sup> Fünf Lustren Ophthalmologischen Wirksamkeit Wiesbaden, 1882.

<sup>1</sup> Vide JOURNAL for July 18th and 25th.

# Medical and Surgical Journal.

THURSDAY, SEPTEMBER 14, 1882.

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## SIPHONAGE AND VENTILATION OF TRAPS.

THE *Sanitary Engineer* of August 31st contains a report to the National Board of Health on the Siphonage and Ventilation of Traps, by Edward S. Philbrick and Ernest W. Bowditch, two experts of the highest reputation. In making the experiments, two soil pipes, one four-inch and one two-inch, fifty-seven feet and a half high, were placed in a vertical position, with traps, etc., representing three stories and basement, in the building of the Massachusetts Charitable Mechanics' Association, by the courtesy of the managers. Both pipes were of full size to the top, and freely open, as it is now generally admitted that such free ventilation is quite necessary, whatever the other arrangements.

With the two-inch pipe, it was found that an unventilated hopper closet siphons out with even less than a quart of water thrown in with a dash, and that most of the admissible patent traps for wash-bowls have their water seal destroyed, if unventilated, by pouring any considerable amount of water into the soil pipe on any floor above them. All of these objections were removed, however, by free ventilation for each trap. Still, the possibilities of abnormal air pressure increase as the size of the soil pipe diminishes from four or five inches for an ordinary house; and the smaller pipe is open to objections which do not apply to the larger.

With the four-inch soil pipe, about three quarts of water thrown into a conical hopper, with a one and seven eighths inch seal, unventilated, produced siphonage; an interesting fact brought out by the experiments being that under apparently the same conditions the water seal was destroyed only a few times in comparison with the frequency of the traps being preserved. With water-closet and hopper, or hopper and bath, both discharging, a four-inch trap on a lower floor was lowered from two and five sixteenths to two and three sixteenths inches, destroying the seal. With bath, hopper, and water-closet emptied together, the trap water was lowered two and five sixteenths inches. The common S-trap of one and one half inches calibre and one and one half inches depth of seal, the Bowers trap and the Cudell trap (D-trap with two balls) were tried under conditions in which they are ordinarily placed for wash-bowls, and had their water seals destroyed from four to nine times in ten experiments when the water-closet was discharged and bath

waste was flowing on the story above. The round trap, with inlet at the bottom and outlet at the top with two and one half inches seal, could not be unsealed by the greatest possible amount of water discharged at one time from hopper, bath, and water-closet discharging together, although a few bubbles of air passed downwards through it. In speaking of mechanical valves, cups, balls, and flaps for supplementing the water seal the experimenters state that they have never seen one of these devices which could be relied upon to shut out air after the apparatus had been used and defiled for a few months by a flow of ordinary house drainage, whether from laundry, kitchen, or lavatory.

The conclusions, somewhat condensed, drawn from the experiments are as follows:—

(1.) When hopper water-closets are used for the emptying of slops, and when the trap is placed below the floor, it is difficult to preserve the seal in the ordinary form of S-trap, even by a vent pipe attached thereto, unless this be applied directly at the crown of the trap, and be as large as four inches in diameter for at least a foot above the trap. An increase of the depth of the seal and a decided, quick upward turn at the bottom of the trap will both operate to preserve the seal. But there are limits to the advisable depth of water seal, arising from the tendency of deep traps to retain their filth. Moreover, all angles and very abrupt changes approaching the form of an angle should be avoided, for the same reason. The proper medium is only to be attained by the use of good judgment in any case.

(2.) When a short hopper is used for emptying slops, with a trap above the floor, though the momentum of the falling water is considerably reduced by the diminished distance through which the water falls from the pail to the trap, there is still no security for keeping the water in such a trap, unless supplied by a special air vent. This should be at least one and one half inches in diameter if more than a few feet in length, and even larger if passing to other floors above.

(3.) Other forms of traps, which might save and retain their water by means of a lateral expansion of their basins, are objectionable, owing to the amount of filth which they retain, subject to decomposition. The ordinary S-trap alone, with ample air vent, is therefore recommended for use under water-closets, and also for all other fixtures where its proper ventilation can be secured within reasonable limits of expense. The proper size and length of such vent pipes must be largely a matter of judgment. Their combinations admit of such a great diversity of conditions that we can only urge that every one should be severely tested by repeated trials, applying larger vents, or making the small sizes shorter whenever any doubt arises as to their efficiency.

(4.) The above precautions are of more importance, and should be observed with greater care when waste pipes are used of smaller size than four inches to carry the flow for more than one or two feet in distance.

(5.) Whenever branch inlets are connected to a line of waste or soil pipe that is vertical or approaching that direction, above which branches other fixtures are used for discharging water into the same main, there is great risk of losing the water from the traps attached to such branches whenever the upper fixtures are used. No form of trap without special air vent has come to our notice which is not likely to lose its water seal under such circumstances, even when the top of the soil or waste pipe is open, except those which, like the round trap above referred to, are objectionable for retaining filth. This objection is intended to be met by providing a large capped opening at the top for the removal of the filth. In practice this is seldom done, and if done without the help of a mechanic, the cover would rarely be closed tightly, as now constructed, so that the frequent cleaning of such traps is very difficult to accomplish and an annoyance when done. The risk involved by the use of such small cess-pools in the house would be small if perfect tightness could always be insured at the joint of the cover. Air vents are sometimes applied to them, but are of doubtful utility. The round trap may often be properly used, however, in old houses, in places where the introduction of a vent might be very inconvenient or costly.

(6.) The best and most simple remedy for the siphoning of traps, in most cases, is undoubtedly to be found in the introduction of air at the normal pressure at the crown of the trap. No definite rules can be given for the size or length of vent pipes. Yet it may be said that it is not safe to trust to a vent pipe of less size than that of the trap it is to serve until we get above two inches diameter, except they be of only a few feet in length, before they join those of a larger size.

(7.) There is still another risk arising from an excess of air-pressure in house drains having an exterior main trap, or discharging into a cess-pool at a point below the water line by a dipping inlet pipe, as is often done for the sake of checking the back flow of gas from the cess-pool unless there is a free vent in the drain between the trap and the house, so as to prevent the compressed air in the soil pipe forcing the traps on lower stories when there is a rush of water from a point higher up.

(8.) Though condemned by most English authorities, it is doubtless a safer way to connect the waste pipes of baths, bowls, etc., used on upper floors directly to the large soil pipe by Y-branches as near as practicable to the fixtures drained than to erect long lines of smaller-sized wastes separately for such purposes. Certainly the larger the pipe the less is the risk of any abnormal air pressure occurring by its use so long as the wastes are not likely to become encumbered seriously by accretion of solid matter. The provision of separate wastes for baths, etc., all the way to the basement is considered important in England, probably because of a dislike to make inlets in the soil pipe used for water-closets. But the risks arising from the use of a small-sized waste through such distances are thus proved to be considerable, and should

not be ignored; while those arising from the common use of a four or five-inch pipe for water-closet and general refuse water on several floors may have been overrated in England.

These conclusions are certainly carefully made, and we most heartily approve them, except that we think that the advantages by the English method of separate waste pipes for wash bowls have been underestimated.

No pan closets were used in the experiments, as it was assumed that they have already been proved to be objectionable on other grounds than those of ventilation and siphonage.

#### A MUSEUM OF HYGIENE AT WASHINGTON.

THE Navy Department has issued a circular from the Bureau of Medicine and Surgery, calling attention to the Museum of Hygiene, which has been organized under that Bureau and officially recognized by Congress in an act appropriating \$7500 for its expenses during the current fiscal year. Surgeon-General Wales states that the necessity of a central institution of this sort has long been felt, and it is hoped that the present organization will supply this need. The plan, briefly described, comprehends a collection that shall be illustrative of the entire range of sanitary science, the establishment of a course of lectures by authoritative sanitarians from all sections of the country, and a library of sanitary science accessible, under proper restrictions and guarantees, to all who are engaged in the study of this branch of knowledge. This library already numbers many of the standard sanitary works in the English, French, and German languages, and is constantly increasing.

It is intended that the museum shall exhibit the present state and future progress of the nation in all departments of hygiene. The active interest and co-operation of the Medical Corps of the Navy, whether at home or abroad, are expected in this undertaking, and physicians, engineers, architects, builders, manufacturers, inventors, and others interested in sanitary matters, throughout the country, have been appealed to for their coöperation. Models, apparatus, plans, and diagrams illustrating naval and general sanitary subjects have been gradually accumulating, and these have been placed on permanent deposit at the museum.

At a meeting of the American Public Health Association a resolution was adopted making this museum the central depository of its collections.

It is proposed to divide the subjects the museum will deal with into three departments, (A) Department of Public Health and Comfort, (B) Department of Life Saving and Preserving, (C) Department of Literature and Drawings. These departments are to be subdivided respectively into twenty-five and fourteen and two classes, as follows:—

- A.
- Class 1. Soil and atmospheric air.
2. Streets, roads, public places.
3. Removal of sewage, excrements, and garbage.
4. Providing towns with water.

5. Public lighting.
  6. Providing cities with food.
  7. Public laundries.
  8. Public baths.
  9. Public instruction.
  10. The dwelling.
  11. Buildings which are permanently occupied by many people.
  12. Rooms which are temporarily occupied by many people.
  13. Hotels, restaurants, coffee houses, etc.
  14. Factories, laboratories (chemical, powder, fire-works), metallurgic works, including dwellings for the workmen.
  15. Agricultural works.
  16. Heating and ventilating.
  17. Food products.
  18. Steam, horse, and electric railroads.
  19. Water transportation.
  20. Clothing and treatment of the skin.
  21. Preventing contagious diseases.
  22. Hospitals, medical establishments, and infirmaries.
  23. Burial of the dead, vaults, and morgues.
  24. Veterinary department.
  25. Fragments of exploded boilers, heaters, tubes, etc., damaged by pressure, frost, acids, scales, and other deposits.
- B.
- Class 26. Life-saving from fire.
27. Protection against lightning.
  28. Protection against inundations.
  29. Protection against explosions.
  30. Safety appliances in traveling on land.
  31. Safety appliances in traveling on water.
  32. Protection against accidents in submarine works.
  33. Protection against accidents in mines.
  34. Protection against accidents from machinery.
  35. Attendance to persons accidentally injured in peaceful pursuits.
  36. Attendance to persons wounded in war.
  37. Ambulances, hospitals, barracks, and hospital ships.
  38. Apparatus for taking care of the wounded in war.
  39. Marine architecture.
- C.
- Class 40. Miscellaneous.
41. Literature and drawings appertaining to these departments.

## A NATIONAL MEDICAL AND SANITARY EXHIBITION.

SIMULTANEOUSLY with the above the attention of our readers is called to a proposed conference of commissioners to assemble at Indianapolis on October 18th next, to take into consideration the question as to the best course to be pursued to promote a National Medical and Sanitary Exhibition in 1883. State Boards of Health are requested to appoint commissioners to meet those appointed by the National Board and the American Public Health Association. The movement is supported by very good names throughout the country.

## PROFESSOR ESMARCH ON PRESIDENT GARFIELD'S CASE.

IN publishing the remarks of Professor Esmarch on the case of President Garfield it did not seem necessary to add that the publication did not necessarily carry with it either the approval or the disapproval of either editor or translator.

Interesting as is everything that comes from the pen of the celebrated professor of Kiel, neither his skill as an operator nor his distance from the case

criticised gives to his judgment the attribute of infallibility. His is simply the opinion of a celebrated surgeon as to what ought to have been left undone, and a guess as to what might have been had a certain hypothesis been true.

If anything was done which ought to have been left undone, the surgeons of the case still deserve credit that they remained so steady under that popular clamor to do something which, years before, under the form of On to Richmond, forced and lost a battle, and imperiled the existence of the Union.

## MEDICAL NOTES.

—After all, the homœopathic exchanges are not such dull reading — on a dull day. A female professor in the Boston University School of Medicine is studying at Vienna, where she sees much that is interesting. She writes to the *New England Medical Gazette* that in the maternity wards "a large proportion of the cases are *primiparae*," giving an uncomfortable impression that each *primiparum* must be more or less of a hermaphrodite. It is mournful to reflect that even our homœopathic brethren are not to be exempt from the prevalent iodoform mania. The writer adds her contribution to its therapeutic uses as follows: "Just now iodoform is quite the rage here, every kind of wound being treated with it, and effects are obtained from it that we should call a proving. One patient became quite delirious, and the attending physician omitted the use of the iodoform, and the delirium disappeared. One of the noted physiologists here has been experimenting on animals with this remedy, and the other day I made preparations from the spinal cord of a dog that had been heavily dosed. The sections (under the microscope) showed great congestion of the cord, the blood-vessels showing very distinctly and quite large. I do not know whether iodoform is used by homœopathic physicians as a remedy, but it occurred to me when I saw the cord in this condition that it might prove beneficial in congestion of the spinal cord in the human race." It is to be feared that some of the instructors (assuming that they are correctly quoted) are a little disposed to chaff the professor. "In answer to my question, What is the cause of so much of this paralysis in patients so young? Dr. S. W. replied, 'Struggle for life and syphilis.'" We find it difficult to believe that in a city of the social characteristics of Vienna the struggle for syphilis need be so arduous as to paralyze its devotees. Perhaps, however, the rivalry of these depraved young persons is simply that they may be in the fashion. That many do get it without a struggle the writer evidently believes, for she says: "So generally is syphilis recognized, that the first act on the part of the midwife is to syringe the eyes of the child with a solution of *nitrate of silver*." It is to be regretted that the professor did not say how it was explained that this operation protected the child from syphilis, and why it might not occasionally be used with certain other local ailments of the mother.

— Von Langenbeck's last clinic at the University Hospital of Berlin was, according to the reports of correspondents, an occasion of much picturesque interest, closing as it did forty-two years of clinical professorship, thirty-four of which had been spent in Berlin. On this occasion the operating table and the cases of instruments had been removed from the amphitheatre and their place filled with flowers, laurel, and palms. A bust stood at either side, one of Karl Friedrich von Graefe, the first director of the surgical clinic and father of the celebrated oculist. The other was of the retiring professor, and was crowned with ivy. The seats were crowded with students, professors, and the officers and most conspicuous members of the Berlin Medical Society. When the distinguished surgeon appeared with his assistants, it was in his long linen operating coat, which, as he said, seemed to him more appropriate to the occasion than festive attire. The speeches were brief, and seem to have been in excellent taste. Then three of his recent cases of hip-joint amputation were rolled in, and while the dressings were being removed he took occasion to say a few words on his method of performing that operation. The favorable results in these three cases were then shown, and with a few words of farewell his shortest and his last clinic ended.

Langenbeck is now sixty-three years old, and is beginning to feel the infirmities of age. His chirography is nearly illegible on account of the tremor of his hands, but it is said that in operating these are under perfect control.

— An article by Dr. Lewis S. Pilcher, in the *Annals of Anatomy and Surgery* for September, on Tracheotomy and its Complications, emphasizes one point which is not often spoken of, namely, the turning in of the cartilages of the trachea at their posterior part, thus forming in a number of contiguous rings an elevation running up and down the back of the trachea. This is, of course, due to the spreading apart of the cut surfaces of the rings in front by the canula. To avoid it he recommends the excision of a portion of the rings by means of a horse-shoe shaped punch, introduced at the first incision. The cartilages then not being spread, no arching forward takes place at their posterior portion. The practical bearings of the protrusion as it occurs after the ordinary operation are first, of course, the obstruction thus caused to the ingress of air, and, secondly, the unfortunate results of mistaking it for a granulation and trying to remove it.

— It is worth while to observe a little caution when you send a patient to the care of a medical friend at a distance as to whether she (it is usually a woman) is to be trusted fully as the bearer of a letter describing her own case. A French journal reports that a lady being sent under such circumstances to some baths was seized with curiosity to know what her medical attendant had said about the obscure disease from which she suffered. The diagnosis and recommendation for treatment which she found was this: "Mon cher frère, Je vous envoie une oie à plumer. Plumez la sans trop la faire crier."

— A murder is reported in the daily papers of an

inmate in the hospital for the insane at Augusta, Me. The assailant was another patient of the hospital, named Smart, who had been previously harmless, and had been allowed to assist in caring for the others. On the day of the murder he was helping the regular keeper of his victim, and after the latter's breakfast had been prepared Smart took it down. A few minutes later a noise was heard from the patient's room, and on entering it the keeper found that Smart had tied a towel around his victim's neck, and by means of a piece of gas-pipe had twisted the towel till fatal asphyxia resulted. It is said that no symptoms of violent tendencies had ever been observed in Smart, so that the officers of the hospital are not considered responsible for the unfortunate event, although the presence of the piece of gas-pipe is not explained.

— According to Dr. Squibb, "St. Jacob's Oil" is a badly made aconite liniment. It consists mainly of water, ether, alcohol, turpentine, and a small proportion of aconite, with red coloring matter. His saintship may not be very strong on therapeutics, but he inherits enough of the financial "grasp" of his great ancestor and namesake to have worked up a business, it is claimed, of two million dollars a year. While thus St. Jacob is "on Fortune's cap the very button," Mrs. Lydia Pinkham seems to be about "the soles of her shoe," having recently gone into bankruptcy. Undoubtedly that smiling gynæcologist would be well satisfied with a position about Fortune's waist or in the middle of her favors. But it would seem that the goddess, in spite of Hamlet's unfavorable estimate of her character, has at least no "female weakness." Mrs. Pinkham's relatives, however, are reported, we know not how truly, to be well cared for. Her smile continues to greet the public astringently.

— At a recent meeting of the Liverpool Health Committee the inspector of nuisances reported that a laborer working on board the steamship Wisconsin, from America, had found a living Colorado beetle. The deputy town clerk said he had telegraphed the fact to the Lords of the Privy Council, who directed that the insect should be killed, and forwarded in a box to Whitehall for inspection [!]. — *Local Government Chronicle*.

— A woman named Ellen Sherry hung herself at Bootle, near Liverpool, and her body was placed in the mortuary. The coroner gave a certificate to the deceased's husband, who placed it in his pocket and took it to sea with him. In consequence of complaints the nuisance inspector visited the mortuary, where he found it necessary to throw a gallon of carbolic acid about. The workhouse governor was applied to, but said that the body could not be interred until the husband was found, and the coroner's warrant obtained. Finally, after much delay, the nuisance inspector applied to the borough magistrates for an order for the immediate removal of the body, which had become a nuisance. The Bench felt in a difficulty in regard to the matter, as there was no by-law to meet the case. After a long consultation the magistrates decided that the nuisance must be abated, and the order asked for was granted. — *Local Government Chronicle*.

## Discreclama.

## COMMUNICATIONS ON DR. KEITH AND LISTERISM. A CORRECTION.

To the Editor of the Boston Medical and Surgical Journal:—

SIR,— My attention has only just been drawn to a letter from Dr. G. H. Lyman, in your issue of April 27th, entitled, Dr. Keith and Listerism. As I have good reason to believe that I am the “English ovariotomist” who is therein so courteously alluded to as the author of “untrue statements” with regard to Dr. Keith, I shall be glad if you will allow me an opportunity of stating what it was that I really said to the correspondent who unconsciously misrepresented my remarks to him in your JOURNAL of January 12th.

In October last, while talking over the events of the recent International Medical Congress, some allusion was made by this gentleman to the subject of Dr. Keith's remarks during the discussion on Abdominal Surgery in the Surgical Section, and considerable surprise was expressed that the conclusions arrived at by Dr. Keith respecting the value of antiseptics in peritoneal operations should have been so utterly at variance with the views held on the subject by Mr. Spencer Wells and other leading ovariotomists in London. I mentioned in reply a report which was then current here, and which had just reached me on trustworthy authority, to the effect that Dr. Keith had latterly (that is, since he began to operate in the Edinburgh New Royal Infirmary) taken to increasing the strength of the carbolic lotions employed for the instruments and sponges during his abdominal sections, using a *five per cent.* solution in place of the weaker lotions which he had previously been in the habit of employing. I added that this might possibly, I thought, help to explain the fatal results referred to by him at the Congress. No allusion whatever was made by me to any alleged increase in the strength of the spray employed by Dr. Keith. Such increase as that mentioned by your correspondent of January 12th would be an impossibility, since the ordinary *five per cent.* spray lotion is itself a *saturated* aqueous solution of the acid, and hence does not admit of any further concentration.

I may here state that these remarks were made in the course of ordinary conversation, without my having the remotest idea of their being used for publication; and I much regret that the gentleman to whom I was speaking should not have subsequently thought it worth while to refer to me, with a view to insure the authenticity as well as the accuracy of any statements which he intended to publish.

While writing this, my attention has been called to a communication from Professor Yandell in the *American Practitioner* of November, 1881 (vol. xxiv., No. 143), which, as a verbatim *résumé* of statements made to that gentleman by Dr. Keith himself with regard to his reasons for abandoning the use of rigid Listerism in his abdominal practice, entirely confirms the correctness of the report mentioned by me to your correspondent of January 12th.

I am, sir, your obedient servant,

WM. APPLETON MEREDITH.

6 QUEEN ANNE ST., CAVENDISH SQUARE, {  
LONDON, May 26, 1882; }

MR. EDITOR,— The foregoing letter, sent me by its author for publication in the JOURNAL, relieves me of the further necessity of silence as to the source of information which I sincerely thought was clearly comprehended by me, and which I communicated to the JOURNAL of January 12th last.

I must respectfully differ from your correspondent in his assertion that he “had not the remotest idea” that I intended to use for publication “remarks made during an ordinary conversation.” The conversation cannot be considered ordinary. After remarking that I contributed to several medical journals, and adding that I should be glad of material, I asked: “What points can you give me relative to the Congress which are not generally known? For example, What about the Keith-Lister discussion?” The reply was: “Keith has abandoned the spray in abdominal surgery, but there were two points which he did not mention at the Congress.” One of these was the effect of the spray upon Mr. Keith's health. The other was: “He did not mention that he had increased the strength of his lotions ten per cent., and this must have had an important influence in the fatal cases.” Your correspondent errs in thinking that anything whatever was said in reference either to *on dits*, common report, or rumor. The remarks were made simply as I have given them. Aside from my memory, which is very clear on this point, my own certainty is based upon the fact that I wrote them down in my note-book in the form in which they were made within ten minutes after hearing them.

I have, however, to acknowledge that I was misled by your correspondent's use of the term “lotions,” in which, on several occasions during our conversation, as well as in private notes to me, he included the *spray* as well as the carbolic washes for instruments, sponges, etc. This was my misfortune. I regret it, and am sorry I did not more clearly comprehend your correspondent. It led me into the error, in my communication to you of January 12th last, of making it appear, where I referred to the reported increase of the “carbolic solution” (the term I used), that I specified the spray alone. It was only upon hearing from the gentleman that I discovered that although he intended to refer merely to the washes, he so used the word “lotions” as to lead me to suppose that he included the spray; and in the very communication which I now hand you, it will be observed that he uses the expression “spray lotion.” We do not thus refer to the spray and the washes, and hence my misinterpretation. As to the amount of the increased strength of the solutions, I copied my figures directly from my note-book. Those I gave you undoubtedly were an unintentional misstatement of your correspondent at the time of our conversation.

I now wish to say without modification that I regret exceedingly the annoyance I must have caused Mr. Keith. Moreover, that before addressing the JOURNAL upon the subject I ought to have referred the matter to Mr. Keith for verification. Application of the same term by your correspondent to the washes and spray alike, misled me. Nevertheless, if I had clearly understood that the point at issue was the increased strength of the washes alone, I still should have felt it a matter of interest on behalf of Listerism to have brought up the subject for discussion. But before doing so it would have been wiser to have consulted Mr. Keith. Yet, in spite of any complexion which my note of January 12th may assume, I had not the slight-

est desire to injure him. My sole object was the endeavor to make capital, not for Lister, but for Listerism and the spray. This, in view of the error into which I unconsciously was led, being now out of my power, I have only to add my renewed regrets that I have annoyed Mr. Keith, and also that the matter has given you considerable trouble. I need not say that when my communication in the *JOURNAL* of January 12th was written, access to the Transactions of the Congress was impossible. Very truly yours,

HAMILTON OSGOOD.

#### THE AMERICAN SOCIAL SCIENCE ASSOCIATION.

THE annual meeting of this Association occurred last week at Saratoga, beginning Tuesday and lasting four days. The prominent features of the successive days respectively, were, Education, Public Health, Politico-economic Science, and the Labor Question. We mention some of the leading papers.

The opening address on the 5th, by Professor W. L. Harris, on Education, was, to some extent, a continuation of his remarks offered on a similar occasion last year. Miss Alice Hitcher, of Washington, followed with an article on Civilization of the American Indian. Mr. H. L. Wayland's views on Progressive Spelling called forth an earnest discussion from the conservatives and radicals on this vexed question. At the evening session, Rev. A. D. Mayo spoke on the subject of National Aid to Education, and the Association adopted a memorial advocating governmental assistance to those portions of the country less advanced in this regard. Mr. Goldwin Smith followed with some remarks on the same subject suggested by his study of the educational question in England and France.

On the second day papers on Boards of Health were presented by Dr. Walter Channing, of Boston, and Dr. Baker, Secretary of the Michigan State Board. The former emphasized the importance of preventive medicine, especially with reference to the diseases of modern civilization so far as they are caused by overworking of the nervous system. Dr. Baker's papers advocated the desirability of additional functions being assigned to the National Board of Health, particularly in the direction of collecting statistics furnished by local boards, so that the central body shall present synoptical results founded upon the information furnished from different parts of the country—a method somewhat analogous to the work of the National Signal Service.

Dr. A. N. Bloodgett's article on the management of Chronic Inebriates and Insane Drunkards produced some discussion which brought out the radical differences between those who regard drunkenness as a disease and those who consider it a crime.

Sanitary precautions were treated of with reference to the household, by Dr. Hunt, of the New Jersey State Board of Health.

Dr. D. F. Lincoln's paper on the Health of Boys' Boarding-schools was not read, and as it may have a special interest to our readers, we give some extracts.

"As regards the size of rooms, much depends on circumstances. For dormitories the requirement should be large; not so large as in barracks, but liberal. In a not-worthy series of articles published by the *London Lancet* in 1881, an estimate is given, which may be accepted as a minimum standard, viz.: Six hundred and fifty cubic feet of space per head for boys under

twelve years of age, and eight hundred and thirty for boys from twelve to sixteen. It would be well to restrict such rooms to one use; not to let them be used for studies; to have the windows open all day, and keep the boys out until bed-time.

"This class of rooms is occupied continuously for ten hours every night; but with other rooms the case is different. It is to be supposed that a school room is not occupied continuously for longer than two or three hours without a thorough airing by windows, in addition to constant flue ventilation. One third of the space mentioned above is found to be practically sufficient for such rooms. Recitation rooms are very often slighted in respect to space. Where the school is planned with one large common room for assembly, it is often the case that the recitation rooms are twice as crowded as the large one; paltry, stuffy, dark, draughty little corners and holes of rooms. Music rooms, and other special apartments, are apt to be too small for free circulation. . . .

"In any case, rooms facing due north must be rejected for the purposes of sleeping; they are only desirable where a peculiar light is wanted, as for drawing. . . .

"A room ought to be reserved for hospital uses. It should be remote, dry, airy, and sunny; should receive no unpleasant odors, coming up through its floor, from unventilated cellars, or through its plaster walls, from adjoining store closets. The floor should be of wood. Abundant means of ventilation should be provided, including a well drawing chimney. But such a room ought to be seldom used. If frequently resorted to for severe colds, headaches, or other troubles, there is reason to suspect something wrong in the arrangements of the school itself. . . .

"A system of discipline where bodily restraint has to be employed frequently, constitutes an infringement upon the laws of health. It would be better to return to the old-fashioned code, and adopt the practice of one English master, who replied to the inquiries made by the *London Lancet* in terms as follows:—

"We have compulsory gymnastics half an hour. Every boy must be out at least forty minutes before dinner, engaged in some out-door exercise. Every boy may be out rather more than one hour before dinner. Different forms are out at different times, but all have two intervals, one about ten minutes, the other nearly an hour. Gymnastics, etc., are taken at other times. Golf is greatly played, but boys are almost made to play hand fives occasionally, as being one of the few exercises which develop the left side of the body. At 3 p. m. every boy is obliged to dress in flannel, which, except in summer, must be changed before tea. He must be out of doors from 3.15 to 4.30 at least. During the latter part of the time there is some compulsory game—hockey, Rugby football, association football, and athletics in their season. The daily time of football is forty minutes. In the cricket season boys must join in the sides, except they have leave off, which is easily got for birdnesting (if they are really collecting). In winter, if they can be spared by the heads of sides, boys can occasionally leave off football, etc., provided they take some really warming exercise, such as a run, before changing for tea."

"Of military drill I can speak with pleasure from an experience of its effects. It encourages promptness, attention, obedience, neatness; it is enlivening and very attractive if carried out by a good drill-master.



The amount of exercise obtained in half an hour depends, of course, on the way the drill is conducted; but, on an average, while it is not adequate to the needs of a day (no, nor half adequate), it supplies a very important need in the case of indolent boys. . . .

"From nine to ten hours of sleep are required by the majority of boys. To retire at ten and rise at six gives a minimum allowance for the oldest boys. Study before breakfast should rarely be allowed. To rise and sit an hour in a cold, badly-lighted room is enough to take away the appetite for breakfast. About eight hours is a maximum requirement for study and recitation combined in the case of older pupils.

"It is needless to say that a boarding-school ought to be in the country. But this very circumstance may entail special risks in a sanitary sense. Sewerage, which may be presumed to be well cared for in any good-sized city, is specially difficult to manage in places where there are no drains, and where public sentiment has not reached the point of demanding drains."

The paper closes with a brief reference to the sanitary arrangements proper for disposing of filth when there is no system of sewerage.

Among the papers of the 7th may be mentioned one by Mr. Colby, of New Haven, advocating disfranchisement for crime, and extending this penalty even to drunkenness. Mr. Wright, of the Massachusetts Bureau of Statistics, agreed with the essayist in his opinion as to the justice and propriety of disfranchising drunkards, and in the course of his remarks said that eighty-four per cent. of the convictions in Suffolk County were traceable to liquor.

In the evening President Angell read a paper on the relations between the United States and China, reviewing the several treaties, that negotiated by Caleb Cushing in 1844, the Burlingame treaty, and their modifications. The alleged violation of the obligations toward our citizens in China in the way of imposition of unjust duties, and the refusal of protection to foreigners were spoken of, and, *per contra*, the complaints which China has a right to make of our treatment of her citizens. The speaker defended our right to make restrictions of immigration from China, but thought the recent bill too stringent.

The closing day of the meeting was occupied largely by the discussion of the labor question, the restriction of the hours of factory labor, and a comparison of the former system with that of the present day being especially dwelt upon. The final paper, by Mr. Wright, defended strongly the factory system as an element of civilization, taking what but for the eminence of its authority might be considered an optimistic view of its favorable results to the operatives in the way of regular hours and regular pay, and claiming that wages were not growing less, but were in general adequate. That factories were not, as a rule, ill ventilated or overcrowded, and that drunkenness and crime were diminished rather than fostered by the conditions of the operatives.

The next general meeting of the Association will be held at Saratoga, September 3, 1883. The following are the officers for the ensuing year: President, Francis Wayland, of New Haven; Vice-presidents, Daniel C. Gilman, of Baltimore; Miss Maria Mitchell, Poughkeepsie; Theo. D. Woolsey, New Haven; Henry Villard, New York; and J. M. Gregory, New York; General Secretary, F. B. Sanborn, Concord, Mass.; Treasurer, F. J. Kingsbury, Waterbury, Conn.; Direc-

tors, Dorman B. Eaton, New York; Horace White, New York; Anson P. Stokes, New York; Jonas M. Libbey, New York; John Eaton, Washington, D. C.; T. W. Higginson, Cambridge; George T. Angell, Boston; Mrs. Henry Whitman, Boston; Carroll D. Wright, Boston; and H. L. Wayland, Philadelphia. The Association elected Herbert Spencer to honorary membership.

#### PUNCTURED WOUND OF THE PREGNANT UTERUS; PARTIAL ESCAPE OF THE FETUS INTO THE ABDOMINAL CAVITY; RETENTION OF THE FETUS FIVE YEARS.

At a meeting of the Philadelphia Obstetrical Society, as reported in the *New York Medical Journal and Obstetrical Review*, Dr. B. F. Baer read a case of great interest. The patient presented herself for relief from an abdominal hernia, being also emaciated and run down from an attack of typho-malarial fever through which she had lately passed. A perforation of all the abdominal tissues except the skin was discovered at the right of the umbilicus of the size of a silver dollar, from which, when she stood, projected the abdominal hernia. Further examination showed a mass extending from the hypogastrium to the umbilicus a little more to the left than to the right. It was of the size of the uterus at the sixth month, and gave to the hand the sensation of loose bones moving upon each other. The os externum was patulous, and from it flowed a yellowish, slightly fetid fluid. The uterus was enlarged. The sound passed six inches and touched bones. The examination was painless.

Further investigation disclosed the following history: Five years before, in Ireland, the patient, when within a week of her confinement, was standing upon a chair the back of which, with the exception of two uprights, had been broken away. She was at the time collecting brambles, and, in stretching for one, over-reached herself and fell, and, in the act of falling, her right side came in contact with one of the uprights. A short time after, she was found lying on the ground in a fainting condition, from which position she was removed to bed, and a physician summoned to see her. This physician afterwards wrote to Dr. Goodell as follows regarding the case: "On examination, I found a contused wound on the lower and right side of the abdomen, and, in addition, came to the conclusion that the womb was ruptured, and that the foetus had escaped into the cavity of the abdomen. There was intense tenderness and great distention. I immediately decided on giving her at once calomel and opium, the latter in large doses. After the third day I stopped the calomel and continued the opium. The pain and tenderness almost disappeared after a week, and I may say from that period until she left here she never had a bad symptom."

The patient declined any treatment for the uterine condition at the time of her first visit. But three months later, her health having suffered much, she placed herself under Dr. Goodell's treatment in the hospital. The evidence of septic absorption had become marked, with hectic fever and night-sweats. The cervix was dilated by one sponge and four laminaria tents, and the next day the operation was performed of removing the dead foetus *per vias naturales*. Fenestrated polypus forceps readily grasped the contents of

the uterus, but when traction was made it was found that the fetus was firmly held somewhere. Moreover, it was so disintegrated that only the portion within the grasp of the forceps could be withdrawn with the instrument. This was repeated a number of times, each withdrawal of the forceps bringing away a bone or some broken-down soft tissue. A discharge of about a pint of very fetid, thin fluid took place at this stage of the operation. The os was now becoming so small, from contraction of the cervix, that the forceps could scarcely be made to pass, and an effort was made to secure further dilatation by the use of Molesworth's dilator, which failed. The parts were thoroughly disinfected by injections of a permanganate-of-potash solution and the vaginal neck incised. The same polypos forceps was now more readily introduced into the cavity and the mass broken up. This was followed by a profuse, thin, bloody, purulent discharge of the most fetid character. An injection of the permanganate solution was now made into the cavity of the uterus until it returned unchanged, when another effort was made to remove the contents. After working for more than half an hour, only a part of the product was withdrawn. At this stage of the operation considerable hæmorrhage occurred, and this was increased with each endeavor to dislodge the mass from its nidus. For this reason, and because the patient was becoming weak (she had now been under ether one and a half hours), it was thought prudent to discontinue further efforts for the present, and to depend upon antiseptic injections and contraction of the uterus to remove the remainder. The patient came out of the anæsthesia slowly and in a state bordering on collapse, in which condition she remained for nearly twenty-four hours, when she gradually reacted. During the next four days there was a very fetid fluid discharged from the cavity of the uterus, together with some *débris* from the decomposing mass. The patient had to be removed from the ward on account of the odor. The treatment was supporting, with very frequent irrigation of the vagina and uterine cavity with antiseptic solutions.

On the fifth day after the first operation, the patient evidently suffering from septicæmia, and there being no marked effort on the part of the uterus to throw off the remains, she was again etherized, and another attempt was made to remove them. It was found that time had somewhat disintegrated the contents, and that therefore removal would be more easily effected. Bone after bone, and occasionally a piece of soft tissue, were withdrawn, until at the end of about an hour the cavity was almost entirely emptied. For several weeks afterward, however, an occasional bone was thrown off *per vaginam*. The cavity was thoroughly washed out with the disinfecting solution, and an examination was made to discover the seat and extent of the rupture. The cavity of the uterus was large and rough, and in the right side of its body there was discovered an opening through which two fingers could be readily passed into a cavity beyond. The recovery of the patient was slow, indeed her life was despaired of for weeks, during which time she suffered from numerous pyæmic abscesses. One of these abscesses was post-ocular, and resulted in the loss of the eye. She finally left the hospital restored to health.

The diagnosis of the original injury which was made before the operation was performed, seems thus confirmed. It was that the uterus was really ruptured, but that a portion only of the child escaped through the

rent, thus preventing, by pressure, a loss of blood which would otherwise have probably resulted in the death of the patient; and that the portion which projected through the rupture became encysted, thus forming a cavity continuous with the uterine cavity, the whole mass remaining harmless until, through the intercurrent of an exhausting disease, decomposition set in and it began to poison the patient.

#### INVERSION OF THE UTERUS OF EIGHT YEARS' DURATION.

An interesting case of reduction of an inverted uterus after eight years of malposition is reported in the *American Practitioner* by Dr. W. H. Cyrus. The patient had been treated variously for ulceration of the cervix and other diseases without a true diagnosis ever having been made. Various attempts at reduction according to the Emmet and the Noeggerath methods having failed, the means which were finally successful were, in the words of the author, as follows:—

"I felt that I needed some instrument that would make pressure on the fundus and at the same time be small enough to follow it through the os. I returned home and took the vaginal tube of a family syringe and a small steel rod about one foot long with a thread cut on one end; this I screwed into the open end of the tube. I then covered the point of the tube with rubber taken from a medicine dropper and fastened it securely. Armed with this instrument, I returned on the 25th, and having brought down the uterus I indented the fundus and placed my instrument in the indentation, with the handle against my chest, and holding the uterus with my right hand, I used the left to assist in turning in the fundus. I made steady pressure for one hour, and had only succeeded in indenting the fundus about one and a quarter inches when she made an effort at vomiting, and the uterus slipped away from me and passed into the vagina. I kept up the pressure with the instrument in my right hand, while I made counter pressure over the abdomen with my left. In a few minutes she commenced vomiting, and during her straining efforts the uterus suddenly returned to its normal position, to our, as well as the patient's, great relief."

#### INTRODUCTION OF ALIMENTS AND MEDICINES THROUGH THE NOSE.

FERNET and Martel<sup>1</sup> have made a number of experiments to demonstrate the possibility of introducing aliments and medicines through the nostrils.

For this purpose the patient is placed on his back, in the recumbent position, while the head and the upper part of the throat are permitted to fall somewhat backward. The gum hose of a common nursing bottle is then pushed into the posterior part of one nostril, and the fluid—either containing nutritive substances or medicine—slowly poured in. In consequence of the peculiar position of the body, the floor of the nasal cavity and the velum form an oblique plane, so that the fluid mentioned flows directly into the pharynx and induces swallowing. Generally, and especially if the fluid is poured in slowly, the expected result ensues with certainty, and in a manner by no means disagreeable to the patient; only when the fluid

<sup>1</sup> Schmidt's Jahrb., 1882, 1.

is poured in too rapidly, a few drops may find their way into the larynx, causing the well-known irritating cough.

Fernet and Martel have employed this method successfully in persons in a comatose condition, in children suffering from tubercular meningitis, and even in newborn infants too weak to take the breast or the bottle. This method may also be successful in introducing medicines into the stomach which, in consequence of their bitter or nauseous taste, are rejected by the patient.

Cécqny recommends, for this purpose, the introduction of a flexible gum tube (catheter). If this is pushed

behind the velum, the possible reflux of the fluid by the other nostril would effectually be prevented.

Martel reports two cases: one, where, in consequence of a fall on the head, severe concussion of the brain, with trismus and utter inability to swallow, set in, and the other, a case of pneumonia in a drunkard, the patient being totally unconscious. Here the medicines — calomel and jalap in the first, musk and digitalis, in the second, case — were successfully carried into the system by the method described, and though, in consequence of their severity, the cases ended fatally, the procedure itself achieved its object. — *Medical and Surgical Reporter*, August 5, 1882.

## REPORTED MORTALITY FOR THE WEEK ENDING SEPTEMBER 2, 1882.

| Cities.                         | Population by Census of 1880. | Reported Deaths in each. | Deaths under Five Years. | Percentage of Deaths from       |                |                      |                       |                |
|---------------------------------|-------------------------------|--------------------------|--------------------------|---------------------------------|----------------|----------------------|-----------------------|----------------|
|                                 |                               |                          |                          | The Principal Zymotic Diseases. | Lung Diseases. | Diarrhoeal Diseases. | Diphtheria and Croup. | Typhoid Fever. |
| New York.....                   | 1,208,590                     | 620                      | 310                      | 53.07                           | 7.58           | 22.26                | 8.07                  | 2.10           |
| Philadelphia.....               | 846,984                       | 372                      | 154                      | 10.10                           | 1.88           | —                    | 4.29                  | 3.75           |
| Brooklyn.....                   | 566,689                       | 305                      | 158                      | 39.03                           | 6.89           | 25.25                | 5.58                  | 1.66           |
| Chicago.....                    | 503,304                       | 277                      | 179                      | 41.52                           | 3.25           | 29.60                | 2.52                  | 3.61           |
| Boston.....                     | 362,535                       | 169                      | 72                       | 37.82                           | 4.72           | 28.36                | 3.87                  | 1.59           |
| St. Louis.....                  | 350,522                       | —                        | —                        | —                               | —              | —                    | —                     | —              |
| Baltimore.....                  | 332,190                       | 157                      | 73                       | 40.12                           | 1.91           | 7.63                 | 13.27                 | 4.46           |
| Cincinnati.....                 | 255,708                       | 135                      | 65                       | 28.15                           | —              | 12.59                | 7.41                  | 3.70           |
| New Orleans.....                | 216,140                       | 113                      | 32                       | —                               | —              | —                    | —                     | —              |
| District of Columbia.....       | 177,638                       | 71                       | 30                       | 32.53                           | 4.23           | 14.08                | 2.82                  | 1.41           |
| Pittsburg.....                  | 156,381                       | 60                       | 32                       | 44.55                           | —              | 21.59                | 10.00                 | 11.66          |
| Buffalo.....                    | 155,137                       | —                        | —                        | —                               | —              | —                    | —                     | —              |
| Milwaukee.....                  | 115,578                       | 73                       | 50                       | 31.51                           | 5.48           | 27.40                | 1.37                  | —              |
| Providence.....                 | 104,857                       | 41                       | 16                       | 36.59                           | 4.86           | 24.39                | —                     | 7.30           |
| New Haven.....                  | 62,882                        | 26                       | 5                        | 26.92                           | 15.38          | 11.55                | —                     | 11.55          |
| Charleston.....                 | 49,999                        | 29                       | 10                       | 10.76                           | 3.45           | 3.45                 | 3.45                  | —              |
| Nashville.....                  | 43,461                        | 36                       | 15                       | 27.42                           | 2.77           | 19.33                | —                     | 2.77           |
| Lowell.....                     | 53,485                        | 24                       | 15                       | 37.43                           | —              | 12.94                | 8.33                  | 4.15           |
| Worcester.....                  | 58,295                        | 23                       | 15                       | 34.78                           | 13.04          | 34.78                | —                     | —              |
| Cambridge.....                  | 52,740                        | 33                       | 17                       | 27.27                           | —              | 27.27                | —                     | —              |
| Fall River.....                 | 49,006                        | 23                       | 9                        | 62.21                           | 4.35           | —                    | —                     | —              |
| Lawrence.....                   | 39,178                        | 24                       | 12                       | 8.32                            | —              | 4.16                 | —                     | —              |
| Lynn.....                       | 38,284                        | 21                       | 14                       | 57.12                           | —              | 57.12                | —                     | —              |
| Springfield.....                | 33,340                        | 13                       | 10                       | 61.52                           | —              | 23.07                | —                     | —              |
| Salem.....                      | 27,598                        | 18                       | 10                       | —                               | —              | —                    | —                     | —              |
| New Bedford.....                | 26,875                        | —                        | —                        | —                               | —              | —                    | —                     | —              |
| Somerville.....                 | 24,985                        | 9                        | 3                        | 22.22                           | 11.11          | 22.22                | —                     | —              |
| Holyoke.....                    | 21,851                        | 8                        | 3                        | 75.00                           | —              | 37.50                | 12.50                 | 12.50          |
| Chelsea.....                    | 21,785                        | 11                       | 3                        | 18.18                           | —              | 9.09                 | —                     | —              |
| Taunton.....                    | 21,213                        | 13                       | 4                        | 23.08                           | —              | 23.08                | —                     | —              |
| Gloucester.....                 | 19,329                        | 9                        | 4                        | 66.66                           | —              | 66.66                | —                     | —              |
| Haverhill.....                  | 18,475                        | 7                        | 2                        | 14.28                           | —              | —                    | 14.28                 | —              |
| Newton.....                     | 16,995                        | —                        | —                        | —                               | —              | —                    | —                     | —              |
| Brockton.....                   | 13,608                        | 7                        | 4                        | 28.56                           | —              | 14.28                | 14.28                 | —              |
| Newburyport.....                | 13,537                        | 8                        | 2                        | 12.50                           | 12.50          | 12.50                | 12.50                 | —              |
| Fitchburg.....                  | 12,405                        | 3                        | 2                        | 66.66                           | —              | 33.33                | —                     | 33.33          |
| Malden.....                     | 12,017                        | 3                        | 2                        | 33.33                           | —              | 33.33                | —                     | —              |
| Twenty Massachusetts towns..... | 148,391                       | 71                       | 29                       | 36.61                           | 2.82           | 30.97                | 4.22                  | 1.41           |

Deaths reported 2812 (no reports from St. Louis and Buffalo); under five years of age 1261: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 897, consumption 315, lung diseases 129, diarrhoeal diseases (cholera infantum 23) 530, diphtheria and croup 122, typhoid fever 71, whooping-cough 41, malarial fever 36, scarlet fever 28, small-pox 20, measles 18, cerebro-spinal meningitis 16, puerperal fever eight, erysipelas six, remittent fever one. From whooping-cough, Brooklyn 16, New York 11, Boston, Baltimore, Pittsburgh, and Charleston two each, Philadelphia, Cincinnati, Milwaukee, Providence, Nashville, and Springfield one each. From malarial fever, New York 17, Brooklyn five, Chicago four, Baltimore three, District of Columbia two, Cincinnati, New Haven, Nashville, Springfield, and Holyoke one each. From scarlet

fever, New York 11, Philadelphia and Chicago four each, Brooklyn, Boston, and Baltimore two each, District of Columbia, Providence, and Springfield one each. From small-pox, Baltimore 15, Cincinnati four, Philadelphia one. From measles, Cincinnati nine, New York seven, Philadelphia and Baltimore one each. From cerebro-spinal meningitis, New York four, Philadelphia and Chicago three each, Boston and Springfield two each, Lawrence and Chelsea one each. From puerperal fever, Chicago and Fall River three each, Boston and Milwaukee one each. From erysipelas, New York three, Chicago two, Philadelphia one. From remittent fever, Boston one.

Sixty-three cases of small-pox were reported in Baltimore, Cincinnati 24; typhoid fever 21, diphtheria 15, scarlet fever 10, in Boston; scarlet fever 12, and diphtheria six, in Milwaukee.

In 38 cities and towns of Massachusetts, with a population of 1,034,449 (population of the State 1,783,086), the total death-rate for the week was 24.63, against 24.29 and 30.51 for the previous two weeks.

For the week ending August 12th, in 168 German cities and towns, with an estimated population of 8,432,114, the death-rate was 26.8. Deaths reported 4340: under five years of age 2015; consumption 478, diarrhæal diseases 419, lung diseases 274, diphtheria and croup 128, scarlet fever 101, typhoid fever 65, whooping-cough 52, measles and rubella 36, puerperal fever 16, small-pox (Königsberg two, Breslau, Heilbrunn, Cologne, and Mülheim each one) six, typhus fever (Danzig, Königshutte, Berlin, and Braun-schweig each one) four. The death-rates ranged from 16.5 in Mainz to 57.6 in Posen; Königsberg 45.4; Breslau 32.2; Munich 26; Dresden 27; Berlin 30.9; Leipzig 19.7; Hamburg 23.4; Cologne 32.2; Frankfurt a. M. 18.2; Stralsburg 21.9.

In the 28 English towns, with an estimated population of

8,469,571, for the week ending August 19th, the death-rate was 25.4. Deaths reported 3800: acute diseases of the respiratory organs (London) 197, diarrhæa 660, whooping-cough 89, scarlet fever 84, measles 69, fever 47, diphtheria 30, small-pox (London five) 11. The death-rates ranged from 16.3 in Birkbehead to 33.4 in Nottingham; Derby 17.5; Bristol 19.6; London 20.5; Birmingham 25.4; Manchester 26.8; Liverpool 27.5; Leeds 30.4. In Edinburgh 18; Glasgow 21.5; Dublin 20.1.

For the week ending August 19th, in the Swiss towns, population 494,390, there were 25 deaths from consumption, diarrhæal diseases 12, acute diseases of the respiratory organs 10, diphtheria and croup three, typhoid fever three, scarlet fever two, whooping-cough and basile two. The death-rates were, at Geneva 14.4; Zurich 6.1; Basle 11.4; Berne 11.4.

The meteorological record for the week ending September 2d, in Boston, was as follows, according to observations furnished by Sergt. O. B. Cole, of the U. S. Signal Corps:—

| Date.                   | Barom-eter. | Thermom-eter. |             |          |          | Relative Humidity. |            |             |             | Direction of Wind. |            |             | Velocity of Wind. |            |             | State of Weather. <sup>1</sup> |            |             | Rainfall.             |                   |
|-------------------------|-------------|---------------|-------------|----------|----------|--------------------|------------|-------------|-------------|--------------------|------------|-------------|-------------------|------------|-------------|--------------------------------|------------|-------------|-----------------------|-------------------|
|                         |             | Daily Mean.   | Daily Mean. | Maximum. | Minimum. | 7.23 A. M.         | 3.23 P. M. | 11.23 P. M. | Daily Mean. | 7.23 A. M.         | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.        | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.                     | 3.23 P. M. | 11.23 P. M. | Duration, Hrs. & Min. | Amount in inches. |
| August-September, 1882. |             |               |             |          |          |                    |            |             |             |                    |            |             |                   |            |             |                                |            |             |                       |                   |
| Sun., 27 <sup>2</sup>   | —           | —             | 69          | 55       | 82       | —                  | 75         | —           | E           | —                  | W          | 4           | —                 | 6          | O           | —                              | F          | —           | —                     | —                 |
| Mon., 28                | 30.089      | 62            | 72          | 56       | 87       | 48                 | 70         | 68          | W           | E                  | S          | 1           | 11                | 1          | O           | C                              | O          | C           | —                     | —                 |
| Tues., 29               | 30.196      | 62            | 75          | 55       | 81       | 69                 | 54         | 68          | NW          | E                  | W          | 7           | 8                 | 7          | C           | C                              | O          | C           | —                     | —                 |
| Wed., 30                | 30.134      | 71            | 80          | 55       | 71       | 32                 | 70         | 58          | W           | Z                  | SW         | 6           | —                 | 10         | C           | C                              | C          | C           | —                     | —                 |
| Thurs., 31              | 30.181      | 72            | 85          | 60       | 59       | 21                 | 74         | 51          | SW          | SW                 | W          | 4           | —                 | 11         | C           | C                              | C          | C           | —                     | —                 |
| Fri., 1                 | 30.020      | 71            | 80          | 65       | 79       | 58                 | 90         | 76          | W           | SW                 | W          | 6           | 4                 | 5          | O           | O                              | C          | C           | —                     | —                 |
| Sat., 2                 | 30.120      | 68            | 74          | 63       | 77       | 73                 | 78         | 76          | NW          | E                  | SW         | 10          | 8                 | 5          | C           | —                              | F          | —           | —                     | —                 |
| Means, the week.        | 30.123      | 68            | 89          | 55       |          |                    |            | 66          |             |                    |            |             |                   |            |             |                                |            |             | 1                     | — <sup>3</sup>    |

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; X., clearing.

<sup>2</sup> Records for 27th incomplete.

<sup>3</sup> Inappreciable.

AMERICAN GYNECOLOGICAL SOCIETY.—The seventh annual meeting of the American Gynecological Society will be held in the hall of the Boston Society of Natural History, corner of Berkeley and Boylston Streets, Boston, Mass., September 20, 21, and 22, 1882.

The programme is as follows:—  
September 20th. Morning session at ten o'clock. Roll-call, reception of guests, etc.

Papers: (1.) The Proper Use of Ergot in Obstetrics. By Dr. Joseph Faber Johnson. (2.) The Ovarian Corpuscle: its Origin and Characteristics. By Dr. T. M. Drysdale. (3.) Some Remarks on the Treatment of the Pelvic in Ovariotomy. By Dr. R. S. Sutton, of Pittsburg, Penn. Adjournment at one p. m.

Afternoon session at three o'clock. (4.) Leucorrhœa; its Constitutional Causes and Therapeutics. By Dr. Fordyce Barker. (5.) The Care of the Perineum in the Second Stage of Labor. By Dr. T. Parvin, of Indianapolis. Adjournment at five p. m.

September 21st. Morning session at ten o'clock. (6.) The Relative Value of Hysterectomy and of the Complete Removal of the Uterine Appendages for the Cure of Uterine Fibroids. By J. Knowles Thornton, M. B., C. M., of London, Eng. (7.) A New Method of Exploration, with the Pathology and Treatment of Certain Lesions of the Female Urethra. Annual Address by the President, Dr. T. A. Emmet. Adjournment at one p. m.

Afternoon session at three o'clock. (8.) Electricity in Extra-Uterine Pregnancy. By Dr. H. J. Garrigue, of New York. (9.) Notes of Twenty-Two Cases of Extra-Uterine Pregnancy. By Dr. T. G. Thomas, of New York. Adjournment at five p. m.

Business meeting at Medical Library, 19 Boylston Place, at 8.30 p. m., with closed doors. Report of the Treasurer and Auditing Committee. Action on amendments to the by-laws. Election of officers for 1883. Nominations for honorary and active fellowship by the Council. Balloting on the same. Report of the special committee on the publications of the Society.

September 22d. Morning session at ten o'clock. (10.) The Influence of High-heeled French Shoes upon the Female Form, and upon the Relations of the Pelvic Organs. By Dr. S. C.

Busey. (11.) The Theory of the Mechanical Treatment of Flexions. By Dr. E. Van de Warker, of Syracuse. Adjournment at one p. m.

Afternoon session at three o'clock. (12.) New Operation for Vesicocele. By Dr. T. A. Reamy, of Cincinnati. (13.) A New Operation for Ruptured Perineum. By Dr. J. C. Warren, of Boston. (14.) Measurements of the Uterine Cavity in Childbed. By Dr. W. L. Richardson, of Boston. Adjournment at five p. m.

The profession is cordially invited to attend the meetings.

BOOKS AND PAMPHLETS RECEIVED.—The Prescription of Proprietary Medicines for the Sick: its Demoralizing Effects on the Medical Profession. By C. A. Lindsey, M. D. Published under the auspices of the Connecticut Medical Society. A Successful Ovariotomy in 1866. By Robert Newman, M. D., New York. (Reprint.)

Eighteenth Annual Report of the Trustees of the City Hospital, Boston, with Reports of the Superintendent and Professional Staff, etc. 1881-1882.

An Old System and a New Science. By F. E. Stewart, Ph. G., M. D., Detroit.

Cottage Hospitals. By Lucius W. Baker, M. D., Physician in Charge Children's Hospital Cottages, Baldwinville, Mass.

On the Nomenclature and Classification of Diseases of the Skin. By Dr. L. Duncan Bulkley. (Reprint.)

Ten Years' Experience in the Treatment of Stricture of the Urethra by Electrolysis. By Robert Newman, M. D. (Reprint.)

On Ovarian and Uterine Tumors. Their Diagnosis and Treatment. By T. Spencer Wells. Philadelphia: P. Blakiston, Son & Co. 1882.

Third Annual Announcement of the College of Physicians and Surgeons, Boston, Session 1882-1883.

Transactions of the South Carolina Medical Association, Thirty-Second Annual Session, April, 1882.

Transactions of the Medical Association of the State of Alabama, with Report of the State Board of Health. 1882.

## Original Articles.

THE SOMEWHAT FREQUENT OCCURRENCE OF DEGENERATION OF THE POSTERO-LATERAL COLUMNS OF THE SPINAL CORD IN SO-CALLED SPINAL CONCUSSION.<sup>1</sup>

BY ROBERT T. EDES, M. D.

It is well known that the so-called spinal concussion cannot be said to have any definite lesion attached to it, and the accounts given in the text-books of its morbid anatomy are by no means satisfactory.

This is of course natural enough, since the resistance of the tissues as well as the force and nature of the injury must be different in almost every individual case.

The present note is an attempt to show that among the various lesions which may occur in cases of this kind (not curable by a favorable verdict for damages) there is one quite definite which may come early and stay late. My evidence is, with the exception of a single case, clinical, and based on the occurrence of certain symptoms which are now quite generally looked upon as showing degeneration of the postero-lateral (crossed pyramidal) columns of the spinal cord.

It is, of course, possible, that in many, if not all, cases this is a degeneration secondary to some more focal lesion in the cord or higher up. What I wish to show is, that when the immediate effects have passed off, and sometimes when these effects have not been at all definite, the symptoms showing this lesion may be developed, and be the only prominent ones throughout the case.

They are contractures, increased tendon reflex and ankle clonus.

It is possible that these cases may throw some light on the supposed spontaneous degeneration of the postero-lateral columns.

Several cases have lately entered my hospital service in which the evidence of this degeneration has been very clear, and where the causation has seemed to be a severe shock to the spinal column, producing, however, no appreciable osseous or ligamentous lesion.

In one such case, which I saw for the first time after he had become a helpless paraplegic, the contracture of the upper extremities was so marked, although the condition of the lower, on account of œdema, bed-sores, etc., could be less accurately determined, that I made a diagnosis, without sufficient inquiry into the history, of degeneration of the postero-lateral columns consequent upon a transverse myelitis due to fracture. The autopsy, however, showed that there had been no fracture whatever, nor was there any macroscopic lesion of cord or brain or their membranes.

Sections of the hardened cord (which were exhibited) showed a marked and distinctly limited degeneration of the postero-lateral columns. The fresh specimen showed these regions, as well as to a less degree the columns of Törck, to be filled with numerous granulation corpuscles.

CASE I. D. H., aged twenty-six, lead-worker, fell backward down-stairs while drunk. When admitted to the hospital the next day had cellulitis of the right leg, and various bruises on both legs. Four days after he was unable to move the right leg, and there was in-

continence of urine. Two days later the left leg would not move. He had lost more or less strength in his hands. Two months afterwards it was noted that the legs "draw up" at night, and he has difficulty in straightening them. He has pain in the back of the neck and between shoulders. There was considerable muscular atrophy in the left hand, less in the right. Reflex and tendon reflex about normal. Ten days later the ankle clonus was very well marked. The patellar reflex was attended with several vibrations. There was no (slight?) olecranon tendon reflex. From this time his condition continued about the same, although he himself thought he improved. Attempts at voluntary movement were attended with strong spasmodic movements in both legs, which could easily be excited also by the usual procedure for obtaining ankle clonus.

He was discharged from the hospital not relieved. In this case the postero-lateral degeneration may perhaps have been secondary to some more limited injury at first, say, for instance, small hemorrhages.

This man had a lead line on his gums, and lead was at one time found in his urine. This point is interesting in connection with a possible affection of the anterior horns, and the atrophy of the muscles of the hands noted early in the case.

CASE II. T. D., laborer, fell down-stairs eight days before his entrance into the hospital, and thinks he struck on his head, but has no bruise anywhere. Immediately after the fall he lost the use of both arms and hands. He can now move his right elbow a little. His legs are rather weak, so that he staggers on attempting to walk. There has been twitching of both legs for the last two days. The next day after entrance he does not sleep well. He complained of pain darting down the arms, which, he says, began immediately after the accident. The muscles react well to the faradic current. The paralysis disappeared rapidly and almost completely, and it was after his officiation for some time as a volunteer nurse, and about two months after the accident, that it was found that the tendon reflexes of the upper extremities were greatly exaggerated, moderate taps upon the tendons of the biceps, triceps, supinator longus, deltoid, pectorales, and even the sterno-mastoids exciting decided, and in some instances, very active responses. Patellar tendon reflex somewhat increased; no ankle clonus. He was discharged relieved.

CASE III. J. C., aged thirty-five, laborer in sewer, was injured by the caving in of sewer seven years ago, and laid up for a week. There is no history of fracture. He has been unable to do a full amount of work since, and his present condition has developed itself gradually. His patella reflex is much increased, the ankle clonus extreme. He feels strong, can walk, and, in fact, walked some distance to the hospital. He cannot walk fast, however, and has a characteristic clinging (spastic) gait. There was much increase of excitability during a few days under the use of strychnia. While in this condition a tracing made upon a registering drum, by causing his toe to make and break a circuit while his foot rested on the heel, shows a regularity of vibration like that of a tuning-fork. Tendon reflex in the upper extremity was very decided, but not so extreme as in Case II. Upon stopping the strychnia this irritability was considerably diminished, though still more than normal, and the clinging gait was unchanged.

<sup>1</sup> Read before the American Neurological Association, June 23, 1882.

CASE IV. J. M., expressman, fell on his back across a wheel, November 17th, fracturing his radius and receiving other injuries to hand and arm. His legs soon began to draw up, and he had pain and twitching in them, which continued until about January 1st, five weeks before his transfer to my service. He was obliged to be catheterized for five or six days. When I first saw him, early in February, his feet and legs were very oedematous, and he had several bad bedsores. It was difficult to make any minute observation of the nervous condition of his legs, but he could move them a little. Soon after it was noted that the tendon reflex of the triceps cubiti was well marked, and shortly after his hands and arms showed in the most decided manner extreme contraction, resistance to any extension much beyond a right angle, and great muscular atrophy. He died of exhaustion, after extensive sloughing, on March 12th.

A careful autopsy showed no macroscopic lesions of the nervous centres except a slight lepto-meningitis of the brain. Unfortunately, the medulla oblongata was not preserved for the microscope, and the upper part of the cervical region of the cord was not examined. Throughout the rest of the cord the examination of the fresh specimen showed extreme granular degeneration of the postero-lateral columns, and also of the columns of Türek. Hardened specimens enabled the lesion to be more exactly located, so far as the posterior columns were concerned, by the condition of the neuroglia, but it was not to be so easily made out in the anterior. The altered region, instead of presenting its usual evenly reticulated appearance, with each mesh containing an axis cylinder, showed many spaces much larger than normal, while the neuroglia was thickened and hypertrophied, and also showed a deeper staining with carmine. In one specimen stained with logwood the color was so much more intense in the degenerated portion as to make it very obvious to the naked eye. It was to be noted, however, that while the staining seemed to show the degeneration extending to the surface of the cord, an examination with a higher power disclosed a ring of normal tissue inclosing its outer border, thus marking out very definitely the limits of the descending peduncular tracts. This change extended throughout the whole of the cord, which was examined on both sides. It is unfortunate that the medulla oblongata also could not have been under the microscope.

I have used the words "tendon reflex" in describing these cases as being the shortest and best-understood term, although well aware that it is probably not in the strictest sense a reflex phenomenon.

I may make here a few remarks in regard to the tendon reflex of the upper extremities, which has been somewhat less studied than that of the lower. It is apparently not quite so easy to obtain, but may in almost every case be shown in several tendons, and sometimes very markedly, with a little percussion apparatus, intended for ordinary thoracic percussion, contrived by my senior interne, Dr. Browne. It consists of a little hammer mounted upon one side of a handle which bears at its extremity a rubber pleximeter. It can be raised by one finger of the hand which holds the pleximeter, and is brought down by a rubber spring. It strikes a quick, sharp blow upon a tendon which may be made somewhat tense by the pleximeter. The force of the blow may be regulated by the position of the spring, or made constant in order to esti-

mate, for instance, the sensitiveness of the corresponding muscles upon the two sides. It was used in connection with an electric device for measuring the time of latent irritation, by the simple expedient of winding one wire around the pleximeter and connecting the other with the hammer. The blow of the hammer thus makes the circuit. With this and with the ingenious pendulum myograph of Dr. J. J. Putnam I have examined the time of latent irritation in a normal case and in one where the irritability was much increased (Case III.), and do not find that it is much affected. The muscle in the pathological condition reacts more vigorously, but the time is not materially shortened.

The clinical import of greatly increased tendon reflex of the upper extremity is probably about the same as that of increased patella reflex and ankle clonus for the lower, but the range of variation in different healthy individuals seems much greater. Its absence, I am inclined to think, has little or no significance.

### THE USE OF THE OBSTETRIC FORCEPS.<sup>1</sup>

BY J. H. MC COLLON, M. D.

EVER since the introduction of forceps in cases of labor, about the year 1647, the discussion pro and con has been carried on with great vigor, and in some instances with marked personal feeling. To Dr. Chamberlin belongs the credit of having first used forceps. Like every appliance in medicine and surgery this is capable of doing much harm in injudicious and unskillful hands, but is productive of much good when properly used. The German physicians use the forceps much more frequently and much earlier than the English. The French rather more frequently than the English, and not quite as often as the German, while in America it is the custom to follow the German practice. In this paper I have to report twenty-five cases of labor, in thirteen of which forceps were applied somewhat earlier than is usual, and have compared them with twelve cases in which nature was allowed to take its course. In the cases in which the forceps were used it will be seen, I think, that there was no material injury to the mother or child; that the lacerations of the perineum were not as extensive; and that the period of convalescence was not as long as in the natural cases. In many of the works on female diseases it is said that vesico-vaginal fistula is always caused by forceps, while other authors state that the injury to the bladder is the result not of the use of forceps, but is due to the sloughing of the soft parts caused by the long continued pressure of the head of the child. The latter view is much nearer the truth than the former. If the precaution is taken, as should always be the case, to empty the bladder, it is difficult to understand how this accident can occur. It is a well known and accepted fact that the soft parts of the mother, and the head of the child, will bear a very considerable amount of pressure for a short time much better than even a limited amount for a long time. Laceration of the cervix is another cause of danger, but if the instrument is not applied until the os is well dilated and traction is made in the axis of the pelvis the danger is certainly no greater than in unassisted

<sup>1</sup> Read before the Boston Society for Medical Observation, January 16, 1882.

labors. Rupture of the perineum is much more frequent and more extensive in natural labors than when the forceps have been used, at least such has been my experience. I think that by pressing the head well forward under the pubic arch, and by not being in too great a hurry to extract the child, we are much less likely to have a laceration than when the head is projected by the powerful *vis a tergo* of a contracting uterus. I know that this view is somewhat at variance with the opinions of the accepted authorities on the subject, but I am convinced that it is the correct one. Injury to the child such as the loss of an ear, compression of the brain causing paralysis, and fracture of the bones of the cranium, are accidents which may occur. If, however, the forceps are properly applied, and the blades lock easily, the danger of any such mishap is very slight. Every practitioner has his favorite kind of forceps, and I will allude only to the axis-traction forceps of Dr. Simpson, of Edinburgh, described in the *Edinburgh Medical Journal*, for September and October, 1880. It seems to me, however, that, although the theory is good, the instrument is somewhat cumbersome and likely to get out of order. The inventor claims that much less force is required than with forceps of the ordinary shape, because by the use of the tractors the power can be applied in the direct line of the axis of the pelvis, which he claims is impossible with other instruments.

CASE I. Mrs. A., aged thirty-five years, primipara. I was called to the patient in the first stage; the os was partially dilated, and the head presenting in the first position. About two weeks previous to her confinement the woman had fallen down stairs, and immediately after had a profuse hemorrhage, which stopped without medical aid. The diagnosis of partial separation of the placenta and consequent death of the child was made. The labor progressed very slowly, the contractions were at times quite frequent and powerful, and at times quite feeble. The head, however, advanced slowly, and at last was delivered. The child had evidently been dead some time. No injury to the perineum. The placenta was removed by the hand. The woman was much exhausted, the second stage having lasted ten hours. The convalescence was tedious, without any particular complication. In this case I think a mistake was made in not applying forceps at the expiration of five or six hours.

CASE II. The same patient was confined about three years after. Presentation cephalic, second position. When called the os was partially dilated. Dilatation went on regularly, the head became engaged, and advanced slowly. After waiting four hours, and finding that the progress was extremely slow, and learning wisdom by the previous case, ether was administered and the forceps applied. The woman was delivered of a healthy male child. No injury to the perineum. The convalescence in this case was rapid and without complication. Not a trace of any injury to the head of the child from the forceps could be detected.

CASE III. Mrs. B., aged twenty-eight years, primipara. Head presenting in the first position. The first stage was without complication. The second stage commenced with every appearance of a speedy delivery, but at the end of five hours, although the head was nearly resting on the perineum, the contractions became short and feeble, and, as the woman was becoming exhausted, it was decided to apply the forceps. A considerable amount of force was required to

extract the child, a large male. Perineum intact. The child was cyanosed, but after artificial respiration for five minutes it began to breathe and to cry lustily. No mark of the forceps on the head. The woman made a good recovery. It may be remarked here that one year previous to her confinement she had been delivered of a large hydatid mass.

CASE IV. The same patient was confined two years later; labor was somewhat tedious. The second stage lasted five hours, but forceps were not used. The convalescence was extremely slow, and there was a marked contrast between the condition of the woman in this confinement and the previous one. There was marked tenderness in the region of the ovaries, and at one time septicæmia seemed imminent. No reason for this condition could be discovered, as the care and surroundings of the patient were the same as during her first confinement.

CASE V. Mrs. C., the patient, was a woman thirty years of age, primipara. First stage somewhat protracted, and the second stage six hours in duration. Head in the second position. No instruments were used. The child, a female, was born alive, but was extremely feeble. The perineum was slightly lacerated, but did not require the insertion of sutures. The recovery in this case was extremely tedious, complicated with mammary abscess, and it was four weeks before the patient was able to leave her bed. She also suffered from retention of urine, and it was necessary to pass the catheter three times a day for ten days.

CASE VI. Two years after, I was called to attend the same patient in her second confinement. The head presented in the second position. The labor was a very easy one, and although there was a slight tear in the perineum no sutures were used. The convalescence was uncomplicated, and was much more rapid than in her first confinement.

CASE VII. Mrs. D., primipara. Head in first position. The first stage was twenty-four hours long, and although morphia was administered for three successive hours the woman did not have any rest. The contractions were more and more feeble, and as the woman was becoming exhausted ether was administered and the patient kept fully under its influence for three hours. Dilatation then went on quite rapidly; the membranes were ruptured, and the head became engaged. Progress was now quite slow, and ether was from time to time given, but without causing complete unconsciousness. There was considerable delay caused by a rigid perineum. This, however, finally dilated, and thirty-six hours after the commencement of the first stage, a living male child was born. He had a very large head and an immense caput succedaneum. No injury to the perineum. There was considerable hemorrhage, and the placenta was removed by passing the hand into the uterus. Ergot was then given, and the uterus contracted fairly well. The woman made a good recovery, though it was somewhat slow. In this case I think a mistake was made in not applying forceps, for then the mother might have been relieved of a very considerable amount of suffering.

CASE VIII. Mrs. K., a large, well formed woman, thirty-one years of age, had the misfortune to fall in the street, and striking on the edge of the curbstone, caused a severe contusion of the left side. Patient was within about two weeks of her confinement. She was taken to a neighboring drug store, and as soon as pos-

sible was removed to the Chardon Street Home. Labor pains commenced about two hours after her fall. When she was seen it was about three hours after the receipt of the injury. The contractions were quite strong, but the os was only slightly dilated. The pains continued to increase in severity, but without any appreciable effect on the os. The presentation, which was that of the side of the child, was extremely difficult of diagnosis. Ether was given, and an attempt made to change the position by manipulation, but without avail. It was then decided to resort to manual dilatation and version. Dilatation was effected in about three quarters of an hour, the hand passed into the uterus, and the feet brought down. The body was extracted without much difficulty, but the head, which was quite large, was arrested at the outlet, and forceps were used to remove it. The child was dead, and was about the usual size of the fetus at full term. The hemorrhage was considerable, but it became necessary to remove the placenta, which was lying perfectly free in the uterus. Ergot was then given, and the uterus contracted well. There was no injury to the soft parts of the mother. The woman made a very slow recovery, and complained for a long time of pain near the seat of the injury. Whether the child was killed by the fall or its death was caused by the manipulation, I am unable to say. I could not, however, feel any pulsation in the cord when my hand was passed into the uterus for the purpose of turning. The woman had passed through three previous confinements without any trouble.

CASE IX. S. L., twenty-three years of age, was a rather spare, delicate woman in her first confinement. The head was in the second position. The first stage was short and easy. The head became engaged, and for two or three hours everything progressed favorably. The pains now became feeble and irregular, and for an hour, although the head was not impacted, it did not advance at all. A few strong pains now forced the head well down to the perineum, which was extremely thick and fleshy. After waiting a sufficiently long time, and finding that very little if any progress was being made, it was decided to apply forceps. While making the necessary preparations a most tremendous pain came and forced the head until it pressed on the perineum, which now commenced to dilate slightly. This was very quickly followed by a second extremely forcible contraction, which, in spite of all my endeavors, tore the perineum up to, but not into, the sphincter ani. The body of the child soon followed, and after sufficient lapse of time the placenta. The uterus contracted well. Five silk sutures approximated the edges of the tear. One quarter of a grain of morphine was given, and the bandage adjusted. The lying-in was extremely tedious, complicated with very large and painful hemorrhoids, and an extremely obstinate diarrhea. The urine was drawn every eight hours for ten days. The perineum healed throughout the whole extent of the tear. The child was born alive. In this case the application of the forceps would have prevented the extensive laceration of the perineum.

CASE X. Mrs. D. This patient was about thirty years of age; well formed and healthy, primipara. Nothing remarkable in the first stage. Head in the second position. The second stage commenced well, and there was every prospect of speedy delivery. A short time, however, after the head became engaged

the pains were irregular; a strong expulsive pain would be followed at longer and shorter intervals by very weak and ineffectual contractions. The perineum, as in the former case, was quite thick, but it was easily dilatable. After waiting for some little time, and finding that the contractions were becoming weaker and very irregular, I decided to use forceps. Ether was administered, instruments applied, and a live male child, weighing eight pounds, extracted. The perineum was slightly torn, and two silk sutures were inserted. The patient was catheterized for eight days. The perineum healed well, and the woman made a good recovery.

CASE XI. A. B., a somewhat small, delicate woman, seventeen years of age. When called the os was very slightly dilated; vagina moist. Head presenting, but was unable to make out the presentation fully. At the expiration of eight hours the os was dilated. The head became engaged, but advanced very slowly, not so much from narrowness of the passages as from the lack of sufficiently powerful expulsive pains. After waiting about twelve hours, and finding that the progress was becoming slower and slower, forceps were applied, and a living male child, weighing about eight pounds, was extracted. The perineum was torn, and required three sutures to approximate the edges. No mark of the forceps on the child. The patient did remarkably well for about ten days, when, without any premonitory symptoms, she was taken with a violent rigor; pulse and temperature quite high; marked tenderness of abdomen; offensive lochia. The vagina was washed out with a solution of thymol; large doses of quinine given; opium sufficient to alleviate the pain. Thirty-six hours after the chill the woman was quite comfortable, although the pulse and temperature continued quite high. The tenderness had nearly all disappeared from the abdomen. Tongue had commenced to clear. The patient continued to improve for one week, when she was taken with a moderately severe attack of measles, from which, however, she recovered in due time. The perineum healed. When the instruments were applied in this case, although the woman had been in labor some time, she was very little exhausted. I do not consider that the rigor had anything to do with the use of instruments, but was one of those unfortunate complications which so often occur in the puerperal state.

CASE XII. This patient, a woman, or rather girl, sixteen years old, was admitted to the Chardon Street Home with the statement that she had been in labor five hours. The os, however, was only slightly dilated. The dilatation went on slowly, but the head made very little advancement. As the patient was becoming exhausted, and as no progress was being made, ether was administered and the forceps were applied. Head was in the second position. A male child, weighing about seven pounds, was extracted. No injury to the perineum or any of the soft parts of the mother. The patient did remarkably well, and at the end of two weeks was out of bed.

CASE XIII. Mrs. B. was a very small woman, twenty-five years of age at the time of her first confinement. When called the os was well dilated. Head in the third position. Contractions were feeble, with long intervals of rest. The head made very little progress. After waiting five hours, and finding that the head was not advancing as rapidly as might be wished, ether was administered, the forceps applied,



and a large female child, weighing ten pounds, was extracted. A slight tear in the perineum required two silk sutures. The mother did well, although the convalescence was complicated by a small abscess which formed just inside the vulva on the left side of the vagina. As the mother weighed only ninety pounds, and was only four feet in height, and the child, as stated above, weighed ten pounds, it was remarkable that she went through the confinement so well.

CASE XIV. A. B. was twenty-seven years old when she was confined with her first child. When seen the os was fully dilated, and the head well engaged in the first position. The patient had been drinking to excess. The contractions were sufficiently strong to propel the head well down to the perineum, and then the pains stopped. After waiting an hour and finding that there was no prospect of a natural delivery, forceps were applied without ether, and a living female child was delivered. No injury to the soft parts of the mother. The placenta was removed by the hand, followed by a smart hemorrhage, which was finally controlled by manipulation and ergot. The mother and child did well.

CASE XV. Mrs. S., a healthy German woman, in her tenth confinement, was under the care of a midwife, who sent for me to apply forceps. The patient had been in labor twelve hours; the os was fully dilated, but the head was not engaged. There was a very prominent exostosis on the promontory of the sacrum, diminishing the antero-posterior diameter of pelvis so much that the head could not advance. Ether was administered, and forceps applied with some considerable difficulty, on account of this projection of the promontory, but on applying force the instruments slipped. I adjusted them a second time, and endeavored to extract with like result. Being now convinced that the curve of my forceps was not great enough to allow of application, I made a third attempt with a pair with a greater curve, and applied them without much trouble. A living female child of the average size was extracted. There was a contusion on the left side of the child's head; this sloughed, but finally healed. The mother made a good recovery. In fact, contrary to my express orders, she left her bed on the fourth day. The injury to the child's head was caused no doubt by the slipping of the forceps.

CASE XVI. The same patient was attended by me in her eleventh confinement, three years later. In this case I applied the forceps as soon as the os was fully dilated, taking the precaution to use the pair I had used in the last confinement. The child was delivered without any mishap. The placenta was removed by the hand passed into the uterus. The woman made a good recovery. This woman had borne eleven children, and never had a natural delivery; two of the children were delivered by version, and the rest by forceps. The question might be asked, why was not version tried in the latter cases? It seemed to me that there was less danger to the child in the use of forceps than in podalic version.

CASE XVII. Mrs. P., thirty years of age, primipara. She was a strong, well-built woman, inclined to *embonpoint*. Nothing worthy of note in the first stage. Head in the second position. The second stage commenced well; the contractions were strong, and for a time the head advanced reasonably fast. At the expiration of three hours, although the pains had been very powerful, so much so that I feared rupture of the

uterus, the head had not advanced. It was decided to apply forceps. The head was resting on the perineum, which was extremely thick and fleshy. The child was extracted after repeated efforts and the use of a very considerable degree of force. The perineum was badly torn. The placenta came away naturally. Four wire sutures were passed to approximate the torn edges. The woman made a very slow recovery, complicated with mammary abscess. She was also troubled with retention of urine, requiring catheterization every eight hours for four weeks. The perineum healed well, and the patient fully recovered.

CASE XVIII. Mrs. B. This patient was thirty years of age, quite tall, and well developed. Primipara. Head in the first position. She stated that she had quite severe pains for six hours. Upon making an examination I found the os partially dilated. The dilatation went on quite rapidly, and the head became engaged. At first the head advanced as rapidly as could be desired in a primipara. At the expiration of four or five hours, however, the woman became more or less excited, the pains were shorter, and the head ceased to advance. After waiting an hour or so, and finding that no progress was being made, I decided to put on the forceps. Patient was etherized, the forceps easily adjusted, and a large living male child extracted. There was a very slight laceration of the perineum, but it was so slight that no sutures were required. The woman made an exceedingly good recovery.

CASE XIX. Mrs. M. was twenty years of age when confined for the first time. She was well and strong, with no deformity of the pelvis. Head in the second position. When summoned dilatation had hardly commenced, although the patient stated that she had had pains nearly all night. She was extremely irritable, and therefore one quarter of a grain of morphia was given, which had the result of inducing three or four hours' good sleep. The os now dilated quite rapidly, and the head became engaged. The progress was slow until the head had nearly reached the perineum. The woman, however, was becoming exhausted, and, although the second stage had lasted only four hours, it was decided to apply forceps. Ether was given, and a living female child, considerably cyanosed, was extracted. A slight tear in the perineum required two silk sutures. She had retention of urine for ten days, but with that exception made a good recovery. The perineum healed well. I have attended the woman in three confinements since then, and the labors have been remarkably short and easy; so much so that in two of the cases I was not able to arrive at the scene of action until the children were born.

CASE XX. Mrs. B. was twenty-four years of age at the time of her first confinement. She was a delicate woman, but had always enjoyed good health. Nothing worthy of remark in the first stage. Head in the first position. The second stage was somewhat prolonged. The child was born alive, but the mother, in spite of all my endeavors, had a very extensive tear of the perineum. Four silk sutures were used. The patient made a good recovery.

CASE XXI. Mrs. K. This patient was a very delicate woman of phthisical tendencies. She was twenty years old at the time of her confinement. The first stage was natural. Head in the third position. The second stage was not prolonged; but there was very extensive laceration of the perineum into, but not through, the sphincter ani. Five silk sutures ap-

proximated the edges. The recovery went on favorably until the eighth day, when the patient had a severe rigor and marked tenderness of the abdomen, which was tympanitic. Pulse 120; temperature  $104^{\circ}$  F. Morphia subcutaneously and large doses of quinine were administered. For forty-eight hours the woman was in a very critical condition; but at the expiration of that time she commenced to improve, and finally recovered. The perineum did not heal, however, but there was sufficient power in the sphincter ani to retain the feces, except when the patient had diarrhoea. Since her confinement the woman has developed marked phthisical symptoms.

CASE XXII. Mrs. C. This patient was twenty-five years of age at the time of her first confinement. The first and second stages were not prolonged to any great extent. There was, however, an extensive tear of the perineum, which was sewed up in the usual way. The tear was greater than any that had occurred in my forceps cases.

CASE XXIII. The same patient was delivered by me five years later. This was a face presentation. The first stage progressed rapidly. An attempt was made to rotate the head by manipulation, but without avail. The head advanced slowly. The patient commenced to be exhausted, and ether was administered, which had the effect of making the contractions somewhat more regular. Although the head was advancing slowly, I decided to fully etherize and apply the forceps, but before the patient was fully under the influence of the anæsthetic a powerful contraction propelled the head to the outlet, and the next pain delivered it. The perineum was torn, and the edges approximated by three silk sutures. The woman made a slow recovery. There was considerable hemorrhage, which was, however, controlled by manipulation and ergot. It is worthy of remark that although the woman was perfectly healthy her milk acted as a poison on the child, so much so that she was obliged to give up nursing it and resort to feeding.

CASE XXIV. Mrs. A., a perfectly healthy woman, was attended by me in her first confinement. Head in the second position. The first and second stages were not prolonged, and were not exceptionally severe. The perineum was torn, however, and required three silk sutures. The woman made a good recovery.

CASE XXV. Mrs. C. was admitted to the Chardon Street Home while in labor, and when I saw her the head was well engaged. The progress was reasonably rapid until the head rested on the perineum, when a tremendous pain shot the body of the child, with the placenta, some two feet. The perineum was very badly torn, and sutures were inserted. The rent healed well, and the woman made a fair recovery, although she complained of paralysis of the left leg for some little time. This, however, improved, and at the time of her discharge from the institution she was nearly well.

It has been shown, I think, from the history of these twenty-five cases—

(1.) That the convalescence in the forceps cases was not any longer, if as long, as in the natural ones.

(2.) That there was no great injury to the soft parts of the mother. The most extensive rents in the perineum were in the unassisted labors.

(3.) That, except in one instance, there was no injury to the child. This was so slight as hardly to deserve mention.

## PERCUSSION OF THE HEART IN HEALTH AND DISEASE.<sup>1</sup>

BY HERBERT B. WHITNEY, M. D., LATE MEDICAL HOUSE OFFICER, BOSTON CITY HOSPITAL.

ONLY a small portion of the heart is in immediate relation with the chest wall, causing what is known as the area of absolute cardiac flatness. The lower border of this area, corresponding to a part of the lower border of the heart, cannot always be defined by percussion since it is continuous with the flatness of the lesser lobe of the liver which lies immediately beneath the diaphragm at this point. Ordinarily the anatomical position of the lower border of the heart corresponds nearly with the upper border of the sixth left costal cartilage. The right border of the area of absolute flatness is a perpendicular line, parallel with and one centimetre to the left of the median line, forming below an obtuse angle with the upper border of hepatic flatness on the right, and extending upward to the level of the fourth costal cartilage. From this point a curved line drawn downward and to the left, with an outward convexity, to a point on the upper border of the sixth rib, six to eight centimetres from the median line, completes the area of absolute flatness.

This area is, however, of far less importance than that known as the area of relative cardiac dullness, which represents the true limits of the heart above and to the left. On the wall of the normal chest this area is defined as follows: Continue the perpendicular right border of absolute flatness upward to the level of the third costal cartilage; from this point draw a curved line, in the same way as before, to a point in the upper border of the sixth rib, nine to eleven centimetres to the left of the median line according to the size of the individual. Anatomy shows us that the right border of the heart extends nearly to the right border of the sternum. On the other hand, the præcordial area, as has just been stated, stops abruptly at a perpendicular line one centimetre to the left of the median line of the body. The percussion note over the sternum is indeed of a somewhat higher pitch than that of the chest wall beyond; but no more so than over that portion of the sternum which lies above the normal situation of the heart, and always of much better quality than that elicited over the area of relative dullness. Whether or not this is susceptible of explanation, it is undoubtedly the fact.

Within the lesser area above described the percussion note is as a rule absolutely flat. In others, and indeed very frequently at its lower border, the note is modified by tympanic resonance transmitted from the stomach, the fundus of which when distended fills that portion of the arch of the diaphragm not occupied by the lesser lobe of the liver and the spleen. The percussion note over the remainder of the total area is simply dull. It can best be differentiated from the surrounding pulmonary resonance by rather more forcible percussion than that which is most desirable for mapping out the area of absolute flatness. It is best, however, to err on the safe side, and percuss too lightly rather than too forcibly. The area of absolute flatness is most easily and accurately defined by the gentlest possible percussion, beginning within the flat area, and moving the finger gradually outward until a better note is obtained. On the contrary, it is easiest, for the writer at least, to find the outer limit of relative dullness by ad-

<sup>1</sup> Graduation Thesis, recommended for publication.

vancing gradually from good pulmonary resonance toward the centre of the cardiac area. At all events by constantly following one plan or the other, slight shades of difference in the percussion note may be more readily detected.

In this connection it is proper to mention a point in the practice of percussion which the writer has found of inestimable value; the constant habit of making a mark, best with an ordinary stylographic pen, wherever the slightest change in a percussion note is detected, and afterward of completing by lines the boundaries of the different areas. This seems a trivial matter, and often indeed the lines will be found to represent nothing which cannot be explained by normal anatomical conditions. But sometimes such a line, presenting as it does to the eye a certain form or outline, will suggest inferences in regard to diagnosis which might otherwise have failed to appear.

This plan of marking is especially important in percussion of the heart, where it is far better to estimate and record the size of the organ by measurement than by its relation to other parts. The position of the apex with reference to the nipple is the guide usually recommended. But in any individual we may expect to find the nipple anywhere from the upper border of the fourth to the lower border of the fifth rib. The plan of drawing a semicircle, with a radius of two inches, from a point midway between the nipple and ensiform, in order to define the upper and outer limit of the area of absolute flatness, will often be found even in males to fall wide of the actual limit as ascertained by other and surer methods. This is owing in part to the great differences in the obliquity of the ribs, which brings the apex of the heart sometimes near, again quite distant from the tip of the ensiform. Measurement, however, though open to some objections, is certainly far superior to either of the above methods. It varies of course with the size of the individual, but knowing the latter and the usual limits the normal measurement in any given case can be quite accurately estimated. These limits have been found by the writer, in a large number of presumably normal hearts, to be between eight and eleven centimetres, measuring from the apex to the foot of the perpendicular boundary. This right border of the præcordia sometimes varies with reference to the median line, hence measurement from the latter might give a wrong result.

This leads to the mention of some of the unusual positions in which the perfectly normal heart may be found in a healthy individual. Its attachment being wholly at the base, the position of the apex is naturally subject to the most variation; in fact, such a variation can hardly be said to be unusual. Its right and upper borders are, however, occasionally found out of their normal situation. The former may be two or even three centimetres to the left of the median line, probably as a result of old pleurisy of the left side, with incomplete expansion of the lung. Thus the apex is carried considerably to the left, and such a condition might readily be mistaken for cardiac enlargement were not the right border carefully defined. Again, the upper border of the præcordia may be found as high as the middle of the second intercostal space, seen by the writer in one case where the probable explanation seemed to be excessive tympanitic distention of the abdomen. It is, however, very unusual to find either the right or upper border in other than their normal situation except in conditions of disease to be hereafter mentioned.

In a healthy individual it would seem as though the limit of relative dullness on the left would represent unmistakably the position of the heart's apex. That this limit is, however, usually two centimetres at least beyond the point where the apex beat is heard and felt most distinctly must have been observed by every one. It seems, therefore, beyond doubt that the apex beat does not, in a very large proportion of cases, represent the true position of the heart's apex. In other words, it is not usually the extreme tip of the heart which strikes the chest wall during systole, but a point one to two centimetres nearer the base of the organ. How else can we explain the fact, unless we suppose that the pericardial sac projects far enough beyond the border of the heart to produce this added line of dullness. In some cases, however, the position of the apex beat corresponds with the outer limit of relative dullness, and it seems most natural to explain these differences by variations in the conformation of the apex.

It would, however, appear less plausible to account in like manner for the frequency with which we find the apex beat in the fourth instead of the fifth interspace, not only in the recumbent but also in the erect posture. This has indeed been so common in the experience of the writer that it would be difficult, except on the strength of authority, to state which is the more common of the two. This is explicable only on the supposition that the actual position of the apex varies in different individuals; not necessarily, however, between as wide limits as might at first be supposed. The impulse of the apex is never obtained over a rib, but always in an interspace; and yet the apex must often lie directly beneath the fifth rib, the impulse in such a case predominating in the fourth or fifth interspace, according as the apex lies slightly above or below the middle of the rib. In other words, we need only suppose a variation in the position of the apex, equal in extent to the width of the fifth rib, to explain the much wider variation in the position of the impulse. This is merely hypothesis, and it is of course possible, if not quite probable, that the lower border of the heart corresponds sometimes with the upper border of the sixth, sometimes of the fifth rib, a variation of at least four centimetres.

Among abnormal conditions of the præcordial area, the first to be mentioned is that produced by cardiac enlargement. We may have either hypertrophy or dilatation of either ventricle, and any or all of these conditions may be combined in varying proportion. Percussion affords valuable means of distinction between affections of the right and left ventricles, but the predominance of hypertrophy on the one hand, or dilatation on the other, is to be inferred chiefly from other signs. In enlargement of the ventricles we rarely find any alteration in the extreme upper boundary of the præcordia. The change is nearly always in one or more of the other directions, the apex usually moving downward and to the left, as shown on percussion by extension of the area of relative dullness in these directions. The liver does not normally extend toward the left much beyond the outer limit of absolute cardiac flatness; hence, immediately beneath the heart's apex we ordinarily obtain a tympanitic note on percussion, or, if the apex is in the fourth interspace, modified pulmonary resonance. It is, therefore, easy to see how a low position of the præcordial apex may be defined by percussion alone, without the aid of palpation or auscultation. This fact becomes of importance in

diagnosis between ventricular enlargement and pericardial effusion. In the latter we have a similar downward and outward displacement of the outer angle of the præcordia, without such a corresponding one in the site of the cardiac impulse as would necessarily occur in ventricular enlargement. On the contrary, in effusion the apex beat is more apt to be elevated, and the interval between it and the outer limit of relative dullness is much increased.

In moderate cardiac enlargement the area of absolute flatness may not be increased; it usually is, however, owing to the increased pressure exerted by the enlarged heart on the surrounding lung tissue, which is thus crowded back from its overlying position.

As a means of distinction between enlargement of the right and left ventricles, much importance is always attributed to the direction in which the præcordial area is increased. Undoubtedly a considerable downward displacement of the apex may be accepted as evidence of enlargement of the left side. On the other hand, marked displacement toward the left, with but little downward, shows that the right ventricle is at least somewhat involved. As to the effect produced by enlargement of the right ventricle alone, there is much difference of opinion. Flint states that in such cases the extension of the præcordia is almost always wholly to the left. DaCosta simply says that the transverse diameter of the heart is chiefly increased, without indicating what effect this would have in altering the shape of the præcordial area. Fothergill denies that there is any extension of the latter toward the right, and depends on a downward displacement of the base of the præcordia for diagnosis of this condition. There is, indeed, usually a slightly tympanic quality to the note elicited over the thin border of the lesser lobe of the liver which is not always transmitted to the area of absolute flatness, and in such cases we may, by careful percussion, define the lower boundary of the præcordia. But such a note is nearly as often obtained over this area, and as the finger moves downward we get simply a gradual increase in this tympanic character until we suddenly strike upon the full tone of the stomach. Undoubtedly in enlargement of the right ventricle there is downward extension of the præcordia, but can this be surely ascertained by percussion in enough cases to make it especially valuable in diagnosis?

We do, however, find extension of the præcordia toward the right in certain cases where pericardial effusion can be eliminated, and which are usually the very ones in which enlargement of the right ventricle would seem to be almost certain from other signs. We find it in connection with the strong epigastric pulsation of emphysema, and in disease of the mitral valves with their accompanying oedema and accentuated pulmonic second. On percussion, instead of the tolerably good note ordinarily elicited over the sternum, we find marked dullness filling up more or less the angle between the flatness of the normal heart and that of the right lobe of the liver. In a well-marked case, such as is often seen, a nearly straight line, drawn from the upper angle of the normal præcordia to the upper border of hepatic flatness, at a point four to five centimetres or more to the right of the median line, will include this added area of relative dullness. Where there is no possibility of pericardial effusion, what can such an increased area of dullness represent if not an enlargement of the right ventricle?

Cardiac enlargement necessarily produces compression of the displaced lung, hence the pulmonary resonance may become slightly modified in the immediate vicinity, either a trifle dull or tympanic.

Of pericardial effusion percussion affords the most valuable sign we can acquire. Here the præcordia becomes almost uniformly enlarged in every direction. At the level of hepatic flatness its right boundary may be several centimetres beyond the right border of the sternum, and the line connecting this point with the upper angle of the præcordial area has much more of an outward curve than that of cardiac enlargement. One of the most significant signs of effusion is the extension of the upper limit of relative dullness which almost invariably occurs, and may reach beyond the level of the first costal cartilage. On the left dullness may extend far beyond the nipple, even into the axilla. Thus we have a huge triangle whose upper angle is rounded off, and of whose sides the right approaches a perpendicular much more nearly than the left. Only a small portion of the triangle is absolutely flat, exceeding in size the normal area of absolute flatness in proportion to the amount of effusion. The remainder of the area is only relatively dull, and consists of two zones, an inner, being next to the area of absolute flatness and corresponding to the normal præcordial area, and an outer, over which resonance is better, corresponding to the distended pericardium beyond. The apex may be displaced upward and a little to the left, but the apex beat will never be found strongest at or near the outer limit of the dull area, as it always is in cases of ventricular enlargement, nor will the resonance just beneath the apex be tympanic.

In cases of small effusion the increase of dullness will be noticed chiefly above and to the left. In extensive effusion we expect to find the surrounding lung slightly dull or tympanic.

Dismissing affections of the heart and pericardium, those of the neighboring tissues will now be briefly considered in their relation to the præcordia. In left-sided pneumonia, it is unnecessary to say, that percussion affords but little evidence as to the extent of the præcordia toward the left; it may, however, be estimated in a pneumonia of the lower lobe by observing the point at which the hypothenuse of the præcordial area meets the upper limit of infiltration.

In extensive effusions into the pleural cavities the altered position of the heart affords an indication of especial value, inferior to no other physical sign to be obtained in this disease. This altered position may be shown either by the site of the apex beat or by percussion. It is in left-sided effusions that the displacement chiefly occurs, but it is also frequently found with large effusions upon the right. Here the whole mediastinum is pushed to the left, the heart and great vessels being driven bodily before it. The præcordia is therefore simply displaced to the left, with no twisting of the great vessels. In the most marked case of this kind seen by the writer the right border of the præcordia was found six centimetres to the left of the median line, and the apex correspondingly carried to the left with no downward displacement. In extreme cases the apex is said to be carried outward as far as the axillary line.

In left-sided effusions the mechanism of displacement is more complicated, and the various alterations in the position of the heart more difficult of explanation. Here, too, the heart vessels and mediastinum

may be pushed *en masse* to the right. Such are cases in which, while there is dullness for a little distance to the right of the sternum, between the third and sixth ribs, the apex is unmistakably situated in the fourth or fifth interspace, near the left border of the sternum, as shown by palpation and auscultation. In other cases we find an area of dullness on the right, corresponding very nearly with that normally found on the left, with the apex beat also in a corresponding situation beneath the right nipple. Here the heart has evidently moved through a semicircle upon its mediastinal attachment as an axis. In still other cases we find the sounds and impulse of the apex most distinct beneath the lower end of the sternum, but no perceptible dullness beyond its right border. It seems difficult to explain such a condition unless we suppose that the heart has rotated through a quadrant only instead of a semicircle, thus bringing its smallest possible diameter in relation with the chest wall, and its apex beneath the sternum.

Emphysema of the lungs remains to be spoken of in its relation to percussion of the heart. By diminishing the negative pressure normally exerted by the lungs it may cause permanent depression of the diaphragm, and a consequent downward displacement of the heart. Thus the upper limit of the *præcordia* may be lowered to the level of the fourth costal cartilage or even beyond. Again, this affection may wholly obliterate the area of absolute flatness, which is then replaced by fair pulmonary resonance with a somewhat tympanitic quality. In most cases, however, the limit of relative dullness above and to the left may still be defined by careful percussion, and if this gives unsatisfactory results we must rely upon the position of the apex beat to establish the size of the heart. Emphysema is a condition always to be borne in mind in percussion of the heart, and carefully sought for elsewhere whenever there is any suspicion of its existence.

### Reports of Societies.

#### PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL OBSERVATION.

BY M. H. RICHARDSON, M. D., SECRETARY.

#### DISCUSSION CONCERNING SIPHONAGE OF TRAPS IN WASTE PIPES.

JANUARY 16, 1882. DR. C. F. FOLSOM spoke of the case of a young lady who was obliged to keep her rooms a great part of twenty-four hours, and whose health was thought to be affected by her confinement more than this cause would seem to warrant. On entering her room there was no odor perceptible, though it seemed a little close. The plumbing was said to be faultless. On investigating it the trap of the waste pipe was found to be the ordinary kind, and a long flow of water acted as a siphon and emptied it altogether. That fact was indicated by a peculiar noise, which is always heard when siphoning takes place. The plumber had been puzzled to know what to do. The only efficient thing was to make a vent in the pipe to communicate with the external air. The plumber, however, having made the vent carried the pipe up but a short distance, so that the same conditions existed as before. The sitting room was trapped in the same way, yet was not so bad. It had the same trap, which was, of course, useless. Finally, a large box trap of three quarts ca-

acity was put in. From this there was a straight fall of thirty to forty feet.

The same noise was made as before, and the same ineffectual remedy tried. In both cases the vent opened directly into the room, but concealed under the washbowl slab.

DR. REYNOLDS asked whether the air of a room can be poisoned by exhalations coming from that part of the waste pipe situated between the sink and its box trap. That is to say if a waste pipe exists during four or five years doing its work well, is there any possibility of that being the cause of foul air in the room. Plumbers say that nothing smells worse than an old waste pipe. He would like to ask if that is a fact.

DR. FOLSOM replied that it was so in many cases. He had seen a thick deposit in the waste pipes to which there was a certain amount of odor. At the Sherborn Prison two cases of puerperal septicæmia gave rise to an investigation, and two or three pipes were found to be in a very bad state.

DR. REYNOLDS said he had known of cases where the traps were cleansed at intervals just as cess-pools are, and he thought that to be the intention of the plumber.

DR. FOLSOM said that under all circumstances such a condition of things is objectionable.

DR. F. H. BROWN said that sometimes even water traps are inoperative. It is a well-known fact that water under pressure will absorb gases and give them off under less pressure above. That is one of the reasons why it is noticed in sleeping rooms. Something more than the simple water trap must be tried. We shall have to come to the ball trap or some trap like that of Colonel Waring's, of Newport.

DR. FOLSOM said that the best way to be certain of cutting off all communication between the room and the sewer is to have a thoroughly ventilated S-trap or a block-tin pail under the washbowl to take the place of the waste pipe.

DR. DURGIN said that it had been forgotten that waste pipes will not keep themselves clean without work. Being inaccessible the accumulated filth remains, and the inside of the waste pipe becomes filthy with it. It is not common to find less than five to six feet of waste pipe between the bowl and the trap, which is enough to give out an odor. Dr. Durgin had found this condition of things existing in his own house. He cleansed the pipes by using first boiling hot water for several minutes, and then a solution of potash or copperas. With regard to the kind of trap to be used, any that allows free flow of water through it, and at the same time furnishes a good water seal. Box traps offer greater resistance against siphoning; but they are in reality cess-pools, and give offensive odors into the rooms. They are much more objectionable than the S-traps, which clean themselves. The S-trap has a little cup at the bottom that can be unscrewed. They should not be used without venting pipe upon the distal end.

In reply to DR. C. P. PUTNAM, DR. DURGIN said that it is important that the soil pipe should go through to the roof of the house as well as the ventilation pipe.

With regard to the water closet there must be the same method of ventilation as in the traps already spoken of.

In response to Dr. Reynolds Dr. Folsom described the various kinds of water closets now in use.

Dr. McCOLLOM read the regular paper on the

#### USE OF THE OBSTETRIC FORCEPS.<sup>1</sup>

Dr. RYNOLDS said this was a very interesting series of cases. The conclusions of the writer are in accord with the best writers of the present time. There is less risk with forceps than without them if the best instruments are used.

### Recent Literature.

*Practical Medical Anatomy: A Guide to the Physician in the Study of the Relations of the Viscera to each other in Health and Disease, and in the Diagnosis of the Medical and Surgical Conditions of the Anatomical Structures of the Head and Trunk.* By AMBROSE L. RANNEY, A. M., M. D. New York: William Wood & Co. 1882.

This is a work of what may be called applied anatomy. The author, in common with modern teachers of anatomy, feels that students demand more and more to know the use of the knowledge they are called upon to acquire. Simple descriptive anatomy, as it is usually taught, reminds most students of their early trials with the multiplication table. In both cases they are assured of the great utility of their studies, but they have to trust to the future to make the promise good, and in the mean time learn dry facts apparently without rhyme or reason. The reviewer has often regretted that he was not made when young to grasp the idea that the science of mathematics is something more than a collection of puzzles apparently contrived to worry the student, and many physicians doubtless wish that the practical importance of anatomy had been made apparent to them when they began its study.

Dr. Ranney's work, then, is one of the class we should welcome. It remains to consider how he has accomplished his task. As far as anatomical facts go it is little more than a compilation, but it has been cleverly done, and there are many practical deductions that are both interesting and valuable. The great defect, in our opinion, is an excess of what may be called "padding." Thus there are many wood-cuts of deformities, congenital and acquired, and of tumors which have but a very slight connection with the text. We are even inclined to smile at one of a doctor in a dressing-gown examining the ear of a patient who has a very pensive look, as if he were wondering what it would cost. The discussion of the differential diagnosis of apoplexy and embolism seems to us out of place.

There are several anatomical points that call for criticism. Nothing is said of the two temporal ridges, and in a figure of the skull on page 2, a line which is clearly the superior ridge is spoken of as the line of origin of the temporal muscle. Dr. Ranney has modified the line proposed by Broca, running from the alveolar border of the upper jaw to the occipital condyle, which serves as a basis for several other lines, by drawing it to the tip of the mastoid process instead of to the condyle, because the latter cannot be felt during life. It seems to us that the mastoid process is rather too liable to variation to be quite satisfactory, though it certainly is desirable to have a line running to points that can be felt. There would, we think, be less inaccuracy in assuming that the upper border of

the zygoma is horizontal when the head is in its normal position. The action of the sterno-mastoid is said to be to move the head forward, and this statement is made just after one that in extreme dyspnoea the head is thrown backwards. Now in this state the muscles in question are very tense, and they throw the head backward because they are attached behind the axis on which it bends. The lingual triangle is described as being bounded by the greater horn of the hyoid below, the digastric above, and the external carotid externally. This no doubt is a triangle in which the artery can be tied, but it is not what we have thought was universally known as the "lingual triangle."

The author gives a great deal of attention to landmarks, and this part of the work is very useful. It seems rather unnecessary, however, in enumerating the structures opposite the third cervical vertebra, for instance, to count as (2) the bifurcation of the carotid artery, and as (3) the point of origin of the external and internal carotids, and at another point to count both the lower end of the pharynx and the upper end of the oesophagus, the lower end of the larynx and the beginning of the trachea.

The topography of the chest is very good, and will be very acceptable to the student to whom the position of the heart and its valves is often a stumbling block. We cannot believe that the sternal end of the second rib is as high as the third dorsal vertebra, and we are sorry to see a wood-cut (after Gray), according to which the aorta and pulmonary artery appear to arise side by side. There are two excellent figures after Luschka showing the position of the abdominal organs before and behind. We are glad to meet the frank statement that the author has never been sure that he could feel the outline of the kidneys, even under the most favorable conditions, provided their size and position were normal. Our experience is the same. The umbilicus is said to be placed slightly above the centre of the height of the individual, which is inaccurate, for the centre is nearer the pubes, and in tall men may be even below it.

Dr. Ranney devotes a chapter to the human face in health and disease, which has a good deal in it which is comparatively little known. He believes that the lines of the face and the expression as aids to diagnosis do not receive now a days the attention they deserve. We have no desire to dispute this, though a good many of the statements which he quotes seem to us decidedly fanciful. We could wish that the strictly anatomical relations of these lines had been rather more thoroughly worked out.

There is much to praise in the book in spite of the defects we have alluded to. It can be read with profit by the teacher of anatomy, and will teach the student that the practical applications of anatomy are far greater than he probably had imagined. T. D.

*Transactions of the American Gynecological Society.*  
Vol. VI. For the Year 1881. Philadelphia:  
Henry C. Lea's Son & Co. 1882.

This ever welcome and exceedingly valuable addition to our gynecological literature comes this year earlier than usual. Its contents show the same high excellence as in former years, and are an indication of the interest the members of the Society feel in its prosperity. It is emphatically good work that forms the basis of the papers read, and it would be rare to

<sup>1</sup> See page 296 of this number of the JOURNAL.

find an equal number of noteworthy contributions in the yearly Transactions of any similar society.

Following the annual address of the president, Dr. W. H. Byford, of Chicago, is a paper by Dr. S. C. Bussey, of Washington, entitled *Acute Hyperæsthesia of the Peritonæum, either Circumscribed or Diffused, following Minor Gynecological Operations and Manipulations*. As the clinical features of the affection under consideration are very familiar there was little discussion of them, but the pathology called forth considerable difference of opinion. Whether to consider these alarming but transient symptoms the initial stage of an inflammatory process, or pure neuralgia, was the point about which the discussion chiefly centred. In the absence of opportunities for post-mortem examinations this point must remain to a great degree theoretical. The paper is of value as calling renewed attention to the marked symptoms which may be produced by the slightest manipulation of the organs of the pelvis, and the necessity of extreme caution on the part of the practitioner.

The paper by Dr. H. J. Garrigues, of New York, on *Exploratory Puncture of the Abdomen*, is of exceeding scientific interest as well as great practical value. It gives the result of the very careful examination of fluids obtained in ninety-four cases of various affections, principally cysts of the ovary, and conditions liable to be confounded with it, with regard to their physical, chemical, and microscopical characteristics. The results arrived at by the author are, that exploratory puncture should be employed in every case before a more dangerous operation is undertaken; that there is no pathognomonic morphological element in the fluid of ovarian cysts, but that by paying attention to all the different characters, physical, chemical, and microscopical, it is in most cases possible to tell with certainty whether a given fluid comes from an ovarian cyst or not. Dr. Garrigues thus denies the special significance of the so-called Drysdale corpuscles, and says they are the nuclei of epithelial cells which have undergone colloid degeneration, and are found not only in cysts of other origin than ovarian, but in fluids not taken from any kind of cyst. The discussion did not throw much light on the pathological questions involved, but Dr. Drysdale promised to prepare a paper in reply to that of Dr. Garrigues for the next meeting of the Society. The general sentiment of the Society was, however, decidedly against exploratory puncture as recommended by the author, it being considered not only unnecessary in the majority of cases, but at times dangerous in itself and increasing the danger of a subsequent operation.

Dr. G. H. Lyman, of Boston, in a paper entitled *Notes of Cases of Pelvic Effusion Resulting in Abscess*, after some general observations on the pathology of pelvic cellulitis and peritonitis, gives the histories of forty-one cases occurring in five years at the Boston City Hospital. One noticeable feature of many of them is the marked relief and rapid recovery following the aspiration of a very small amount of pus. Dr. Lyman justly emphasizes the importance of giving early exit to pus per vaginam, thus anticipating an attempt at spontaneous evacuation through some other channel. The point urged by Dr. Smith in the discussion, as to the danger of using the sound in making a differential diagnosis between retroversion and pelvic effusion, seems to us well taken.

The paper by Dr. Nathan Bozeman, of New York,

entitled *Genital Renovation by Kolpostenotomy and Kolpocæptasis in Urinary and Faecal Fistules*, is the first part of an elaborate treatise, overloaded with strange polysyllabic words of Greek derivation, the aim of which is to show that genital kleisis, or operations to occlude or impair the vulvo-vaginal and uterine tract, by interference with its functions, are dangerous as regards their remote consequences, and that the lesions can by skill and patience on the part of the surgeon be cured by genital anakiainosis, the consideration of which the author reserves for a subsequent communication.

Dr. Ely Van de Warker, of Syracuse, contributed a paper entitled *Forcible Elongation of Pelvic Adhesions*. Two facts were brought out prominently by the animated discussion which followed: one that before any real advance can be made in the treatment of these difficult cases some more definite idea of their pathology must be gained, and the other that the Society almost universally condemned the mode of treatment proposed by Dr. Van de Warker. Various plans of treatment were advocated by different members, mostly by means of pessaries, all of which claimed great patience as a prerequisite, and promised only a moderate degree of success. Dr. Bozeman spoke of a method which more nearly corresponds to that we have found the most successful, namely, systematic tamponing of the vagina with cotton soaked in glycerine, thus keeping the adhesions on the stretch and favoring their gradual absorption. A promising field of investigation is open to research in determining the pathology of the adhesions in these cases, their character, extent, and frequency. The difficulty of discussing such a question in the present state of our knowledge is shown by the fact that while Dr. Chadwick says that in about five thousand cases he had seven or eight hundred of pelvic effusion, in many of which the uterus was more or less fixed, Dr. Sims has seen only twenty cases in his entire practice, and Dr. Goodell not more than ten. It is evident that very different ideas of the true nature of such adhesions must prevail.

A short paper by Dr. T. G. Thomas, of New York, emphasizes a rare but important complication in the removal of abdominal tumors, namely, the expansion of the bladder over the growths to such an extent, and so firmly, as to render their removal impossible without wounding that viscus. The mortality in the eight cases which Dr. Thomas has found was very great; early recognition of the complication, however, may suggest methods of dealing with it during the operation, and modifications of after-treatment which will make it less serious.

A paper on *Fibroid Polypus, with Inversion of the Uterus*, by Dr. T. A. Reamy, of Cincinnati, gives the history of a case where, in spite of all care in the diagnosis, the removal of a portion of the uterus by the cæreseur was only prevented by the failure of the chain to work. The tumor was then removed piecemeal with vulsellum and scissors. In our opinion the cæreseur or the galvano-cautery wire should never be used in such cases; and when it is remembered that, as Dr. Mary Putnam Jacobi pointed out in the discussion, the blood-vessels are all on the surface of the tumor, and that steady traction with the vulsellum will render the danger of hæmorrhage almost null, the objection to cutting the tumor into small enough pieces to be easily removed falls to the ground, and so serious a procedure

as incising the perineum for the sake of delivering the tumor whole need not be resorted to.

Dr. Albert H. Smith's paper on Axis Traction with the Obstetric Forceps advocated no new principle, but attempted to show that the peculiar advantages claimed for Tarnier's forceps and its various improved successors could be obtained quite as well with the ordinary forceps if used after the manner first spoken of by Oslander early in this century, and subsequently by various other writers, and called attention to several objections to Tarnier's forceps. The discussion naturally turned on the merits of the forceps in question, and disclosed a very marked unanimity in its favor. It was fully recognized that its field of application is limited, namely, at or above the pelvic brim; but for this class of cases nothing has yet been advised which is so satisfactory.

Dr. A. D. Sinclair, of Boston, continues his investigations of the Measurement of the Uterine Cavity in Childhood, and gives the results of a second and third series of one hundred and eight cases each. As the author is waiting until the completion of one thousand cases before drawing any conclusions, any extended criticism here would be out of place. One fact is, however, very noticeable. Dividing the second series into two groups of fifty-four each, the larger proportion of measurements under three inches falls within the first half. Thus in the first fifty-four cases there are only six where the depth is over three inches; in the last fifty-four there are only three cases where it is under three inches. So of the third series there are only seven cases in the whole one hundred and eight where the measurement is under three inches. That is to say, in the first half of the second series there are nearly five times as many short measurements as in all the rest of both series. If the cases are tabulated as they occurred in chronological order it is certainly extraordinary that so many short measurements should have fallen together. No solution is apparent from an examination of the cases as given in the tables, and one is forced to imagine that the difference may lie in the fact that the smaller measurements were obtained by one of the observers, and the larger by the other. If this were so the deductions drawn from the whole series would not be so satisfactory, for to form correct conclusions one must be sure of one's data. There may be an explanation, however, which is not evident from the tables.

Dr. W. M. Polk, of New York, read a paper entitled Can Lacerations of the Cervix Uteri be Prevented? The author states a number of causes, and thinks that most of the lacerations are avoidable. While recognizing the value of directing the attention of obstetricians to the possibility of the occurrence of this lesion from the causes enumerated, yet the author seems to us too sanguine in his expectations. Just as the perineum, though the object of solicitude since the beginning of medicine, is not infrequently ruptured, so lacerations of the cervix uteri are sure to occur. We are, in fact, much more powerless to prevent them than ruptures of the perineum.

A paper on The Mechanical Action of Pessaries, by Dr. F. P. Foster, of New York, speaks of the action of pessaries as of three kinds: (1) by lateral distention of the vagina; (2) by pressure transmitted directly to the body of the uterus; and (3) by pressure on the vaginal walls, dragging the cervix in one direction and causing the body to move in the opposite

direction. The object of the paper is to show that in the majority of versions the action of pessaries is of the third variety. While this may be a slight factor in some cases, especially of anteversion, yet in the majority of malpositions of this kind no such effect is produced. In cases of retroversion, if the pessary is properly curved, it follows the normal curve of the vagina and impinges on the body of the uterus at the junction of the vagina with the cervix. There is no appreciable stretching of the vaginal wall to pull the cervix back, and the body is kept forward by the lever action of the pessary. The pressure on the body of the uterus need not be great when once the organ has been replaced; this is shown by the futility of attempting to restore the uterus to its normal position by the pessary. Where the malposition has been corrected by digital or other means, then the action of the pessary comes in to keep it in position.

The pessary for the majority of cases of retroversion need not be curved so much as to render its introduction difficult (an objection which our author urges). Nor does a properly constructed pessary penetrate "into the space between the utero-sacral ligaments." The pessary should be as broad as the vagina will comfortably allow, or the uterus will tend to fall to one side or the other.

The fundamental error seems to us to be that the author expects the pessary to restore a retroverted uterus to its normal position, whereas its proper function is merely to keep the already restored uterus from returning to its retroversion. With anteversion the case is different. Anteversion being merely an exaggeration of what is the normal position of the organ, a very slight modification is all that is necessary, and this is accomplished probably quite as much by traction on the anterior vaginal wall as by direct pressure on the body of the uterus.

Other papers were contributed by members of the Society, which need not be noticed in detail. Taken as a whole, the present volume compares very favorably with its predecessors, and will do much to sustain the high rank which America holds in this department.

*On the Morbid Conditions of the Urine Dependent upon Derangements of Digestion.* By CHARLES HENRY RALFE, M. D. London: J. & A. Churchill. 1882.

This small volume (150 pages, 8vo) is devoted to a consideration of those chemical changes occurring within the body, as distinct from those morbid conditions of the urine which are directly associated with disease of the renal organs or of the genito-urinary passages, or those which, like diabetes and temporary albuminuria, are the result of disturbance of the circulation in the hepatic and renal vessels.

It is with the aid of the late marked advances in physiological chemistry that the writer reviews the facts connected with the subject of the morbid conditions of the urine dependent on derangements of digestion.

Six chapters and an appendix treat of the formation and removal of acid from the body; dyspepsia, associated with an acid condition of the urine, and with an alkaline condition of the same; relationship of uric acid to lithemia and gout; derangements associated with deposits of oxalate of lime and with excessive elimination of phosphoric acid, the effect of bicarbonate of potash on the acidity of the urine.

The contents of this book have appeared at various times as articles in the *Lancet*.



# Medical and Surgical Journal.

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## GUITEAU'S BRAIN.

ONE of the most accomplished cerebral pathologists in this country, Dr. Spitzka, of New York, has expressed the opinion that the asymmetry of Guiteau's brain, as shown by post-mortem examination, is sufficient to justify the diagnosis of congenital insanity, the *primäre Verücktheit* of German authorities. In this opinion we are unable to concur, but it seems clear that the asymmetry, taken in connection with the great thinness of the cortex of parts of the anterior portion of the brain, which was unaccompanied by any excess of fluid in the ventricles or elsewhere, had some value as corroborative evidence of hereditary insanity, and marks a brain which was from infancy or some early age incapable of normal development.

The adhesions of the arachnoid, we are informed by Dr. Godding, who was present at the autopsy, were less than we had supposed, being confined to the immediate neighborhood of the longitudinal sinus; but the milky opacity of the arachnoid was observed to be somewhat unevenly distributed throughout the anterior and antero-lateral portions of the brain. In the absence of chronic alcoholism, sunstroke, malarial fevers, etc., we do not see any other so reasonable explanation of this condition as that it was probably in part the cause, and partly the result, of several periods of cerebral excitement.

In the pathological conditions shown in the blood-vessels, the perivascular lymph spaces, the neuroglia, and the cells, with little, if any, evidence of atrophy, and with the anatomical elements for the most part preserved, we can see only indications of recent disease, if we interpret the report of the autopsy correctly. The *Medical News*, which maintained Guiteau's sanity during life, and affirms his responsibility now, acknowledges that the microscopic examination revealed changes in Guiteau's brain which "constitute the initial stage of a malady, which, in its fullest development, is known as dementia paralytica or an allied disease, the early symptoms of which disorder correspond closely with the mental condition of Guiteau during the past year."

Could there be any more humiliating record to add to the story of the trial?

We were unable, before Guiteau's death, to give to our readers the results of a clinical examination made under such circumstances as to render an absolute differential diagnosis possible. We should be glad if the autopsy had been more minute and thor-

ough. As it stands, however, it leaves to those who testified that Guiteau was "perfectly sane," and to the many more who thought that he was "only a crank," a difficulty of explaining their position from which we can see no possible satisfactory extrication.

We would suggest, as a diagnosis in this case, hereditary insanity, manifested in early life or congenital, and attended with such symptoms as are grouped under the unsatisfactory term moral insanity, to which were added the periods of excitement somewhat resembling mild mania common in that disease, and finally ending in the initial stage of general paralysis of the insane, in which distinct motor symptoms or general dementia would not be found. Such a case is not common, but one has been reported by Christian. Those symptoms of Guiteau's, too, which are extremely rare in even the early stage of general paralysis, have been observed in two cases reported in the *American Law Review* for February, 1882. In the first, a gentleman of high character and good standing, with a respected and loved wife, while away from home married a pretty girl beneath his station. The crime was so inconsistent with his character that he was placed in an insane asylum for observation before trial, where he was kept secluded at rest for a couple of months, and then declared sane, simply because the asylum physicians were not familiar with the perversion of character and slight intellectual impairment so common in the early stages of the disease. The man was sentenced to fifteen years' confinement in the State prison; but he showed unmistakable evidence of his disorder as soon as he arrived there and attempted to work. Later, he was sent to the insane asylum a complete mental and physical wreck. The second case was that of a very brilliant young lawyer, elected mayor of his city two years in succession, where there was *mild cerebral stimulation* similar to that produced by coffee or wine, but constant, in the early stage of the disease, the moral perversion showing itself in little acts of frequent occurrence which soon made his many friends enemies. The first striking mis-deed committed by him was to engage to speak in one city in a Republican campaign meeting, he being president of the local Republican committee, and then to go to another city the same evening, breaking his first engagement, and addressing the opposition with fierce denunciation of his own party. Even then he was not thought to be insane. The natural course of the disease followed through mental decay to death.

We are familiar with two cases of general paralysis of the insane where the capacity to attend to the usual duties was so slightly diminished in the second year of the disease, that the business of either (law and trade) did not suffer at all, and their insanity was not then suspected.

After such a trial of such a man hanging was probably the best public policy; but we still maintain that it would have been better public policy to send him to a lunatic hospital for life without trial. It would have been useless to condemn him to hard labor, as has been suggested, because he was incapable of steady application of any kind.

## "CYCLING."

AN interesting and instructive lecture on "cycling"<sup>1</sup> was recently delivered before the Balloon Society of London by Mr. A. Wynter Blyth, medical officer of health and public analyst for Marylebone.

Mr. Blyth finds the first application of mechanism set in motion by the feet or hands was to four-wheeled carriages, of which there is an illustration in the *London Magazine* for August, 1769, showing a true velocipede. In the early part of this century a machine of French origin appeared in England, and in this country too, called first a "dandy horse," and afterwards a "hobby horse." Two wheels of equal size, one in front of the other, connected by a wooden bar, upon which the rider sat, propelling himself with alternate feet upon the ground, and steering by means of the front wheel; this constituted the "dandy horse," of which Mr. Blyth found twenty-five caricature prints in the British Museum bearing date between 1819 and 1821.

At the exposition of 1862 a machine made of wood was exhibited, having two wheels, and pedals on the front one, though attracting little attention. Since 1868 iron and steel have been substituted for wood, the spider wheel has been invented, India rubber has been applied to the tyre, and ball-bearings to the wheel, combined with almost perfect springs, have reduced friction and vibration to a minimum.

The argument that cycling could not be made a saving of labor, for the reason that the rider would have to move the weight of the machine in addition to his own, has been proved erroneous. In explanation Mr. Blyth defines the difference between walking and cycling as follows:—

"When we stand or walk the weight of our bodies presses on the ground, representing a force which in no way aids progression. It is lost; but on the wheel this force is utilized. The difference between walking and cycling is then as follows: Walking is wholly muscular exertion; cycling is one third muscular force, two thirds weight force or gravity. The cyclist alternately puts his weight first on one pedal and then on the other, and the chief part of the muscular force used is not used in directly rotating the pedals, but in this shifting of the weight of his body. A long walk tires the ankle-joints, the knees, and the hips; in part from the very weight they have to support, and this weight, so long as we walk, is continuous, but in cycling it is discontinuous. In cycling the main stress is on the muscles in front of the thigh; in walking the calves and the muscles moving the feet are among the first to get weary, but so little is this latter the case on the wheel that a rider, after a long and sustained effort, often feels quite up to any reasonable amount of walking."

Tricycles, which are beginning to make their occasional appearance upon our roads, are less dangerous and more comfortable than bicycles; they offer a less independent though more sociable mode of traveling, and whilst permitting the transportation of a small

amount of luggage, are themselves inconvenient things to store. This last the lecturer considers a serious inconvenience, for in his enthusiasm he believes in the near future, "without doubt, each morning will be seen some twenty or thirty thousand cyclists coming towards their business in commercial centres, and if each of them are to ride tricycles the matter of storage might be difficult, without considering the yearly rent for warehouse room; but a bicycle can stand in a passage, in an office, an area, or almost anywhere, and, lastly, not the least advantage is the greater readiness, in case of injury to the rider or the machine, that the bicycle and rider may be conveyed by any light carriage to his home or a railway station."

The bicycle can be driven faster than the tricycle it is true, but a very good rate of speed may be attained and kept up on the latter, one gentleman having made one hundred and fifty-four miles over the road in twenty-two hours, and another one hundred and eighty miles, also over the road, within twenty-four hours. With the bicycle two hundred and twenty-two miles have been made in the twenty-four hours. The best tricycles now steer with the front wheel, and the labor of movement is minimized by division. One machine is manufactured with three wheels, which will carry four people, each person driving only three quarters of a wheel.

The great boon of cycling, Mr. Blyth thinks, "is its value to the working man in the extension of his residential area. Let the working man save his money and buy a bicycle. A radius of ten to fifteen miles is then open to him, and if he has to get up an hour earlier in the morning, and to come home an hour later in the evening, the benefits of purer air, cheaper and better accommodation for himself and family, will in the long run more than repay. Any cheap means of locomotion, which has a tendency to make home healthier by relieving the pressure that has hitherto herded men and women together like penned-up animals, should receive the hearty support of the hygienist, the philanthropist, and the legislature."

In regard to the best food for the cyclist, he says: "I have studied the diets recorded as in use, and find that those who have done long journeys successfully have used that class of diet which science has shown most suitable for muscular exertion, namely, one of a highly nitrogenized character, plenty of meat, eggs, and milk, with bread, but not much butter, and no alcohol. I have cycled for over fifty miles, taking frequent draughts of beer, and under these circumstances, although there has been no alcoholic effect, it has caused great physical depression. The experience of others is the same. However much it may stimulate for a little while a period of well-marked depression follows. I attribute this in part to the salts of potash which some beers contain, in part to injurious bitters, and in part to the alcohol. My own experience as to the best drink when on the road is most decidedly in favor of tea. Tea appears to rouse both the nervous and muscular system with, so far as I can discover, no after-depressing effects."

Mr. Blyth is evidently a great enthusiast, and must

<sup>1</sup> Sanitary Record, August 15th

have come fully up to the present requirements of his audience. Here are the possibilities, some of which are probabilities, of the "wheel's" revolution in locomotion: "Steam tricycles, electric bicycles; the whole metropolis paved with wood or asphalt; the great main roads of the country reconstructed with a special reference to the cyclists' requirements; the rise again of the old coaching inns under the name of cycling hotels."

As a missionary, on the other hand, the "wheel" is a temperance organ, alcoholic excess being fatal to long rides; and, more surely than "tracts," it abolishes the groups of idle young men standing on holidays at the corners of the streets; "the pent-up passions, formerly bent on mischief, now evaporate with copious perspiration in road and lane."

Until the Balloon Society can develop aerial traveling, the day of the musing pedestrian is evidently nearly done, if Mr. Blyth's anticipations realize themselves, for even though content to walk when others fly the charm of the surroundings will be gone.

We almost wish we were justified in pleading that cycling is unhealthy, not unhealthy enough to abolish, but only enough so to check it. Will not the future generation of males be a prey to the disease of the Scythians? In any case some use and some spot, we must believe, will be found for walking, which has been in vogue for many generations!

#### "THREATENED WITH TYPHOID."

AGAIN the season of the year has come when we hear much of individuals who are "threatened with" typhoid. That such an expression should be used by the non-professional public is not perhaps to be wondered at in view of the tenets of popular pathology. But it would be interesting to know precisely what mental picture is present in the mind of the physician who employs the expression. When Wolsley threatens Arabi, or when the congressional assessors threaten the office-holder whose spontaneity is too slow, we get a distinct idea of the word as implying a *conditional menace*. But when a given patient presents a certain well-known group of symptoms and the medical attendant says he is threatened with typhoid, who is the threatener, and what are the conditions upon which the evil may be averted? Undoubtedly a time exists prior to the inception of a disease, when the *materies morbi* is brought into such a relation to the individual that the figurative mind might speak of it as "threatening" him, the condition of his attack being that he be in such a place and such a state as to afford a favorable *nidus* to these germs. But at the time our medical man sees him the case is different. He has or has not received the disease; he has or has not typhoid. The threat has been carried into execution, or else the patient by his own act (as fortunate as unconscious) has so avoided the condition as to escape. To the physician who has substituted a "threatened" diagnosis for the lack of certain knowledge we must suppose that there is present in the imagination something like hordes of rabid germs or serried ranks

of truculent bacteria which are at that moment gushing their teeth and preparing to seize upon the patient's vitals *unless* they can be vanquished and put to flight by medical skill. While presumably the fever, headache, etc., are due to the trepidation caused in the organism by the menacing attitude of the bacteria and the fear lest the doctor may not get the better of them. By all means, gentlemen, if you wish to be a little mystical, continue your minatory theory. But advance it at the proper time in the history of the case. Tell the young man just the time *when* he is threatened with delirium tremens or lues venerea. Then we shall understand you. And if you go even a step further in the use of the term, we shall know that the boy who is threatened with tetanus has only bought a toy pistol, and the man who is threatened with concussion of the spine has only taken a ticket on the — and — railroad.

#### MEDICAL NOTES.

— It is claimed by a number of recent writers upon public health that the wooden-block pavements in use in many cities have a markedly unhealthful influence. The nature of the evil seems to be two fold: first, that the blocks being placed with their fibrous ends upward are saturated through by every rain, and retain their dampness for a long time, for the reason that all evaporation must take place from their upper surface, as the lower often rests upon boards or some still more water-proof foundation. In this way there is constantly present a large damp surface which could hardly be better planned for retaining its moisture, and which constitutes an artificial but pretty effective malaria-breeder. Such pavements on being taken up very frequently exhibit a white fungous growth upon their lower and lateral surfaces. In the second place, these disadvantages are added to by the fact that it is not simply with water that these blocks are saturated, but with an infusion of animal excrement. This, of course, undergoes putrefactive change, and in wet weather the effect is of a layer of rotting barn-yard manure, while in dry weather the particles of dust fill the atmosphere, and irritate every tissue with which they come in contact.

— In May last a person suffering from small-pox presented himself in the out-patient department of Guy's Hospital, and was dismissed by the medical officer in charge with advice to apply for admission to a small-pox hospital in the usual way, through the intervention of the parish authorities. The officers of the hospital did not further concern themselves about the patient, who, as it subsequently appeared, rode to his destination in an omnibus. An investigation of the matter was made, and the committee reported a resolution "that at every general hospital there should be provided an isolation room, in which should be temporarily detained persons suffering from infectious disease until such time as they could be removed in an ambulance to one of the hospitals provided for their reception and treatment; that the difficulties attending the removal of such patients would be greatly

diminished were the simple certificate of a medical officer of the hospital at which the person might have applied in the first instance sufficient to insure admission into one of the infectious hospitals under the control of the managers."

Censure of the action of the hospital authorities in this matter was expressed by the mover of the resolution, and it was claimed that they were liable to penalties under the sanitary acts as accessory to the exposure of an infectious patient. This should be of interest with reference to the immediate disposition of such cases at our own hospitals.

— It would be difficult to find an instance of more rapid operating than the following achievement of Hasner, the oculist of Prague, which is vouched for by a correspondent in the *Chicago Medical Journal and Examiner*: "The 16th of May is the day allotted in the calendar to St. John Nepomuck, the patron saint of Bohemia. On this day the halt, the maim, and the blind come in from all the surrounding country for treatment. Among this motley crowd are a great many cataract cases, and on one of these occasions, having his patients all made ready, Hasner is known to have operated on *twenty-three eyes in one hour.*"

— The following are the prize questions of the Académie de Médecine proposed for 1883: (1.) The Academy Prize of 1000 francs, To Determine the Clinical Value of Antiseptic Procedures in Surgical Practice. (2.) The Portal Prize of 1000 francs, Is Tubercle of a Parasitic Nature? (3.) The Bernard de Cuvieux Prize of 2000 francs, Hysterical Paralysis and Contractions. (4.) The Capuron Prize of 2000 francs, The Influence of Sea-bathing on the Scrofula of Children. (5.) The Barbier Prize of 2000 francs, to be awarded to whoever nearest attains to the Cure of Diseases hitherto reputed as incurable — namely, hydrophobia, cancer, epilepsy, typhus, scrofula, and cholera. (6.) The Godard Prize of 2000 francs will be given for the best work on External Pathology. (7.) The Desportes Prize of 1500 francs, to be given to the author of the best work on Practical Medical Therapeutics. (8.) The Buignet Prize of 1500 francs, to be awarded to the author of the best work, whether manuscript or printed, on the Applications of Physics or Chemistry to the Medical Sciences (the works of foreigners and translators cannot compete for this prize). (9.) The Daulet Prize of 1500 francs, Lymphadenoma. (10.) A prize of 2000 francs on the Hygiene of Infancy — "Exhibit by precise observations the part which the First Dentition may play in Infantile Pathology." (11.) The Vernois Prize of 800 francs will be annually decreed for the best work on Hygiene. (12.) The Anussat Prize of 2000 francs, to be awarded to the author of the best work or researches, founded both on anatomy and experiment, which shall realize or prepare the way for important progress in Surgical Therapeutics. (13.) The Staniski Biennial Prize of 1000 francs, to be awarded to whoever best demonstrates The Existence or Non-existence of Miasmatic Contagion by Infection or Contagion at a Distance. (14.) The Huguer Prize of 2000 francs, to be given to the author of the best

work, whether manuscript or printed in France, on the Diseases of Women and their Surgical Treatment. (15.) The Saint-Lager Prize, a sum of 1500 francs, to be given to compensate the experimenter who has been able to induce a Tumor of the Thyroid Gland by the administration to animals of substances extracted from the waters or soils of countries in which Endemic Goitre prevails. (16.) The Saint-Paul Prize of 25,000 francs will be conferred upon the person, without distinction of country or profession, who first discovers a remedy which the Academy acknowledges is efficacious and sovereign in Diphtheria. Awaiting the discovery of such remedy, the interest of the sum awarded will be expended every second year in "encouragements" for those whose researches on diphtheria appear to be meritorious.

— It is reported, on the authority of an anti-vaccination correspondent in the *Boston Journal*, that a statute for compulsory vaccination, passed in Switzerland last January by the Federal Chambers, has been overthrown by a vote of the people taken July 30th. "The law has been rejected in twenty-five cantons by a majority of 253,968 votes, or about four for every one who voted in the affirmative, only one canton (Neuchâtel) having a majority in favor of the law." It is believed, however, that this vote was directed more against centralization than against vaccination; that the cantons simply wish to pass their own laws on this, as on other subjects, and will individually vote in favor of compulsory vaccination.

— At a conference of the Société de Chirurgie, of Paris, a case of supernumerary digit was reported, which had been operated upon at the age of six months, but had grown out again so as to require a second operation when the child was ten years old. Stress was laid upon the necessity of disarticulating instead of dividing the bone in its continuity. There being two centres of ossification in the phalanges, one for the shaft and one for the upper extremity, if the articular cartilage is left intact the bone has an opportunity to be re-formed.

— *The Medical Student's Primer.* — What place is this? This is the Pathological Society. How does one know it is the Pathological Society? You know it by the specimens and smells. What does that gentleman say? He says he has made a post mortem. All the gentlemen make post mortems. They would rather make a post mortem than go to a party. What is that on the plate? That is a tumor. It is a very large tumor. It weighs one hundred and twelve pounds. The patient weighed eighty-eight pounds. Was the tumor removed from the patient? No, the patient was removed from the tumor. Did they save the patient? No, but they saved the tumor. What is this in the bottle? It is a tape-worm; it is three quarters of a mile long. Is that much for a tape-worm? It is, indeed, much for a tape-worm, but not much for the Pathological Society. — *Medical Record.*

— A Paris patent medicine man describes his chloral syrup as bottled sleep, — "*Le sommeil rendu en flacon.*"

## NEW YORK.

—The last quarterly report of the commissioner of public works shows that during the six months ending July 1st the average surplus of water flowing over the Croton dam into the Hudson River above the quantity required to fill the reservoirs and lakes, and to keep the aqueduct running at its full capacity, was 500,000,000 gallons per day. The aqueduct was, therefore, able to deliver only one sixth of the supply, which might, with sufficient storage and conduit capacity, have been brought to the city. The aqueduct delivered without interruption a little over 95,000,000 gallons per day, and that is all that can with safety be passed through it. Yet, notwithstanding the urgent need for an increased supply of water, on account of the recent growth of the population, there does not seem to be any immediate prospect of the construction of an additional aqueduct.

—The United States Treasury Commission are endeavoring to secure a suitable location for the establishment of a quarantine station at New York for imported cattle, the object of which is to be to provide temporary shelter for cattle brought to the port from abroad, to separate all infected animals from the healthy, and also to keep each lot separate from the others until examined and taken away. In connection with the matter, however, Professor Law, of Cornell University, one of the commission, very justly observes, "It is absurd to quarantine against foreign cattle which have been selected with great care for the purpose of improving American breeds, and allowed a long voyage for incubation, and at the same time allow the purchase of home cattle in Eastern infected markets, and shipment of them without quarantine to any point West."

—A number of Chinese opium dens have recently been broken up by the police, and their occupants arrested and fined.

—It is stated that in the suit against the elevated railroads brought by Major Harrold, in which he obtained a verdict for thirty thousand dollars damages for injuries alleged to have been sustained by him, liens have been filed against the sum thus accorded for twenty-six thousand dollars by his lawyers for their fees. The railway companies are still disputing the case in the courts, on the ground, as they claim, that Major Harrold was counterfeiting the symptoms of an injury to the spine.

—The committee of the Queen's County Board of Supervisors appointed to investigate the charges made against the management of the county insane asylum at Mineola, Long Island, have had several meetings, and examined a number of witnesses, but the proceedings are said to have been little better than a farce, and it seems hardly likely that any good results will ensue.

—An exhibition has just been given before some of the officials of the Fire Department of an English invention designed to prevent suffocation from sulphur and smoke in cases of fire, and the bad effects of foul air in mines and wells. The principle of the inven-

tion is, that the wearer of the apparatus breathes the same air over and over again; the carbonic acid being absorbed from it at each expiration, and the requisite amount of oxygen restored. The apparatus is carried on the back, and consists of a strong sheet-copper cylinder, twelve inches by six and a half, with domed ends, and capable of holding four cubic feet of oxygen gas at a pressure of sixteen atmospheres. Above the cylinder and attached to its side is a square metal containing the carbonic acid filter. A flat bag of vulcanized rubber is fastened to the apparatus, and is connected by a rubber pipe over the shoulder with the outlet pipe of the filter.

—The recent death at Newport of a child of Mr. Henry B. Auchincloss, of New York, of sporadic cholera, with all the symptoms and post-mortem appearances of the Asiatic form of the disease, has given rise to a very considerable amount of excitement in the community, but will, no doubt, eventually result in the greatly improved sanitary condition of that resort. That there is much room for improvement, and that the present Board of Health is decidedly inefficient, seems to be the opinion of a number of the best physicians who have been in Newport during the present season. About the first of August Dr. John C. Peters, of New York, expressed his fears for the future health of the city publicly before the Newport Sanitary Protection Association. The sources of foul air, he said, were so abundant from a variety of preventible causes, that all those who lived in the town itself were constantly breathing an atmosphere more or less polluted. When the air of the city was contrasted with that of the cliffs and other out-skirts, the difference was at once apparent; and in view of these facts he urged the appointment of a skilled Board of Health upon whom all responsibility should rest for the cleanliness and healthfulness of the city. Dr. J. L. Cabell, President of the National Board of Health, has stated in reference to the above death that, whether the case was one of specific infectious cholera (as is claimed by some physicians) or not, all the medical men who were acquainted with it concurred in the opinion that it was in a large degree dependent upon insanitary conditions existing in Washington Street (where Mr. Auchincloss resided) which require prompt removal. "The mode of discharging sewage from the houses on that street by drains from each house opening on the shore of the bay above low-water mark," he continues, "is fraught with great danger to the public health, and the nuisance demands abatement. I learn that it has long been a subject of complaint by residents of that part of the city, who have united in an application to the City Council for the substitution of an intersecting sewer with its outlets at some point in regard to which a commission of competent sanitarians, aided by a skilled engineer, should be consulted. On a former occasion I ventured to suggest to the then mayor of the city the expediency of transferring the duties of a health board to a body of of medical gentlemen conversant with sanitary questions. I now reiterate that advice with yet greater emphasis."

— In view of the fact that a number of individuals in the State have recently been legally declared sane, who had been confined as lunatics in institutions for considerable periods of time, a good deal of discussion has arisen in the community in regard to the abuses liable to occur in connection with insane asylums. At present there seems to be no adequate protection against the above class of abuses in these institutions, and it is proposed to have a law passed by the legislature empowering any magistrate before whom, on the certificate of two physicians, an alleged lunatic may be brought, instantly to summon a jury of three medical experts and three jurors taken from the grand jury list, who shall summarily investigate the case, with opportunity of defense. The present procedure is to summon such a jury only after a patient has been confined in an asylum for a longer or shorter period.

— Dr. Robert Tones died at his residence in Brooklyn on the 28th of August, in the sixty-fifth year of his age. After a thorough preliminary education in this country and in Europe, he received his medical degree from the Edinburgh University, after which he was, for several years, a popular surgeon on the Pacific mail steamship line. He seems, however, to have preferred literature to his own profession, and about the year 1850 became a journalist and author, when he soon became one of the best known and most popular literary men in New York. In addition to writing several volumes of his own, he contributed a large number of articles to *Appleton's Encyclopædia*. His later years were principally passed in travel or in retirement among his books and friends.

### Miscellany.

#### NON-RESTRAINT IN LUNATIC ASYLUMS.

MR. EDITOR, — During a recent visit to New York I passed a short time at the Kings County Lunatic Asylum at Flatbush, which has recently attracted some attention owing to the fact that Dr. J. C. Shaw, the superintendent, has introduced the system of "non-restraint" into it. It is now more than two years since he began the experiment, and he is more than ever satisfied with it. There are now about eight hundred patients in the asylum; there have been more. Great difficulty was experienced at first with the attendants in making them understand that patients could live without restraint, but they now find it comparatively easy to manage them without it. Many of the old attendants left, but a more responsible and better set have succeeded them. "Seclusion," which is often the substitute for restraint, is used rarely, and only on the express order of the physician. Some patients had been in the habit of shutting themselves up in their rooms for years. One immense woman in particular was fed through a small opening in her door, and through this she apparently held all her communication with the world. She, however, was finally overcome, and now can be seen gracing the ward settees, a brilliant example of non-seclusion.

One woman I saw was well advanced in paralytic dementia, and was shouting and yelling, and crawling

about the ward on her hands and knees, and going through the motions of wiping up the floor. It seemed to me that she would exhaust herself more with these violent exertions than if restrained in a chair, but Dr. Shaw said she did no harm, and so he let her go.

There are not many accidents to either the patients or attendants in consequence of "non-restraint." If a patient receives a black eye or other injury, if there is fairly good reason for supposing the attendant may have unnecessarily been the cause of it, he is at once discharged, Dr. Shaw believing that it is better for an innocent attendant to occasionally be unjustly dealt with than for a helpless patient to suffer.

Sedatives are used in very small quantities, ranging from one to seven or eight doses nightly, and I believe the latter number represents a rare maximum.

The general class of patients is similar to that received at Danvers, being a little worse if anything. This means that the patients are chiefly Irish; a majority of them are chronic cases on admission, and many violent and noisy, making them difficult to control. In addition to this they are in bad physical condition and illiterate. Taking such a class as this to be treated in a county pauper institution, and we see at once that the conditions are not the most favorable for a trial of "non-restraint."

Dr. Shaw says very plainly that he should use restraint if he had a case where he thought it necessary, and he also feels entirely at liberty to use sedatives on the same principle.

Yours truly,

WALTER CHANNING.

BROOKLINE, September 12, 1882.

#### ASIATIC CHOLERA AT NEWPORT.

MUCH having been said in the daily papers about a case of supposed Asiatic cholera at Newport, it may be of interest to our readers to see the conclusions of Dr. J. L. Cabell after his investigation made in the capacity of President of the National Board of Health. It is as follows: —

"As a result of the conference held at the residence of Mr. Anelincloss this morning, at which the three physicians who attended the case, two others who had made the post-mortem examination, and Dr. Turner, City Physician, assisted, and severally expressed their views, I derived the opinion that the gentlemen who had concurred in the diagnosis of Asiatic cholera did not intend to affirm that a disease of exotic origin had been introduced in Newport, or that the case in question was necessarily of an infectious nature; but neither, on the other hand, would they pronounce a negative opinion as to either of those propositions. They did affirm that the symptoms in the case in question were not distinguishable from those of Asiatic cholera, with which disease, as it appeared in several epidemics of this country and of Western Europe, you had been familiar, and of which Dr. Fisher had had a large and recent experience in China and Japan. But I did not understand that it was maintained that the symptomatology of an isolated case, without evidence of importation from a country in which Asiatic cholera was prevailing, and without being followed by other cases, could satisfactorily establish its identity with that disease. A few more days will doubtless settle the question beyond all controversy. In the mean time I am constrained to avow my belief that the probabilities

are decidedly adverse [to the view that the case was one of specific infectious cholera, while I freely admit that the symptoms and post-mortem appearances were entirely consistent with such a view. On one point the conferees were, I believe, quite unanimous. They concurred in the opinion that, whether the case in question was or was not specific, it was in a large degree dependent upon insanitary conditions, existing in Washington Street, which require prompt removal. The mode of discharging sewage from the houses on that street by drains from each house opening on the shore of the bay above low-water mark is fraught with great danger to the public health, and the nuisance demands abatement. I learn that it has been long a subject of complaint by residents of that part of the city, who have united in an application to the City Council for the substitution of an intercepting sewer, with its outlets at some unobjectionable point, in regard to which a commission of competent sanitarians, aided by a skilled engineer, should be consulted. On a former occasion I ventured to suggest to the then mayor of the city the expediency of transferring the duties of a health board to a body of medical gentlemen conversant with sanitary questions. I now reiterate that advice with yet greater emphasis."

It is said that much of the feeling excited by this case has been due to differences between the Board of Aldermen of the municipality, who, under the present law, constitute the local Board of Health, and the Sanitary Protection Association, a society composed largely of summer residents. This latter Association, which employs its own sanitary officers and plumbers for the protection of its members, wishes the sanitary direction of the whole city placed in professional hands. The aldermen are unwilling to forego their present prerogative, and claim that the publicity given to this case by the physicians and the Protective Association is incommensurate with its importance, and is intended to discredit the present Board of Health, and to commit its functions to new hands, — a disposition, which, as will be seen, Dr. Cabell's report strongly favors.

#### THE DECREASE IN DEATHS FROM CHILD-BIRTH.

It is just a hundred years since the expectation of life among English women became equal, for insurance purposes, to that of men. Prior to 1772 women were compelled to pay an extra charge. At present the female expectation of life is about three years in advance of that of males.

A great factor in this prolongation of life is undoubtedly the increased knowledge and skill as regards the management of pregnancy and childbirth. There is hardly any progress in the past century which can be contemplated with such deep satisfaction as this diminished mortality rate.

Some figures recently collected by Dr. E. H. Sieveking may here be cited in illustration: —

The mortality of lying-in women in London was, in 1660 to 1680, one death to 44; 1700 to 1740, one death to 70; 1760 to 1780, one death to 82.

In the Hotel Dieu, Paris, in 1786, it was one in 15.

At the beginning of the century the hospital mortality declined very much, while the total mortality also became considerably less.

In Prussia, in 1817, it was one in 112. In the

whole city of London, during the years 1780 to 1820, it was one in 108.5.

From this time there has been an almost steady decrease in the death-rate of parturient women. This may be shown by a table compiled from statistics given by Sir James Simpson and Dr. Farr: —

| Years.    | Proportion of Maternal Deaths in Childbed: England and Wales. |
|-----------|---|
| 1830..... | 1 in 169  |
| 1840..... | 1 in 188  |
| 1841..... | 1 in 170  |
| 1842..... | 1 in 192  |
| 1847..... | 1 in 164  |
| 1851..... | 1 in 192  |
| 1851..... | 1 in 203  |

A distinction has to be made between the mortality rate of primiparae and multiparae. Among 36,776 cases collected by Hardy and McClintock, Matthews Duncan and Johnson, and Sinclair, the ratio of deaths among primiparae was one in 62; among multiparae, one in 124. This is certainly too high a rate, however, to represent the present state of affairs.

We can say now that whereas one hundred years ago one mother out of every 80 died in childbed, at the present time only one in 260 to 270 fails to survive. Obstetricians, midwives, sanitarians, all lay some claim to this prodigious advance in the saving of life. No single class or single influence, however, can be considered to have special and exclusive merit. Much is due to the advance in general knowledge and intelligence. More is due to the medical profession undoubtedly than to any other one agency. — *New York Medical Record.*

#### ANOTHER DEATH FROM CHLOROFORM.

THE *Medical Times and Gazette* reports another instance of chloroform poisoning as follows: —

"A fatal case from the administration of chloroform was recently investigated by Mr. W. J. Payne at Guy's Hospital. The deceased, a man aged thirty-six, was employed by a firm of engineers in Southwark-bridge Road. Whilst cleaning the machine at which he worked, his left thumb got jammed between the cogs. A fellow-workman deposed that he stopped the machine, and took the deceased to Guy's Hospital. The house-surgeon, who attended to the man, said the thumb must come off, and advised the administration of chloroform. Witness remained whilst it was administered, but saw no one examine deceased's heart to see if he could bear it. The man struggled very much at first, and then became as if dead. The house-surgeon is reported to have deposed that the left thumb of the deceased was completely shattered by the machine, and the bone was broken in six places. He advised the administration of chloroform before the operation, and the deceased assented. He asked no question of the deceased as to his health, nor was the heart examined, but, judging from the pulse, he thought the deceased had no organic disease. While giving chloroform with the inhaler, on which he had put three separate doses of thirty drops of chloroform, the deceased showed symptoms which necessitated restorative measures being used. Upon the patient coming to, he, the witness, told the dresser, who was to operate, to proceed as rapidly as possible, as he could not administer chloroform again, but just as the operation was commenced the pulse failed, the heart ceased to beat, and the man was dead. The post-mortem examination showed that death was due to chloroform act-

ing upon a fatty heart. Witness had had a great deal of experience in administering chloroform, and in reply to the coroner, he added that though laughing-gas was not dangerous, its effects did not last long enough to permit an operation like this, which would have taken a quarter of an hour. The death-rate from the administration of chloroform was, he said, about one per thousand. The jury returned a verdict of accidental death."

#### A VISIT TO GHEEL.

THE *Philadelphia Medical Times* (August 26th) published an extract from a letter embodying the personal observations and impressions of the insane colony at Gheel made upon the spot by an American physician. We infer that the observations are reliable, and they need no comments; we therefore simply reproduce the extract:—

"The guide was a sort of troublesome necessity, as the people could have refused us entrance if so disposed, and I doubt whether wholly reliable, as, for instance, in the morning being asked concerning illegitimate children, he said: 'One in four years;' in the afternoon, in answer to the same question, he said: 'One in two years.' Likewise, in the morning, 'accidents never happened;' later in the day he remembered of one child being killed by a patient who was taking care of it, one born was burned, one patient assisting in loading hay put his fork into a man and attempted to toss him up, the injury proving fatal. These things made me a trifle skeptical concerning the utter absence of accidents. Concerning melancholies, nothing could be elicited further than that, like the homicidal, they were sent to Bruges. The physician in charge directed to have us taken into the least populous third of the colony and the newest portion; but if the remainder is worse than that which we saw, as one might infer, I am sorry for Belgium. The weather was rainy, and so we found the people mainly at home, and took their landlords by surprise, and, taken as a whole, it reminded me of an early visit around a hospital before things could be put in order. In the best houses we found beds made up and things in order; in the majority it was the reverse. Patients of one sex only are allotted to a family; their rooms must be a brick structure, usually an addition,—a sort of lean-to against the cottage, averaging  $6 \times 8 \times 6$  feet; ground-floor well paved with brick,—therefore no wooden floor; windows  $2 \times 2$  feet, barred, and a sort of a cat-hole on a level with the floor, for ventilation and the escape of scrub-water. The beds were generally box arrangements with straw, covered with a sheet; in other cases, an ordinary straw tick and sheets and blankets, coarse, but sufficient. They are locked in at night.

"What I have to say applies to people in the farm-houses, having visited only a few houses in the town. The fare very usually is the ordinary black bread and coffee (chicory) for breakfast, boiled potatoes, bacon, and bread for dinner, and bread and buttermilk for supper. The farmers receive twelve cents per day per person, for which they are boarded and taken care of. Three cents are added for the dairy.

"The chief physician visits the colony once in six months; the physician of the section once in two weeks, unless sent for. A supervisor makes the tour of the farm-houses daily; but if he is like the one who

accompanied us, he is harmless, the farmer who has the most likely daughters getting the least trouble. Restraint is by rule only applied by order of the physician of the section. In the thirty houses I visited I saw only one *cunivole*. I saw one woman with iron anklets so rusted that a smith would be required to remove it. It was applied to keep her from running away. The use of hobbles is not infrequent with cases disposed to elope. Many of those requiring restraint are sent to Bruges.

"The provisions for heating are apparently *nil*; there is certainly nothing in the room of the patient nor in any other of the house, except the kitchen, whose large fire-place, judging from the ceiling, gives out more smoke than heat. One family kept their patient warm with bottles of hot water to the feet, and a layer of hay.

"Gheel may do for Belgium, but not for us. Even in Belgium things are changing greatly from year to year, according to accounts; and from statements of inhabitants of Gheel, it is only a question of time when this system will have to be given up. In the country they are miserably taken care of, and in town, where men and women go about unaccompanied, results easily anticipated occur. We found some houses which had rooms to let. The reasons are suggestive: in one case the family used the patient's blanket in a winter night; in another the patient was abused; a third had a female patient who had become pregnant; a fourth became vacant for the same reason. I should judge there is more trouble on this score than is admitted. The fact that there are two hundred vacant beds in the colony now was used to corroborate the statement above made, that this system of taking care of the insane would have to be abandoned.

"Heretofore I had entertained some poetical ideas concerning Gheel; the prose that I saw was sufficient to dispel them. The guide told me that the majority of visitors went no farther than the town. Having myself seen more of the country than of the town, I may have seen less of the good features and more of the bad than is usually the case; but I am convinced that the general plan of Willard and the 'Relief' at Washington are much better than this."

#### A TEST FOR SIMULATED ONE-SIDED DEAFNESS.

DAVID COGGIN, M. D., SALEM, MASS.

In the *Archives of Otolaryngology*, vol. viii, page 177, the writer suggested the use of Canham's stethoscope as a test for simulated one-sided deafness, having employed it in a medico-legal case three years before when alone, and therefore unable to try other methods.

Subsequently, owing to the possibility of direct sound conduction by the metallic tubes of the stethoscope, the test was slightly modified, and is now applied as follows: Two pieces of soft rubber tubing, one metre in length and eight millimetres in diameter, are required. One end of each is introduced into the two metal sockets, while the opposite ends are stretched over the wood tips that ordinarily fit into the sockets; a wooden plug is made to close one of the tips tightly when forced in, and the test is ready. The claimant says he is deaf in his right ear. The plug is deftly fitted into the left tip, and he is asked to put on the stethoscope. On speaking and whispering in the thoracic cup or



mouth-piece, if he is unlingering, he hears and answers questions addressed to him, though it is with his right or "deaf" ear that he hears. Now remove the tube containing the plug that is in his left or "good" ear and make him aware of the fact. Then with the other tube still applied to his right or "deaf" ear (with which he has conclusively shown that he does hear), close the left meatus by pressing the tragus firmly against it.

Speak now in the mouth-piece and he will stoutly affirm that he cannot hear with his right ear. Thus his shamming is exposed.

In two instances of this variety of simulation this simple and available test has proved to be effective.

#### PORRO'S OPERATION.

THE second successful case of Porro's operation in England is described by the operator, Mr. Savage, in the *British Medical Journal*, having been performed in July last. The patient was twenty-five years old, was married in January, 1882; catamenia regular till March 18th. In June she complained of pain and a slight bloody discharge. A tumor was found on the right side of the abdomen, very hard, dull on percussion, non-fluctuating, and most prominent midway between the umbilicus and iliac crest. It also extended to the left side. There were evidences of pregnancy. In a few days the pain had greatly increased. She had no rest nor sleep, and for some days had been almost constantly vomiting. Her face had the aspect of much suffering, and she was becoming thinner daily. The tumor was very hard, and rose to the level of the umbilicus. It was very prominent on the right side, having almost the appearance of an abscess that wanted to be opened. It was dull and non-fluctuant. It gradually flattened over on to the left side. The prominent part of the tumor was very tender indeed, especially on its right side. Both flanks were resonant, and the tension of the abdominal wall was most extreme. Through the vagina the cervix was felt very high up on the left, soft, and a little open. On the right side, through the vaginal roof, the swelling projected downwards, and was felt to be in direct relation with the abdominal tumor, and it was quite immovable. The uterus appeared to be quite distinct from the tumor; there was a sulcus between it and the cervix, and pressure from above did not affect the cervix.

In view of the rapidly increasing severity of the symptoms, operation at least to the extent of exploratory incision was advised. The patient being etherized, an incision nine inches long was made, the upper portion extending nearly two inches above the umbilicus. The tumor was found to be a large solid fibromyoma growing out, and forming part of the right side, of the uterus. The cavity of the uterus was found to contain a fetus, and was pushed upwards and to the left. The right ovary and Fallopian tube were in front of the tumor, and almost black from compression between it and the abdominal wall.

It was thought that it would be safer and easier to remove the whole mass, which was accordingly done, rather than attempt removal of the tumor alone. The stump was secured by a wire clamp, and its serous outer surface was attached by silk to the abdominal wound. Two thick silk ligatures were also tied round

the stump for security. Very little blood was lost, and much care was taken to prevent any from being left behind the bladder, or on the vaginal roof, which appeared to be considerably dragged upwards by the clamped stump. A glass drainage tube was inserted just above the stump, and perchloride of iron was applied to the end of the stump. After the operation, which lasted about an hour and a half, the finger passed into the vagina detected the cervix high up, but otherwise normal, showing that the wire had encircled the uterus at about the level of the inner os, and had not included any of the vaginal roof with danger to the ureters. Only about four ounces of ether were administered. The mass removed weighed nearly nine pounds, and contained the fetus with membranes intact. The recovery after this formidable operation was uninterrupted. The breasts secreted milk on the fourth day. The clamp came away on the twenty-first day.

#### A SUCCESSFUL CASE OF TRANSFUSION.

A CASE was reported in the Obstetric Section of the British Medical Association, by Dr. William Walter, in which transfusion apparently saved life after severe post-partum hemorrhage. The patient was confined with her second child, and the physician did not reach her till ten minutes after the expulsion of the child and the placenta, the labor having lasted only two hours. On his arrival the condition of the patient was most critical; she lay in a pool of blood, her face deadly pale, and the pulse scarcely to be felt. Her abdomen was distended with an enlarged uterus, that reached almost to the ensiform cartilage. Not a moment was lost in firmly grasping the fundus uteri, and in resorting to the ordinary means of checking hemorrhage, including the free administration of ergot; but no contraction ensued until the hand had been introduced into the interior of the uterus, and the clots which filled the uterus thoroughly removed; and these, when lifted into the chamber-utensil containing the placenta, completely filled that vessel. The uterine contraction was soon followed by dilatation, with a return of the hemorrhage; and for an hour contractions and dilatations followed one another at short intervals, with repeated recurrence of hemorrhage. During this time, pressure over the fundus was maintained, and occasionally the hand was reinserted into the cavity of the uterus, and the organ manipulated bimanually.

Finally, permanent uterine contraction was secured, but the patient was *in extremis*, unconscious, with scarcely perceptible respiration, and the pulse only to be felt at intervals. Transfusion was at once decided on, and performed as soon as practicable, the patient's mother furnishing the blood. Only four ounces had been withdrawn from the latter when one of the medical attendants reported that the patient appeared to be dead. Without further delay these four ounces were debilitated and injected into the vein, which, from its collapsed condition, had been found with difficulty.

In from ten to twelve minutes all the blood (nearly four ounces) was injected, and the patient's arm bount up. Almost immediately respiration became distinctly visible and audible, without the occurrence of any dyspnoea; the pulse at the same time returned to the wrist; and, in the course of a quarter of an hour, the insensibility gave way to consciousness, and she was able to recognize her friends. Her convalescence

was steady and uncomplicated; and within a month she was able to walk out of doors.

It is noted incidentally that the mother, from whom the blood was taken, and whose menstrual period was due in two days, did not menstruate that month, though otherwise always regular.

### THE HEREDITARY TENDENCY OF BRIGHT'S DISEASE.

AN article by Dr. Kidd in the *Practitioner* for August shows a somewhat remarkable family history of Bright's disease:—

"Mrs. —, aged sixty, one of a family of most temperate habits, died in 1860 of Bright's disease of the kidneys which had existed for many years. It first showed itself after one of her confinements; most of the children born after that confinement became the subjects of kidney disease. All or most born before that confinement have not suffered from it. She had twelve children, of these *seven died of kidney disease*. Of her remaining five children two have for many years been suffering from the same disease. Of her grandchildren *two at least* are subjects of kidney disease. Two of her brothers died of Bright's disease in early manhood."

Of the seven cases reported, two at least appear to have begun with an attack of scarlatina. Another experienced a fatal exacerbation as a result of the same disease. All the patients lived pretty active lives, and most of them took considerable hygienic precautions in their way of living, especially with reference to taking cold. Special pains were taken to maintain cutaneous activity by abundant exercise, the wearing of Shetland flannels, etc. The winters were spent usually south of the Alps. Of the drugs used the author speaks most confidently of dilute nitric acid and tincture of the perchloride of iron. The milk treatment was found effective only in acute and subacute cases.

On the subject of baths the writer says:—

"After twenty-five years' experience of the use of all kinds of baths in the treatment of kidney disease, I have found lamp baths excel all others in real efficacy. The spirit-lamp bath without water has a better effect than the vapor of water boiling over the spirit-lamp, which most patients complain of as being more relaxing and exhausting than the spirit-lamp alone. Used at bed-time for fifteen or twenty minutes, three or four times a week, the effect is all we can desire. The gentle moisture kept up in bed all night after the bath does much more good than the Turkish bath, the good effect of which is neutralized by exposure to the cold air afterwards. When the patient lives in the establishment so as to go straight to bed after the Turkish bath, its use is invaluable. Under such conditions it may be taken even twice a day with advantage."

### THE LIABILITY OF CORPORATIONS FOR SUPPLYING IMPURE WATER.

AT Leeds the case of "*Milnes versus the Corporation of Huddersfield*," has been heard before Mr. Justice Mathew. This case was one of a most important character, and excited considerable interest. The plaintiff, a solicitor, practicing at Huddersfield, had

suffered great injuries by drinking water that had been supplied by the corporation, which had produced lead-poisoning. The plaintiff's case was that the defendants had failed in their statutory duty to supply pure and wholesome water for domestic purposes, or that the defendants had failed to discharge the common law duty to supply water that was fit for consumption. Symptoms of lead-poisoning set in about a year ago, and since that time the plaintiff has been in a most critical condition. At one time he lost his reason for several days, being attacked by a form of delirium consistent with lead-poisoning. He was affected by wrist dropping and other strong indications of lead-poisoning, and in consequence of his illness his practice was greatly reduced. The water which the plaintiff drank, after leaving the main, passed into the plaintiff's premises through leaden service pipes, which had been put down by the corporation at the request and at the expense of the plaintiff or his landlord. It was hardly disputed by the defendants that this water was unwholesome and had injured the plaintiff, and by the plaintiff that the water in the main was in the same natural condition as received from the springs, and was wholesome. The defendants contended that if the plaintiff was entitled to recover for a breach of a statutory obligation, his remedy was under the penalty clause of the Waterworks Clauses Act, 1847, but if he was entitled to recover as for a breach of a common duty, it was not the case of an ordinary vendor warranting the fitness of goods for the purposes for which they were sold, as the corporation were compulsory vendors of the water they were bound by their Acts of Parliament to supply. They further urged that if the Public Health Act were relied upon, no such notice had been given as was required by that statute. But the main question was whether it was the duty of the corporation to supply water to the plaintiff that would be wholesome after passing through the leaden service pipes, or whether their obligation was discharged by supplying water that was wholesome at the time when it left the main. The only matter for the jury was to assess the amount of compensation that the plaintiff would be entitled to in case it should ultimately be decided that the plaintiff was entitled to succeed. The jury awarded £2000 damages. The case was then adjourned in order that the questions of law might be argued before the judge in London.—*The Sanitary Record*.

### SUBINVOLUTION OF THE UTERUS.

THE discussion on subinvolution in the Obstetric Section of the British Medical Association called forth very varying opinions as to the aetiology of that condition. The opening paper by Dr. Williams took for a basis of clinical diagnosis of that condition in the puerperal woman, the non-disappearance of the fundus below the pubes at the twelfth day—a somewhat arbitrary dividing line, and, as the speaker admitted, liable to fallacies in its information regarding the actual size of the uterus.

Of the causes which have been variously assigned for this condition the speaker believed the following to be operative: General debility; multiparity at an advanced age; post-partum hæmorrhage; retention of portions of the placenta and membranes; lacerations of the perineum, and pelvic inflammations.

He disagreed with other authorities as to any such

effect being observable from multiparity, protracted labor, and laceration of the cervix. It may be of interest to quote the figures on which he bases his conclusions with reference to these latter points:—

"I have had delivered under my care at the General Lying-in Hospital this year 113 cases; 58 multipare, and 55 primipare. In 56 multipare the uterus was in the pelvis on or before the twelfth day; in six the fundus was above the brim on the fourteenth day; and in two the time was not noted; so that in 50 cases it may be assumed that involution proceeded normally. Of these, seven had a temperature of 102 F., or higher for six or more days, and six had laceration of the perineum. One of the cases in which the uterus did not sink into the pelvis until the fourteenth day had sharp fever; the other was feverish for four days; neither had tear of the perineum. Of the 55 primipare, 52 had normal labors, in two forceps were used, and in one the breech presented. In 40 the uterus was in the pelvis on the twelfth day; in 12 the fundus was above the brim at that period; and in three the condition was not noted."

Regarding the relation of cervical lesions to the production of subinvolution, he says:—

"There were 28 cases in which the cervix was lacerated; in 18 deeply, and in 10 slightly. Involution went on well in 15, and badly in three of those which had deep tears; well in six, and badly in four of those which had slight tears. Hence it does not appear that lacerations of the cervix affect the process, for a larger proportion of cases of retarded involution was met with in women with slight than in those with severe tears."

One is disposed to question the legitimacy of the conclusion from these statistics, which certainly show that subinvolution occurred in twenty-five per cent. of all the cases of lacerated cervix. And, moreover, it is quite conceivable that the greatest reflex effect on the uterine circulation might not always proceed from the deepest tear. It is worthy of notice that Dr. Playfair in his comments on the paper differed strongly from the reader on this point, and said that he had found lacerations of the cervix connected with subinvolution in a large proportion of cases coming under his care.

#### HYSTERO-EPILEPSY.

CLEARNESS is certainly not promoted in the discussions on hystero-epilepsy by the entirely different sense which different writers attach to the word. It would seem as if the French neurologists who invented the term had a right to claim its exclusive application to the group of symptoms to which they originally applied it, even though philological considerations would favor another use of the word. As it is, we have beside Charcot's disease, namely, a peculiar and aggravated hysteria, marked by a regular sequence embracing "great movements," "emotional attitudes," etc., characterized by certain hystero-genetic zones of which the ovarian region is the most prominent, and entirely distinct from the disease known as epilepsy, various other conditions denoted by writers under the same term. Some use it to express a state partaking of the nature both of hysteria and epilepsy, and with some it seems to be an aggravated form of the latter disease.

A paper read in the obstetric section of the British

Medical Association, defines the disease on literal philosophical grounds as an epilepsy whose manifestations depend upon uterine irritation. The writer even goes so far in literalness as to reject those cases where the ovary is the organ at fault, and gives as a typical case of the disease a woman who suffered from dysmenorrhoea, which precipitated attacks at the menstrual period (the seizures being essentially epileptic in their nature), and in whom a successful treatment of the dysmenorrhoea removed the epilepsy. A person comparing this "typical case" with those of Charcot and Richer, will be a good deal puzzled to reconcile them.

And now we have reported in the *Progrès Médical* an instance of hystero-epilepsy (it is unnecessary to say in the Charcot sense) in a boy thirteen years of age.

His parents were first cousins. His father was subject to migraine in early life; his mother had spasmodic wry-neck in infancy, one of her sisters was idiotic (?). The patient was the eldest child; he seems to have been always an excitable child, and easily frightened, subject to night-terrors. His hysterical attacks commenced in the month of February, 1880, about a month before he came under observation. The first one came on whilst he was at work at school, with vertigo, and, after lasting two hours, was terminated by singing, crying, and laughter. The senses of hearing, sight, taste, and smell were decidedly less acute on the left than on the right side, and the same may be said of the common sensibility of his buccal mucous membrane and conjunctiva. His intellectual faculties seemed unimpaired, and he was said to be gentle and affectionate. There was no history of masturbation. On examination several different areas were found over which pressure was painful (*zones hystérogènes*). They were situated as follows: (1.) "*Clou hystérique*," at a small spot, two centimetres in front of the vertex. (2.) "*Rachialgie*," over the spinous processes of the fifth, sixth, and seventh dorsal vertebrae. (3.) Symmetrical spots on each side in the fifth intercostal space, midway between the nipple and the axillary line. (4.) A painful spot in the seventh left intercostal space, about five centimetres from the spine. (5.) A spot over the manubrium sterni. (6.) Symmetrical spots over the loins. (7.) A spot almost over the centre of the iliac fossae, corresponding to the "ovarian" region; that on the left side is the most marked. The attacks recurred at regular intervals, and lasted from one to two hours. They were preceded by an aura, which consisted of a sensation of a ball rising from the penis to the epigastrium, and thence to the level of the larynx. This was followed by the "*clou hystérique*," and then he lost consciousness. The attacks were characterized by a preliminary stage of rigidity of unusually short duration, succeeded by a clonic period, which was, on the other hand, of unusual length, comprising varied contortions and passionate attitudes. During this period he would try, by different methods, to injure himself or those around him. The attack concluded, he sometimes had hallucinations of sight. He also presented a hemianæsthesia, at one time on the left side, at another on the right.

It would be of interest to know, what is not stated, whether compression of the testicles has an effect in shortening the attack corresponding to the similar operation upon their analogue in the female.

## REPORTED MORTALITY FOR THE WEEK ENDING SEPTEMBER 9, 1882.

| Cities.                   | Population by Census of 1880. | Reported Deaths in each. | Deaths under Five Years. | Percentage of Deaths from         |                |                      |                |                       |
|---------------------------|-------------------------------|--------------------------|--------------------------|-----------------------------------|----------------|----------------------|----------------|-----------------------|
|                           |                               |                          |                          | The Principal "Zymotic" Diseases. | Lung Diseases. | Diarrhoeal Diseases. | Typhoid Fever. | Diphtheria and Croup. |
| New York.....             | 1,206,590                     | 609                      | 282                      | 33.13                             | 8.53           | 19.02                | 1.80           | 2.78                  |
| Philadelphia.....         | 846,984                       | 375                      | 158                      | 10.11                             | .26            | —                    | 3.48           | 5.05                  |
| Brooklyn.....             | 566,689                       | 242                      | 130                      | 35.52                             | 6.61           | 22.30                | —              | 4.96                  |
| Chicago.....              | 503,304                       | 243                      | 166                      | 43.52                             | 4.94           | 34.98                | 2.46           | 1.65                  |
| Boston.....               | 362,535                       | 187                      | 94                       | 35.24                             | 4.27           | 25.10                | 3.20           | 3.74                  |
| St. Louis.....            | 350,522                       | —                        | —                        | —                                 | —              | —                    | —              | —                     |
| Baltimore.....            | 332,190                       | 174                      | 74                       | 39.57                             | 1.15           | 12.65                | 3.45           | 8.62                  |
| Cincinnati.....           | 255,708                       | 105                      | 60                       | 28.51                             | 7.62           | 9.52                 | 7.62           | 4.76                  |
| New Orleans.....          | 216,140                       | 95                       | 20                       | —                                 | —              | —                    | —              | —                     |
| District of Columbia..... | 177,638                       | 71                       | 34                       | 32.39                             | 5.63           | 15.49                | —              | 1.41                  |
| Pittsburg.....            | 156,381                       | 72                       | 35                       | 38.92                             | 4.17           | 13.90                | 11.12          | 6.95                  |
| Buffalo.....              | 155,187                       | 104                      | 62                       | 42.24                             | 6.02           | 24.96                | 1.92           | .96                   |
| Milwaukee.....            | 115,578                       | 65                       | —                        | 48.45                             | 6.15           | 30.76                | 1.54           | 1.54                  |
| Providence.....           | 104,857                       | 37                       | 14                       | 35.13                             | 5.40           | 24.32                | 5.40           | —                     |
| New Haven.....            | 62,882                        | 27                       | 9                        | 25.91                             | 3.70           | 3.70                 | 11.11          | —                     |
| Charleston.....           | 49,999                        | 15                       | 7                        | 6.66                              | 6.66           | 6.66                 | —              | —                     |
| Nashville.....            | 43,461                        | 23                       | 6                        | 26.08                             | —              | 13.04                | —              | 4.35                  |
| Lowell.....               | 59,485                        | 25                       | 12                       | 28.00                             | —              | 20.00                | —              | 4.00                  |
| Worcester.....            | 58,295                        | 15                       | 7                        | 33.33                             | 20.00          | 26.66                | —              | —                     |
| Cambridge.....            | 52,740                        | 13                       | 6                        | 53.83                             | —              | 46.14                | —              | —                     |
| Fall River.....           | 49,006                        | 25                       | 10                       | 56.00                             | 4.00           | 28.00                | 20.00          | 4.00                  |
| Lawrence.....             | 39,178                        | 15                       | 5                        | 13.33                             | 6.66           | 6.66                 | —              | 6.66                  |
| Lynn.....                 | 38,284                        | 22                       | 8                        | 50.00                             | —              | 27.27                | 9.09           | —                     |
| Springfield.....          | 33,340                        | 23                       | 11                       | 43.47                             | —              | 26.04                | 4.34           | —                     |
| Salem.....                | 27,598                        | 10                       | 6                        | 30.00                             | —              | 20.00                | 10.00          | —                     |
| New Bedford.....          | 26,875                        | 10                       | 9                        | 70.00                             | —              | 60.00                | 10.00          | —                     |
| Somerville.....           | 24,985                        | 6                        | 3                        | 33.33                             | —              | 16.66                | 16.66          | —                     |
| Holyoke.....              | 21,851                        | 9                        | 5                        | 11.11                             | 33.33          | 11.11                | —              | —                     |
| Chelsea.....              | 21,785                        | 9                        | 2                        | 33.33                             | —              | 11.11                | —              | 11.11                 |
| Taunton.....              | 21,213                        | 7                        | 3                        | 14.28                             | —              | —                    | —              | —                     |
| Gloucester.....           | 19,329                        | 8                        | 2                        | —                                 | —              | —                    | —              | —                     |
| Haverhill.....            | 18,475                        | 12                       | 2                        | 33.33                             | —              | 33.33                | —              | —                     |
| Newton.....               | 16,995                        | —                        | —                        | —                                 | —              | —                    | —              | —                     |
| Brockton.....             | 13,608                        | —                        | —                        | —                                 | —              | —                    | —              | —                     |
| Newburyport.....          | 13,537                        | 14                       | 4                        | 21.42                             | —              | 21.42                | —              | —                     |
| Fitchburg.....            | 12,405                        | 6                        | 3                        | 50.00                             | —              | 50.00                | —              | —                     |
| Malden.....               | 12,017                        | 1                        | 1                        | —                                 | —              | —                    | —              | —                     |
| Massachusetts towns.....  | 142,516                       | 72                       | 30                       | 47.26                             | 1.39           | 23.36                | 2.78           | 5.56                  |

Deaths reported 2747 (no report from St. Louis); under five years of age 1281; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 819, consumption 300, lung diseases 139, diarrhoeal diseases 470, diphtheria and croup 98, typhoid fever 73, malarial fever 58, whooping-cough 46, scarlet fever 33, cerebro-spinal meningitis 22, measles seven, erysipelas seven, puerperal fever five. From *malarial fever*, New York 27, District of Columbia 10, Baltimore seven, Brooklyn five, New Haven three, Chicago, Cincinnati, and Nashville two each. From *whooping-cough*, New York 18, Brooklyn nine, Buffalo four, Boston, Baltimore, Cincinnati, District of Columbia, Milwaukee, Springfield, Malden, and Northampton one each. From *scarlet fever*, Brooklyn and Cincinnati six, New York and Buffalo five each, Boston three, Philadelphia two, Chicago, Baltimore, Pittsburg, Milwaukee, Lynn, and Chelsea one each. From *cerebro-spinal meningitis*, New York, Chicago, and Buffalo three each, Lynn two, Philadelphia, Baltimore, Cincinnati, Pittsburg, Milwaukee, Worcester, Cambridge, Fall River, Springfield, Taunton, and Marblehead one each. From *measles*, New York three, Buffalo two, Chicago and Pittsburg one each. From *erysipelas*, New York, Philadelphia, Cincinnati, Buffalo, Lowell, and Springfield one each. From *puerperal fever*, Chicago two, New York, Boston, and Quincy one each.

Sixty-four cases of small-pox were reported in Baltimore, Cincinnati 10, Brooklyn one; typhoid fever 15, scarlet fever 11, diphtheria seven, in Boston; scarlet fever 14, and diphtheria five, in Milwaukee.

In 39 cities and towns of Massachusetts, with a population of 1,086,052 (population of the State 1,783,086), the total death-rate for the week was 23.46, against 24.26 and 30.51 for the previous two weeks.

For the week ending August 19th, in 167 German cities and towns, with an estimated population of 8,264,615, the death-rate was 26.5. Deaths reported 4215; under five years of age 2386; consumption 479, diarrhoeal diseases 359, lung diseases 298, diphtheria and croup 111, scarlet fever 89, typhoid fever 70, whooping-cough 64, measles and *roteln* 22, puerperal fever 12. The death-rates ranged from 14.1 in Metz to 41.1 in Königsberg; Breslau 35.2; Munich 24; Dresden 26.1; Berlin 29.4; Leipzig 22.7; Hamburg 26.8; Cologne 34.7; Frankfurt a. M. 18.9.

In the 28 English towns, with an estimated population of 8,469,571, for the week ending August 26th, the death-rate was 22.7. Deaths reported 3680; acute diseases of the respiratory organs (London) 199, diarrhoea 751, whooping-cough 95, scarlet fever 75, fever 53, measles 56, diphtheria 31, small-pox (London three) six. The death-rates ranged from 13.7 in Derby to 34.5 in Hull; London 18.8; Birkenhead 19.3; Norwich 21.2; Sunderland 27.6; Liverpool 28.6; Manchester 29.3; Salford 32. In Edinburgh 16.2; Glasgow 19.7; Dublin 23.8.

For the week ending August 26th, in the Swiss towns, population 494,390, there were 38 deaths from diarrhoeal diseases, consumption 23, lung diseases 11, erysipelas five, diphtheria and croup four, scarlet fever three, whooping-cough two, typhoid fever two, measles one. The death-rates were, at Geneva 15.5; Zurich 14.2; Basle 18.7; Berne 19.1.

CENSORS' MEETING. — The Censors of the Suffolk District Medical Society will meet for the examination of candidates at 19 Boylston Place, on Thursday, September 28th, at three o'clock.

APPOINTMENTS. — The Overseers of Harvard University have confirmed the nomination of David W. Cheever as Professor of Surgery, and Charles P. Lyman as Professor of Veterinary Medicine.

## Original Articles.

## TWO SUCCESSFUL CASES OF REMOVAL OF UTERUS AND APPENDAGES.

BY FREDERIC HENRY GERRISH, A. M., M. D.,

*Professor of Anatomy in Bowdoin College, Surgeon to the Maine General Hospital.*

The operation of removing the greater part of the womb with its appendages occupies about the same position in the esteem of the profession that ovariectomy did not many years ago: most consider it almost homicidal; many would justify it as a last resort; a few are beginning to think that, in the future, it may properly be employed with as much freedom and confidence as ovariectomy now is. The true place of hysterectomy is, however, far from being determined, chiefly because there are not sufficient data from which to form a judgment. This report is presented in the belief that it is the duty of every surgeon to make known to the profession the results of all operations whose utility is undecided, and in the hope that it may not be without value in helping to settle some of the questions involved. I have performed the operation in no cases but these, and have been able to learn of only five others in this State, all of which terminated fatally. If I have any further experience, good or bad, it shall be seasonably reported.

CASE I. L. W., aged forty-four, married, was admitted to the Maine General Hospital on the 11th of April, 1881, with the following history: She was never strong, and had a cough a good deal of the time from her childhood up. During her first and only pregnancy her health was better, and she passed through the period of gestation without any particular difficulty, being delivered instrumentally of a male child, after a hard labor, thirteen and a half years ago. A few days subsequently she noticed an abdominal growth, which has always remained. Her size would suggest pregnancy at term, but she thinks she has been as large for thirteen years past as she is now. Six or seven years ago, she began to have uterine hæmorrhage almost all the time. Occasionally there would be a week of exemption from the bleeding. This excessive loss of blood, which lasted three years, greatly weakened her, and she has been able to do no housework since. Excepting this term of three years, menstruation has been about as regular as in most women, but the pain has been very severe for three days at each period. For a year and a half past she has had constantly a thin leucorrhæal discharge, which has been as profuse as the menstrual flow. She has never had real pain in the tumor, but almost unceasingly a great deal of "distress," with a sensation of burning in the abdomen. There has been some pain in the back, but not of a severe character. During the last year she has been confined to her bed most of the time. Her appetite is extremely poor, her sleep light and broken, and her stomach weak. She is pallid, anæmic, feeble, and evidently getting worse.

Examination showed a solid, abdominal tumor, symmetrically developed, as large as a gravid uterus at term. The uterine canal measured nine centimeters (3.5 inches) in length, and seemed to be movable independently of the tumor. This appearance was afterwards found to have been due to the unusual breadth of the cavity, which was about the same as its length. As the sound moved, it seemed to carry the

womb with it; really it was merely turned about in the hollow of the uterus.

The patient being willing to take any risk in the effort to rid herself of the tumor, it was decided to give her the chance afforded by operation, and she was put upon a preparatory treatment of a tonic, mildly laxative, and hypnotic nature.

On the 24th of April, 1881, I performed the operation, being assisted by Drs. Greene, Weeks, Gordon, Thayer, Hunt, Pendleton, and Hill, of this city. The primary incision was made in the linea alba, and was necessarily carried about four centimeters (1.5 inches) above the navel in order to give exit to the tumor. This was found to be a fibroid, which had originated in the posterior wall of the womb, and had finally become inseparably blended with that organ. There were no adhesions, and the ovaries were not diseased. The supravaginal cervix was tightly held with a clamp-shield, and a large needle, threaded with a double silken cord of eight strands, well waxed and carbolized, was passed from before backwards through the neck, each lateral half of which was ligatured separately. The uterus was then cut off and removed, together with its tumor and its natural appendages. The shield was taken away, and immediately quite profuse hæmorrhage occurred on each side of the stump. The reason of this was that the shield had so flattened the cervix antero-posteriorly that, when the latter was released, its elasticity permitted it to partially resume its former shape; and the ligatures, having less to hold, loosened and allowed the broad ligaments to slip away from the cervix, against which the cords had held them. A large catgut ligature was tied around the stump outside the silk, and the bleeding vessels at the sides were secured with small catgut. The wound was closed with silver sutures, and the dressing applied. The Lister method was faithfully followed from first to last. The time consumed was one hour and a quarter. The mass removed weighed 6200 grams (twelve and a half pounds).

During the operation the pulse flagged at times, and brandy was given hypodermically. When the patient was placed in bed, her breathing was so bad that dissolution seemed imminent; but in an hour she rallied, came out from the influence of the ether without nausea, and by evening her pulse was 100 and of fair strength, and her respirations had come down from 52 to 16. She got through the first forty-eight hours very comfortably with the aid of anodynes. The subsequent history presented nothing startling, and can be sufficiently told in a few words. For several days the stomach was irritable and could bear hardly any food; the bladder gave great annoyance for awhile; external hæmorrhoids developed and caused much distress for ten days. The stitches were all removed on the eighth day. Every part of the incision had healed by first intention. Straps of adhesive plaster were applied to guard against reopening of the wound by any strain. The bowels were moved on the ninth day without causing much suffering. A few days after the operation an ecchymotic spot appeared in each ham, and was succeeded by a large irregular ulcer, which had a phagedenic tendency. Astringent ointments afforded little relief, but the Lister dressing worked admirably. Considerable morphine was needed to control the abdominal pain, which was quite severe at times. The temperature never rose above 38.6° C. (101.5° F.). She gained strength very slowly, but a

month after the operation she was sitting up a little every day, and the thermometer never afterwards marked higher than the normal. The silk ligatures were found protruding from the os uteri, and were removed on the seventy-seventh day, and the patient was discharged on the 25th of July.

I visited Mrs. W. at her home in Androscoggin County on the 10th of June, 1882. From her I learned that, with the exception of the first week after she left the hospital and a fortnight last winter, when she was sick abed, she had done all the woman's work on a small farm without assistance. At the time of my call she had just completed a three-hours' churning. Sometimes she has had considerable pain, but all her discomfort may be attributed fairly to overwork. She eats well, sleeps well, and generally feels well. Sexual congress is somewhat painful, and there is no desire; though in this latter respect she is not materially, if at all, changed by the operation. There has been no menstruation, or anything even remotely suggestive of it. Examination showed that the stump of the cervix had atrophied, and that there was nothing about the parts to indicate the existence of inflammation at any previous time.

This case is interesting to me mainly because of the complete recovery from the operation without profound shock, with no secondary hæmorrhage, no peritonitis, no septicæmia. The escape of the silk ligatures is worthy of consideration, since, if this were to occur usually, the operation would be approached with much less dread.

In conclusion, I wish to put on record my appreciation of the services of Dr. Charles D. Hill, then the surgical house-pupil at the hospital. During the period of greatest danger he was almost constantly by the patient, observant of every symptom, and quick to meet every want as it arose. Such fidelity deserves an honorable share in the credit of the successful issue.

CASE II. R. F. W., twenty-nine years old, tall and spare, came under my care on the 18th of October, 1881, with the following history: Seven and three fourths years previously she was married, and nine months thereafter her health, which had formerly been good, began to fail. There was no acute sickness, but a constant feeling of languor and debility. Four years ago she commenced to have pain quite constantly. Up to that time menstruation, which was established when she was sixteen, had always been normal; but since then the flow of blood has been steadily diminishing, till, at the last period, there was none, and the suffering has greatly increased, the pain always being low down on the right side. There has been no irregularity in the time of the catamenia, but of late they occupy half the month, and she hardly recovers from one attack before she is prostrated by another. She has never been pregnant, and has never had any hæmorrhages between the periods. A lump in the abdomen on the right side was first noticed a little more than two years ago, and has grown gradually. Pain in the back is constant, and at times there is profuse leucorrhœa. Examination showed a tumor at the right of the uterus, apparently solid and quite movable. The womb was movable, and measured but little more than the normal. The enlargement of the abdomen was slight. Her general health had steadily failed, and an operation seemed to offer the only chance for relief from the continual suffering which was slowly but surely killing her.

At eleven o'clock on the 20th of October I performed the operation at the Maine General Hospital, in the presence, and with the assistance, of Drs. Gordon, Small, Thayer, Pendleton, Fernald, and Palmer, of this city, and Burroughs, of Saccarappa. The patient was anesthetized with ether. Listerian precautions were attempted, but the spray gave out before the closure of the wound. The incision was median, beginning a little below the umbilicus, and extending downwards 12.5 centimeters (five inches). The tumor was found to be a fibroid, irregularly nodulated, rather larger than a child's head at term, attached to the fundus uteri by a short pedicle, but without adhesions to other parts. The left ovary was somewhat enlarged and pulpy; the right showed some cystic degeneration.

Four methods of proceeding at once suggested themselves: to close the wound without further interference; to remove simply the fibroid; to ablate the ovaries with the tumor; to amputate the uterus with all its appendages, normal and abnormal. The first was instantly rejected, as life was such a burden to the woman that she would prefer the risk of any operation which offered a chance of recovery to continuing as she had been for years; the second was decided against because it would leave her in probable need of ovariectomy at some future time, if she survived this dangerous procedure; the third and fourth would put her in substantially the same sexual condition, and were perhaps equally perilous; but the happy termination of the former case, and the fact that the ligatures were finally got rid of through the vagina, determined me to amputate the womb.

The cervix was, therefore, trans-fixed antero-posteriorly with a large, dull needle, which carried a double cord of six strands of waxed silk, well carbolized; each lateral half was tied by itself, and the section was made at the cervico-corporal junction. After waiting a few minutes to see if there were need of any further ligation of vessels, and finding none, the ends of the cords were cut off, the pedicle was dropped into the pelvis, the wound was closed with silver sutures, and the usual antiseptic dressing was applied.

During the operation, which lasted three quarters of an hour, the patient's pulse varied little from 85, was full and strong. She recovered from the ether slowly, but had no nausea. At six o'clock the pulse began to rise, and soon after eight reached 130; emesis occurred at short intervals, and the extremities grew cold; but the patient was nearly free from pain and calm, being allowed to have no suspicion of her peril. Brandy was given by the rectum several times during the night, and hypodermically every half hour, two grams (thirty minims) at a dose. Dry heat was applied to the body and limbs, and ammonia was given by inhalation. Some time before a local practitioner of repute had created some stir in the profession of the city by his assertion that he had revived a patient, who was thought by several leading physicians to be dying of "cerebral paralysis," by hypodermic injections of phosphoric acid. Without the smallest faith in the alleged remedy, and in despair of seeing my patient rally, I decided to try the experiment, in which I could see no harm. So, at about three in the morning, I began giving one gram (fifteen minims) of the dilute acid, with an equal quantity of water, subcutaneously, fifteen minutes after each hypodermic of brandy. For some hours no appreciable effect was produced; but

about seven o'clock, immediately after a dose of the acid, the circulation began to grow stronger, and all the symptoms steadily improved, until, at four in the afternoon, the pulse was only 85, and the condition was in all respects correspondingly favorable. Up to this time she had received seventy-two grammes (two ounces, two drachms) of brandy under the skin, about sixty-two grammes (two ounces) by the rectum, and twenty-four grammes (six drachms) of dilute phosphoric acid. She was fed cautiously with milk and lime water and iced champagne, and passed the second night very comfortably.

On the third day the stomach was irritable, and rectal injections of beef, brandy, and ammonia were given.

The fourth and fifth days were free from disquieting symptoms, except that the temperature ran up to  $38.5^{\circ}$  C. ( $101.3^{\circ}$  F.). Less than three centigrams (half a grain) of morphine had sufficed to relieve all pain up to this point.

At the end of six full days the stitches were all removed, the abdominal wound being healed completely. At one suture-puncture there was a single drop of pus, but there were no signs of inflammation in or about the wound. Broad straps of rubber adhesive plaster were applied to the belly, beginning close to the vertebral column on one side, and going round in front nearly to the starting-point.

There was urgent desire to defecate; the temperature reached  $38.7^{\circ}$  C. ( $101.7^{\circ}$  F.), the pulse 109, and both continued to rise on the seventh day, and abdominal distress became so marked that it seemed best to risk a movement of the bowels. Accordingly, a cathartic of castor oil was given, followed by citrate of magnesium, and a copious but painful defecation resulted. In a few hours the temperature dropped from  $39.2^{\circ}$  C. ( $102.6^{\circ}$  F.) to  $37.7^{\circ}$  C. ( $100^{\circ}$  F.), the pulse from 114 to 100, and the patient slept nearly all night. This amelioration of symptoms was so marked that I was inclined to think that the febrile condition had been due to the constipation and not to blood-poisoning, as I had feared; but the next day the mercury was pushed up to  $39^{\circ}$  C. ( $102.2^{\circ}$  F.), the pulse beat 106 in the minute, and from this date for more than four weeks the temperature at some hour in each day was as high as  $38.2^{\circ}$  C. ( $100.7^{\circ}$  F.), on seventeen days touching  $38.9^{\circ}$  C. ( $102^{\circ}$  F.) or more, and once, on the twenty-eighth day of treatment, reaching  $39.6^{\circ}$  C. ( $103.3^{\circ}$  F.). Occasionally the early morning observation would show a fall of a fraction of a degree below  $37.7^{\circ}$  C. ( $100^{\circ}$  F.), but for weeks this was exceptional. The heart's action was usually proportionate to the body-heat.

At the opening of the tenth day, exactly four weeks from the commencement of the last menstruation, a bloody vaginal discharge appeared, and this continued for above three weeks, at times being more profuse than she had experienced for many months, at others so scanty as to be hardly noticed. Its character also varied, at first being like diluted menstrual blood, then dark, thicker, and offensive in odor, and finally degenerating into a distinct leucorrhoea.

On the tenth day, too, the patient became jaundiced, and in two days more the abdominal pain was very marked in the region of the liver. The icterode appearance remained until convalescence was established.

The left parotid began to be painful and swollen on the twelfth day, and, twenty-four hours after, its fellow followed suit. The inflammation in these glands pro-

gressed slowly, but after ten days the swelling was so great as to permit only a slight separation of the teeth. In two weeks the left parotid showed fluctuation, and was opened; the right suppurated more slowly, and did not demand operation till nearly a week later. The pus from these abscesses was laudable throughout.

Only one of the multitude of hypodermic punctures gave any trouble, and that was at a point where brandy was inserted the first night. An abscess formed slowly on the outer aspect of the right thigh, near the knee, and was opened on the nineteenth day. A portion of the integument nearly as large as a silver half dollar sloughed, leaving the muscular tissue exposed. The resulting ulcer was very indolent.

From the beginning of the second week, when the septic symptoms became pronounced, for a full month the patient's condition gave rise to the most gloomy forebodings. The bowels were a source of constant anxiety; if they were not moved by injection every second day serious symptoms arose, and yet the movement gave so much distress as to be dreaded both by patient and attendants. Besides, the rectum was greatly needed for nutrient and stimulant enemata, by which she was sustained in large part for weeks. However, the rule of giving a cathartic injection every other day was closely observed. Digested beef juice, brandy, and quinine were administered by enema at as short intervals as the rectum would tolerate, and concentrated nourishment was given cautiously by the mouth in such quantities as the stomach would bear. Sometimes for a day or two complete rest from food was given the latter viscous, a course necessitated by its very irritable condition.

The twenty-fifth day was marked by the first of a series of peculiar attacks, characterized by an effort to expel flatus from the stomach, by abdominal griping and by choking, so severe as to give the patient an impression of impending death. Occasionally she was delirious for hours together. The pulse would at times become almost imperceptible, and more than once her attendants thought her expiring. But she always rallied, and after ten days of this harrowing experience had no further attacks of the kind. It is probable that some, perhaps much, of this state was due to hysteria.

After the forty-fourth day from the operation the temperature did not rise above the normal, the pulse stayed below ninety, and the stomach ceased from troubling. The patient was discharged, weak, but in good spirits and fair condition, on the 14th of December.

In the preceding account I have said but little of the details of after-treatment. It may be summed up in a few words. Morphine was given as indicated by the condition of the nervous system; it acted remarkably well, a minute dose generally sufficing to relieve pain, quiet restlessness, and produce sleep. Large quantities of brandy were given, the spirit being well borne, and evidently needed in the absence of power to take ordinary food. About 6750 grams (thirteen and one half pints) were administered in thirty-five days. Quinine was given almost daily in full doses for its antipyretic and antiseptic effects. The gastric difficulty was extremely intractable; numerous drugs were exhibited, but very little good effect was apparent from the use of any excepting hot brandy and soda mint. Suitable cathartics were given as was necessary. The abscesses of the parotids were poulticed; so for a while was the ulcer on the thigh, to which,

after the slough separated, the Lister dressing was applied with gratifying results. Vaginal washes were used daily after the discharge became offensive.

On Mrs. W.'s return home in December, she came under the care of Dr. Albert H. Burroughs, of Saccarappa, who has managed this difficult case with great skill and discretion. From notes which he has kindly furnished I gather the following facts:—

Everything progressed favorably for six weeks after her arrival home. Then she was seized suddenly with alarming symptoms, which continued some days, and ever since, at intervals of almost exactly four weeks, she has suffered from peculiar attacks, which differ from each other, but are alike in the fact that they result obviously from some profound perturbation of the nervous system. Thus at one time there were unconsciousness, tympanites, a temperature of 40° C. (104° F.), a pulse of 130; at the next, rigors, vomiting, pain in the right shoulder, a temperature of 40.5° C. (105° F.); the following month, pain in the left groin, succeeded by incessant emesis; at the next period severe pain through the back and hips; and the last epoch was characterized by a number of days of utter mental blank.

On the 7th of June I visited Mrs. W. to observe her present condition. Examination showed the cervix, which was somewhat enlarged before the operation, reduced to its normal size; a dense, thick mass of plastic material above the vaginal roof, holding the cervix immovably in position; and a good deal of tenderness in all this region. She is far from strong, her appetite is poor and variable, and she cannot stand quite erect without having a severe, pulling pain in the pelvis. There is considerable leucorrhœa.

The ligatures were discharged through the vagina a few weeks after she left the hospital; the time from the date of operation was not exactly noted by her nurse, but was not materially different from that in Case I.

The points of particular interest to me in this case are the following:—

The recovery, especially considering the severe blood-poisoning.

The escape of the ligatures through the vagina.

The flow of blood from the vagina (and cervix?) on the day when menstruation would probably have occurred if the operation had not been performed.

The grave nervous disturbance at each succeeding month, as if the system could not abandon the habit of thirteen years' duration without repeated and violent protests.

The possibility that the hypodermics of phosphoric acid had a favorable effect in restoring the flagging heart.

Finally, I should do a gross injustice were I to withhold my public acknowledgment of the very valuable assistance rendered in this case by Dr. Walter E. Fernald, at that time surgical house-pupil at the hospital, and Dr. Sarah Ellen Palmer, of this city. The former was so assiduous in his devotion to his trust, that, after three weeks of hard work by day and broken rest at night, his health required a respite from the confinement; and an able substitute was found in the latter, who most skillfully cared for the patient for more than a week of nights at the most critical and trying period.

I have never seen a case which more plainly owed its favorable result to unremitting, intelligent after-

treatment, and I am better satisfied than ever before that the most brilliant operation may avail little if it is not supplemented with good nursing.

PORTLAND, MAINE, June, 1882.

## MEDICAL EDUCATION IN JAPAN IN 1882.

BY J. C. CUTTER, M. D., KEN HOSPITAL, SAPPORO, JAPAN.

It is undoubtedly true that the cultivated people of the present time are more interested in Japan than in any other country as yet so little known. It has a civilization entirely different from that of the Occident and yet dissimilar to that of other countries of the Orient. Japan is proud of her former civilization, and yet, since 1868, she has made, and is making, great efforts to adopt and to assimilate the more salient and more adaptable modes of that of Europe. She is endeavoring to absorb and to make her own in the space of a few decades that civilization which has cost Europe centuries of struggle and effort. She does not imitate the slow and certain course followed by the Chinese, but her ruling classes have launched her boldly into the sea of modern effort and struggle, hoping that she can hold her way, and in the end attain a high position among the nations of the future.

In medicine, Japan enters the race furnished with the accumulated stores of knowledge and experience of the West. She has during the past quarter of a century employed able men from the West in her hospitals and at the centres of medical instruction—Nagasaki, Osaka, and Tokio. She has established a well organized, well equipped, department of medicine in the University of Tokio. She has received with alacrity the latest and best products of the mechanic's art to assist in investigation, instruction, and to aid in the amelioration of disorders admitting of surgical interference. She has had translated and published in a cheap form text-books on all the leading branches of the healing art. She has educated, both at home and abroad, a large number of men in English, in German, and in French, so that to them the medical literature of Europe and America is no longer a sealed book. Thus far Japan has only been receptive. It is yet too early to expect reliable and valuable work from her medical staff in advancing the cause of modern medicine.

## DAI GAKU I GAKU BU, OR THE MEDICAL DEPARTMENT OF TOKIO UNIVERSITY.

In 1871, Drs. Hoffmann and Miller of the Prussian service were employed by the Japanese Government to organize a medical school after the most approved Western ideas. A course of study—advanced and preparatory—was elaborated and presented to the ministry. The next year this received official approval, appropriations were made, books, apparatus, and means of illustration ordered in Europe, and work on the needed buildings commenced at once. Before the coming of Drs. Hoffmann and Miller, it had been the purpose of the government to employ the English language in the medical department. It was now determined that the language of the advanced course should be German. German professors and instructors for the several departments were imported, and at the same time twelve promising young men were sent to Germany at the government expense to study medi-



icine and allied branches, and to fit themselves for positions in the faculty of the "I-Gaku-Bu." Thus equipped and provided for, the "I-Gaku" commenced its educational work in 1872 and 1873. In 1875 the faculties of the schools established at Nagasaki and Osaka under Dutch auspices were called to Tokio, and these provincial schools were abolished. In 1876 a new department was organized within the "I-Gaku" to give instruction according to Western methods in the Japanese language. In 1877 the new large and well arranged college buildings, the German planned hospital, the drug laboratory, and new accommodations for the growing out-patient department, all in Kaga Yashiki, were opened for purposes of instruction. In 1879 a large and commodious hospital, called "Shitaya Bio-in," was opened in Tokio for clinical instruction of the Japanese section of the school. The medical department of the University attracts the largest number of students. Thus in 1880 there was in the law, science, and literature sections, together, 238 students, and in the medical, 1040. In the former departments a conversational knowledge of English is demanded; in the latter, in the advanced division, German; in the second section, Japanese and Chinese; hence the medical department would naturally have the largest number of matriculants. However, there is a larger number of students in the German-speaking section of the "I-Gaku" than in any one of the English-language-speaking sections of the University.

#### THE GERMAN-LANGUAGE-SPEAKING SECTION OF THE "I-GAKU."

To enter the preparatory department of this section, the student must be at least twelve years of age, must be well grounded in Japanese, must have commenced Chinese, and must have spent one year in the Foreign Language School, or have received an equivalent instruction. He (for no females are permitted to study in the University medical course) now enters upon a five years' course of German, a long course of Chinese and Japanese, a certain amount of Latin, as well as extended courses in mathematics, and elementary chemistry, physics, botany, and zoology. In this school there are annual examinations, all of which must be passed in due order. After passing a stringent written and oral examination in all the branches pursued, he is permitted to advance into the medical school proper. He continues German, and enters upon thorough study of chemistry, physics, zoology, and botany. Thus prepared he takes up and follows a *graded course* in all the branches of study required in the best medical schools of Europe. The instruction is given by recitations, by lectures, by demonstrations, by laboratory work, and by practical clinical work under the supervision of the instructors. This course extends over five years. There are annual examinations, and no student is permitted to advance until he is pronounced satisfactory in a majority of the studies of the year. If he fails in the May examination in certain branches, he is permitted to go up to that of November. At the end of the five or more years' course there is a prolonged oral, written, and clinical examination embracing all the branches of the course. In the final examination, the third failure in any branch admits of no re-examination. The degree granted is called "I-Gaku Shi," and its possession in Japan has a deeper, more valuable significance than the easily acquired M. D. of the majority of the American schools.

It carries with it a rank, a prestige unknown in the United States.

Thus far less than one hundred and fifty have received this degree. As soon as graduated a man is eligible to a government salary of one hundred and fifty yen per month, and may enter the army, navy, police, or home service. This is a very high salary in a country where the majority in the services receive less than thirty yen per month, where the chief medical officer of Yezo only receives two hundred yen per month, and the Medical-Inspector General of the Army draws but two hundred and fifty yen per month. Of the early graduates, a few of the favored men were sent to Germany, at the government expense, for a series of years to pursue advanced studies. The army and navy welcome the "I-Gaku Shi," but the majority prefer the civil service. Those in the latter service are sent to the principal Ken towns of the Empire to manage the hospital service and to act as medical advisers of the Ken officers. These medical men have an assured income, an enviable official rank, a social prestige, and a chance to advancement through transfers to larger and more eligible cities with the increased emoluments incident thereto. Private practice, except among the nobles and the wealthy merchants of Osaka and Tokio, is not remunerative. Most of the people go to the out-patient departments, receive gratuitous advice, and buy their medicines. It was the custom in old Japan, and is now almost universal, to pay the doctor not for his time, efforts, and skill, but for the drugs received. Then at the termination of the malady to send him a "Shinjo-mono"—as, a box of confections, a piece of lacquer, some food, a small roll of silk—as an expression of gratitude. Hence, as money is an article of necessity in modern Japan, all young men desire to enter the government service where the position is secure (for it is rare that a man is discharged for incompetency in Japan's service—he is only transferred to another place, retaining his rank and salary), and the salary certain.

#### JAPANESE-LANGUAGE-SPEAKING SECTION OF "I-GAKU."

To enter this department the candidate must be at least eighteen years of age; must be able to pass a creditable examination in Japanese and Chinese composition, in mathematics through geometry, elementary chemistry, physics, botany, and zoology. The medical course is four years. The order of studies is similar to that of the German course, but the studies are not pursued so thoroughly or so extensively. There is more of lectures, note-taking, and text-book work, and much less of laboratory and clinical work, proportionally to the time, than in the German section course. At the end of the *second* year there are examinations in anatomy, histology, and physiology; of the *third* year in surgery, pathology, and therapeutics; and of the *fourth* year in obstetrics, practice, ophthalmology, and clinical work. Of the large numbers who enter this department, but few, comparatively, continue through the course. The majority attend the lectures and instructions for two or more years; spend much of their energies in the gayeties of Tokio life; do not attempt the examinations; secure a certificate of attendance; procure the title of "Kwan-I" (Chinese doctor), and then from the Ken officials gain permission to practice in a certain district. Such men are known among the better class of students, and the bet-

ter educated officials, as "Yabu," that is, Bamboo shoots.

In 1881 there was in the "Dai Gaku I-Gaku Bu" of government cadets, 21; scholarship cadets, 100; private students, 1055. Total, 1176. During the years 1880 and 1881, 384 were admitted, 239 expelled, 13 died, and 99 were graduated (German and Japanese sections included). The staff consisted of German professors, 10; Japanese professors (Kojin) 5; Japanese instructors (Jokiu) 6; dissectors and assistants (Kio-in) 15, and 16 clinical clerks in the hospitals. The government cadets are educated, housed, and clothed at the expense of certain departments of the government, as of army, navy, police, and are mostly to be found in the German section. The expulsions were almost entirely in the Japanese section, and were, in the main, for dissolute conduct, intemperance, and inattention to duties.

#### PROVINCIAL SCHOOLS OF THE FUTURE.

On May 27, 1882, Fukuoka, Minister of Education, issued a notification destined to have an improving influence on medical education in Japan. Since the abolition of the Nagasaki and Osaka schools, an approximately thorough course of medical instruction could only be acquired at Tokio, and there only could the degree of "I-Gaku Shi" be attained. All students who could not study in Tokio were compelled to follow a desultory course of study in some provincial hospital, with attendant serious disadvantages. Such men could not receive a degree enabling them to advance to a lucrative government position. They could only secure a certificate from the Ken officials permitting them to practice certain branches of medicine in that prefecture, or Ken. Such medical men could rarely advance beyond a thirty yen monthly stipend. The expenses of the long journey, and of long residence in the capital, prevented the poor but ambitious students of the distant Kens from acquiring more and better instruction.

Summary of Mombu-Sho notification No. 4. Medical institutions may be established in the Empire according to the following regulations: The medical schools shall be of two classes: Class A—those which can give that amount and kind of instruction enabling its graduates to enter at once upon independent practice. Class B—those which can give only cursory instruction in medicine adapted to men of advanced age, or where it is impossible to establish a school of Class A. Each school must have a hospital connected therewith. Schools of Class A must give instruction in physics, chemistry, zoology, botany, anatomy, histology, physiology, pathology, surgery, obstetrics, hygiene, diseases of the eye, medical jurisprudence, and medical and surgical clinical work. The faculty shall consist of not less than three "I-Gaku Shi," from "Tokio Dai Gaku," or of men of as good scholarship as an "I-Gaku Shi," appointed under special permission of the Minister of Education. The course shall extend through four years; there must be thirty-two weeks of instruction annually, and there must be at least twenty-four hours' school exercises per week. Candidates for admission must be of excellent character, in good health, and at least eighteen years of age. They must pass satisfactory entrance examinations in Japanese and Chinese composition, in mathematics, and in elementary chemistry, physics, botany, and zoology. Schools of Class B shall give instruction in physics, chemistry, anatomy, physiology, therapeutics, surgery,

pathology, obstetrics, diseases of the eye, and bedside instruction. The faculty shall include at least one "I-Gaku Shi." The course shall extend over three years. The hours and weeks of instruction shall be the same as Class A. Candidates for admission must pass satisfactory examinations in Japanese and Chinese composition, arithmetic, and physics.

#### OKIYAMA KEN SCHOOL.

The hospital medical school at Okiyama, Ken of Bizen, near the Inland Sea to the west of Osaka, was the first one of the hospital schools to take advantage of this notification. In the future its graduates can practice in any part of the Empire without passing the Ken examination, as called for in the notification of 1876. This school has in its faculty four "I-Gaku Shi" and one graduate in pharmacy. It has a hospital of eighty-five beds. Upwards of two hundred students were present during the session of 1881-1882. These men come from the thickly populated country to the west and south of Kiyoto, from Kiushiu, and Shikoku. It is the most flourishing of the Ken Hospital Schools.

The Japanese medical press speak in enthusiastic terms of the May notification, and of the good which will result not only to the profession but to the people among whom a better educated class of practitioners will settle. The Chinese school of practitioners, though they have no school recognized by the government, and though their members are allowed to practice only under special rules of the Home Department, yet hold their own in point of numbers, but not their per cent., as regards the population. The class of practitioners having the merest smattering of knowledge of Western medicine is rapidly enlarging. The class of those who possess a fair preparation for medical work is steadily increasing, but that of those having the rank of "I-Gaku Shi" is very small and, proportional to the population, is increasing very slowly. Though the number of the latter class is small, yet are they having potent influence in Japan in the advance of education, of sanitation, and of the standard medical work.

#### NOTES ON PROGRESS IN PHYSIOLOGICAL CHEMISTRY.

BY JOSEPH W. WARREN, M. D.

ONE of the most suggestive of recent articles in this department is that of Loew and Bokorny<sup>1</sup> on A Chemical Difference between Living and Dead Proto-plasm. On a previous occasion Loew had discussed the constitution of albumen, calling to mind anew the distinction, not long before insisted upon by Pflüger, which must always be made between the living albumen of the tissues, of the cell, and the proteid bodies presented to us by our analyses. He had suggested the theoretical possibility of arriving at the simplest formula for albumen ( $C_{22}H_{112}N_7SO_{22}$ ) by a series of condensations of the aldehyde of aspartic acid,—a process capable of indefinite extension and admitting of unlimited polymerization. The arguments by which he makes this suggestion plausible need not be given in detail here. Assuming the aldehydic character of

<sup>1</sup> O. Loew and T. Bokorny. Ein chemischer Unterschied zwischen lebendem u. totem Protoplasm. Archiv f. d. ges. Physiologie, xxv., p. 150. Vide also the authors' resume of this communication, with additions, in the Biologisches Centralblatt, l., p. 133.

the structure it seemed not unreasonable to attribute the activity of living protoplasm to the potential energy of these extremely mutable aldehyde groups whose decided alteration might perhaps explain the death of the albumen. Remembering the characteristic readiness of the aldehyde group in reducing weak solutions of silver, the use of this reagent for testing the hypothesis was next undertaken, and with very interesting results.

The reagent consists of two solutions: one of silver nitrate (one per cent.), and another containing thirteen cubic centimetres of a potassium hydrate solution (specific gravity 1.333) and ten cubic centimetres of liq. ammonii caustici (specific gravity 0.961) in each one hundred cubic centimetres; one cubic centimetre of each solution, mixed and diluted to one thousand cubic centimetres, is used in the experiments, it being best to keep the original solutions separate. The most suitable objects seemed to be such cells as can be readily examined under the microscope, and have a membrane easily penetrated by the substances in extremely weak solutions. Certain algae, and particularly *spirogyra*, proved most satisfactory. An examination of these cells showed, however, the presence of tannin and glucose, either of which is capable of reducing a solution of silver. Careful experiments proved that tannin (of which very little is present in *spirogyra*) does not reduce a silver solution containing not more than one part of  $\text{AgNO}_3$  to 10,000 parts water. Glucose is more delicate, and causes a decided browning in silver solutions of 1:100,000, but this differs much from the blackness of a distinct reduction. In weaker solutions (1:1,000,000) glucose affects no alteration, even after many days, but moderately thick slices of cherries and apples do show a yellow or brown coloration after a few hours, yet without signs of a genuine reduction. If, however, the delicate filaments of *spirogyra* be placed for some hours in the reagent, light being excluded, a very different result is reached. The protoplasm is found to be intensely blackened, only a few cells being unaffected, or showing only a yellowish-brown discoloration of the liquid contents, caused, perhaps, by the glucose. If the reagent be much diluted, so that 1,000,000 parts contain but one part  $\text{AgNO}_3$ , the result is better yet, and even a dilution of 1:2,000,000 is still efficacious, but approaches the limit of usefulness. If the algae are exposed to any influences which are known to destroy life and are then placed in the reagent, the reduction of silver does not occur.

It is unnecessary to note fully the numerous variations tried by these authors or the occasional unsatisfactoriness of the results, but possibly these can be improved by other and more careful variations. It is, for example, possible, in fact some of the experiments show it to be very probable, that a solution of silver just adapted to certain cells may be much too strong for others of a more delicate constitution, and kill them in some way before the reduction can occur.

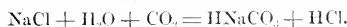
It has long been a mooted question what form the assimilated fats assume when they become a part of the animal body. Lebedeff<sup>1</sup> reports that he has succeeded in demonstrating that the fat given in food can be stored up in an unchanged form. He experimented with two dogs, who were starved for a month, a time sufficient, according to other investigations, for the con-

sumption of all their own fat. They lost forty per cent. of their weight. They were then fed on very lean meat, and received large supplies of special fats (linseed oil and mutton suet). Both animals increased in weight, and were perfectly well until they were killed, nor could any disturbance of the various organs be found. From the tissues of the dog that had been fed on linseed oil a large amount (more than one kilogramme) of a peculiar fatty oil was obtained, which remained liquid at 0° C. Its chemical behavior resembled that of linseed oil. In the tissues of the other dog a fat was found in large quantities which seemed almost identical with suet.

Another recent investigation of great suggestiveness is that of Schulz<sup>2</sup> on the decomposition of chlorides by carbonic acid, and the possibility of thus explaining the importance of these bodies in the healthy organism, as well as of furnishing a point of view concerning their action when used as medicine.

It is usually assumed that when we have a solution containing a base (B) and two acids, a stronger (A) and a weaker one (a), A will unite with B, leaving a in some sense to itself. For example, if we have an aqueous solution of sodium carbonate and a "stronger" acid, that is one which will "drive off" the "weaker" carbonic acid, say acetic acid, the acetate will be formed and  $\text{CO}_2$  set free. This simple view is useful for instruction, and satisfactory for explaining the steps of analysis. But let us suppose for a moment that after our assumed B.A. has been formed the quantity of "free" a in the solution is greatly increased, greatly in proportion to the quantity of A: it is conceivable that such molecular changes shall take place as to reproduce Ba, leaving some A "free," which shall in its turn again act on B to regenerate B.A., thus introducing a cycle of considerable complexity. Our chemical equations after all represent frequently only the final products as accessible to some forms of analysis, and do not necessarily state the actual condition of the compounds in the solutions with which we have to do. Even in the cases of simple solution, as that of NaCl in  $\text{H}_2\text{O}$ , it is by no means certain what relations the molecules bear to one another, whether those of NaCl lie in among those of  $\text{HOH}$ , as bullets may be poured in among cannon balls, or are associated with them in such a way as to form compounds (incapable of isolation, perhaps) which are neither NaCl nor  $\text{HOH}$ .

In this way we usually assume that when HCl is added to  $\text{Na}_2\text{CO}_3$  or  $\text{NaHCO}_3$  the result will be  $\text{NaCl} + \text{CO}_2 + \text{H}_2\text{O}$  (in due proportions), and it has not been easy to understand how NaCl and KCl, which are so indispensable to the well-being of the organism, could exert any influence. Various investigations, however, have rendered it not unlikely that weaker acids, if present in sufficient quantity or under suitable pressure, are able to break up the combination of stronger ones with bases and set them free, at least temporarily. In this way it is not unreasonable to reverse some chemical equations, and to understand that there may be conditions where we can assume the reaction to be:—



If this hypothetical reaction could be verified it would be easy to see how hydrochloric acid may be formed in certain cells, and under favorable conditions pass as free acid or otherwise into other cells or into secretions,

<sup>1</sup> Lebedeff. Uebergang von Nahrungsfett in Gewebe. Original-Mittheilung. (Ztbl. f. med. Wissenschaften, 1882, p. 129.

<sup>2</sup> H. Schulz. Die Zerlegung der Chloride durch Kohlensäure. Plüger's Arch., xviii., p. 454.

and thus the process of secreting an acid gastric juice from alkaline cells and fluids would seem much less of an enigma than it has been. Perhaps we shall not go too far astray if we suggest that herein may possibly be found an explanation of the so-called amphichromatic reaction of many fresh tissues, for our test-paper shows the reaction of an immense number of cells of which a portion may be acid enough at the moment to redden litmus, while their neighbors at the same moment are sufficiently alkaline to give a blue reaction.

That such a change of acids is possible Schulz seems to have demonstrated, reviving and extending some experiments of H. Müller made a dozen years ago. Müller had used ultra-marine blue as an indicator whose bleaching should demonstrate the presence of hydrochloric acid. Schulz found all the ultra-marine blue which was accessible to him very untrustworthy, and, finally, following the suggestion of Maly<sup>1</sup> chose methyl violet as his indicator. If a stream of CO<sub>2</sub> be conducted through a solution of a chloride (of the alkalies or alkaline earths) properly colored with methyl violet, the color grows paler, while the red is gradually replaced by blue. A comparison of the different chlorides was made by means of the absorption band in the spectrum. It is not necessary to give Schulz's experiments in detail, nor to explain the ingenious combination of boxes for examining the spectra of two liquids, which he has described in a late number of Pflüger's *Archiv*;<sup>2</sup> let it suffice to note his results:—

"(1.) The chlorides of the alkalies and alkaline earths in aqueous solutions are decomposed by carbonic acid even at a low (ordinary) temperature and under atmospheric pressure, the products being hydrochloric acid and carbonates.

"(2.) The capacity for decomposition varies in the chlorides, and is greatest in that of sodium.

"(3.) This behavior of the chlorides furnishes a simple although not the only explanation of the formation of free hydrochloric acid in the body.

"(4.) All that we know of the behavior of the iodides in relation to living organized tissues as well as what experiments have shown concerning the influence of the chlorides upon such tissues justifies the conclusion that the chlorides, and particularly that of sodium, have a special relation to the action of oxygen in the tissues. It may be assumed as a principal reason for the presence and importance of the chlorides in the living organism that they are capable of giving off chlorine in the presence of living protoplasm, of this indirectly causing oxidation.

"(5.) Thus it is to be explained the peculiar ability of certain chlorides to produce increased tissue change, to quicken organic life, and to work as medicine when given in suitable quantity and under proper conditions."

The question of the cause of the different kinds of rigor in the muscle has been discussed anew, this time by Miss Schipdoff.<sup>3</sup> She sought an analogy between the changes of myosin in salt solutions and those of the myosin in the muscle. Particularly interesting are the comparisons between the *rigor mortis* and the *rigor caloris*. Myosin which is precipitated from its solutions by acids and by a small quantity of distilled water retains its chemical character, and does not

change into syntonin nor into the insoluble modification; hence fresh muscles and those which have become spontaneously rigid must contain the same amount of myosin (if its changes cause rigor) which is found by experiment to be true. Again, myosin is precipitated from its solutions by heat, but the body thus obtained is no longer myosin, and is completely insoluble in NH<sub>4</sub>Cl, hence the *rigor caloris* must be totally different from the normal spontaneous *rigor mortis*. "The *rigor mortis* depends upon a temporary precipitation of chemically unaltered myosin from its semi-liquid condition in the muscle plasma; this precipitation is caused by the post-mortal development of acidity, whose further increase brings about a resolution of the rigor in muscular tissues which have not yet become putrefied."

In two recent communications Schmidt-Mülheim makes known some interesting experiments concerning the albuminoid bodies of milk. The first of these<sup>4</sup> concerns itself with the proportions of casein and albumen both in fresh milk and in milk which has stood for some hours at the temperature of the body. It will be remembered that about thirteen years ago Kemmerich published some experiments which led him to infer that if fresh milk be kept at blood heat for some hours an increase of casein takes place at the expense of the albumen. Curiously enough there was no proportionality in the reported changes, yet the investigations of Kemmerich had never been carefully repeated. Schmidt-Mülheim's attention was directed to this point in the course of other work on milk, and he decided to investigate the behavior of the casein anew. He failed to verify Kemmerich's observations, finding in fact a distinct diminution in the quantity of casein without any special alteration in the amount of albumen. If we average his figures the following little table will make his results more intelligible:—

| Fresh Milk. |         |          | Same Milk digested at 40° C. |         |          |
|-------------|---------|----------|------------------------------|---------|----------|
| No. of Exp. | Casein. | Albumen. | Time of Digestion.           | Casein. | Albumen. |
| I.          | 2.39%   | 0.46%    | 10 h.                        | 2.18%   | 0.42%    |
| II.         | 2.21    | 0.3      | 24 h.                        | 1.80    | 0.34     |
| III.        | 2.65    | 0.45     | 6 h.                         | 2.53    | 0.44     |
| IV.         | 2.54    | 0.37     | 8 h.                         | 2.29    | 0.37     |
| V. a        | 2.42    | 0.36     | 12 h.                        | 2.27    | 0.34     |
| b           | 2.23    | 0.30     |                              | 1.96    | 0.39     |

Experiment V. is a comparison of the first (a) and last (b) portions of the milk of one milking to test Kemmerich's declaration that the increase of casein is more noticeable in the latest milk, or, in other words, in that most recently secreted. Schmidt-Mülheim calls attention to some details of analysis which are, perhaps, worth noting here. In using Hoppe-Seyler's method for determining the casein, he finds it desirable to add a definite weak acetic acid instead of the indefinite "sehr verdünnte Essigsäure" of the Handbuch.<sup>5</sup> He mixes one hundred parts of water with two parts of acid, *acet. dil.* (meaning probably the dilute acetic acid of the German Pharmacopoeia, which contains thirty per cent. of *aceticum glacioides*), and finds eleven to eighteen cubic centimetres of this sufficient for twenty cubic centimetres of milk. The beaker should be

<sup>1</sup> Zeit-schrift für physiologische Chemie.

<sup>2</sup> *Archiv*, xxviii, p. 197.

<sup>3</sup> Schipdoff. Ueber die Entstehung der Muskelstarre. *Vort. Mitt.*, *Chim. f. med. Wiss.*, 1882, p. 291.

<sup>4</sup> Schmidt-Mülheim. Findet in der Milch eine Caseinbildung auf Kosten des Albumins statt? *Pflüger's Archiv*, xxviii, p. 243.

<sup>5</sup> Hoppe-Seyler. *Handbuch d. Analyse*, 4te Auflage, 1875, p. 435.

washed with the filtrate, and not with distilled water. In determining the albumen it is desirable to add a little (five cubic centimetres) of this dilute acid to the boiling solution in order to produce a satisfactory coagulation. If the filtrate be further concentrated a fresh precipitate is obtained of albumen which would otherwise escape determination; the amount thus liable to loss is not inconsiderable, being frequently an eighth of the whole.

In his other communication <sup>1</sup> Schmidt-Mülheim considers the determination of peptone in milk, and the conditions of its increase. It has long been known that milk contains other proteid substances besides casein and albumen; they have received various names (lactoprotein, albuminose, galactin), but recently they have been more clearly identified as peptones. The methods hitherto employed for the quantitative determination of this substance are unsatisfactory since they fail to readily isolate the peptone, or because the presence of other bodies, notably milk sugar, interferes with the analysis. Our author uses an old method which Salkowski has recently reintroduced, and finds that it gives trustworthy results. The solution (for example, milk) is first saturated with sodium chloride, and then a suitable quantity of acetic acid mixed with a saturated solution of NaCl (one volume of acid to five volumes of the NaCl solution) is added. This procedure precipitates the casein and albumen and leaves the peptone undisturbed. The peptone is then precipitated with phosphoro-tungstic acid, washed with hydrochloric acid, dissolved in a weak solution of sodium hydrate, and then determined by a colorimetric method, which will be given below. The results of the experiments (xi. to xvi.) may be tabulated as follows:—

| A. Fresh Milk.    |         |          |          | B. Milk digested at 40° C. |         |          |          |
|-------------------|---------|----------|----------|----------------------------|---------|----------|----------|
| No. of Exp.       | Casein. | Albumen. | Peptone. | Time.                      | Casein. | Albumen. | Peptone. |
| I.                | 2.385%  | 0.39%    | 0.115%   | 10 h.                      | 2.187%  | 0.42%    | 0.275%   |
| II.               | 2.59    | 0.37     | 0.15     | 3 h.                       | 2.50    | 0.36     | 0.19     |
|                   |         |          |          | 10 h.                      | 2.23    | 0.28     | 0.28     |
| III.              | 2.645   | 0.435    | 0.085    | 6 h.                       | 2.525   | 0.44     | 0.135    |
| IV.               | 2.535   | 0.375    | 0.12     | 8 h.                       | 2.265   | 0.57     | 0.275    |
|                   |         |          |          | —1                         | 2.34    | 0.285    | 0.235    |
| V. a <sup>2</sup> | 2.49    | 0.26     | 0.14     | 12 h.                      | 2.25    | 0.35     | 0.26     |
| b                 | 2.22    | 0.39     | 0.205    | 12 h.                      | 1.953   | 0.29     | 0.345    |
| VI.               | 2.235   | 0.30     | 0.135    | 24 h.                      | 1.865   | 0.34     | 0.33     |

<sup>1</sup> After standing for some hours at about 17° C.

<sup>2</sup> a and b: the first and last portions from the same milking.

A comparison of these figures shows a decided increase in the peptone, and a diminution of the casein, but not in due proportions, so that the formation of other bodies from the casein is not unlikely. The increase in peptone seems due to the presence of some ferment, for milk which was boiled before being allowed to stand for some hours at 40° C. showed no such increase. This ferment is not destroyed by the addition of salicylic acid or phenol in suitable proportions, and its identity with pepsin could not be satisfactorily demonstrated.

A few words concerning Schmidt-Mülheim's method for the colorimetric determination of peptone may not be out of place here. He published it a couple of years ago in Du Bois-Reymond's *Archiv für Physiologie*, but calls attention to it now since some slight

<sup>1</sup> Schmidt-Mülheim. Beiträge zur Kenntniss der Eiweisskörper der Kutmilch. Pflüger's Archiv, xxviii., p. 287.

38

modifications have led to its being attributed to Hoffmeister.

He uses the red color which a solution of peptone assumes on the addition of sodium hydrate and cupric sulphate. To make a standard solution a convenient known quantity of peptone is taken and dissolved in water. To this solution sodic hydrate is added, and then a weak solution of  $\text{CuSO}_4$  until the wine-red color begins to change into blue, whereupon the entire mixture is diluted with water so that three thousand cubic centimetres contain exactly one gramme of peptone. To determine the amount of peptone in a given liquid (from which other proteids have been removed) a small amount of sodic hydrate is added, and then just enough  $\text{CuSO}_4$  to bring about the change from wine-red into blue, as in preparing the standard solution. This being done measured quantities of each are brought into little glass boxes with perfectly parallel sides, standing in a good light and against a white background. Over these boxes are burettes from which water is allowed to drop until the colors of the solutions to be compared are identical, after which a simple calculation gives the amount of peptone present. This method has, of course, all the objections of colorimetric methods in general. Schmidt-Mülheim found its extreme error to be  $\pm$  six per cent.

## Reports of Societies.

### THE AMERICAN GYNECOLOGICAL SOCIETY.

THIS Society held its seventh annual meeting in the hall of the Boston Society of Natural History, September 20, 21, and 22, 1882. Two sessions were held daily for the reading and discussion of papers, and the subjects presented at each session followed in the main the programme as heretofore published in the JOURNAL.

#### FIRST DAY. MORNING SESSION.

At the opening session seventeen Fellows of the Society responded to their names. The members of the Boston Obstetrical Society and about thirty other gentlemen were named as guests of the Society during the present session, and invited to participate in the discussions and attend the social meetings of the week. A good representation of the medical profession in the vicinity was also pre-sent at most of the sessions.

The President, DR. EMMET, of New York, was in the chair, and DR. CHADWICK served in his capacity of secretary.

#### ADDRESS OF WELCOME.

DR. LYMAN, one of the vice-presidents of the Society, gave the address of welcome, in the absence of Dr. Storer, upon whom that duty would have devolved had he been well. After extending the formal greeting on behalf of the Boston members of the Society, Dr. Lyman spoke briefly of the twofold design of the organization, scientific and social, and alluded in a pleasant vein to Boston's historic importance as the scene of various gatherings of all sorts from the original Boston Tea Party down to the present day. He criticised the tendency to narrow too much the bounds of specialties, as when one man treated only the urethra, another only the rectum; but congratulated the Society on having done so much to develop the knowledge of women's diseases upon a broad scientific foundation.

The first paper read was by DR. JOSEPH TABER JOHNSON, of Washington, D. C., and was upon the subject of

#### THE PROPER USE OF ERGOT IN OBSTETRICS.

The writer enumerated some of the many indications which from time to time since the introduction of this drug into obstetric practice by Dr. Stearns had been believed to exist for its use, as to hasten slow pains in first and second stage, to bring on labor, for threatened abortion, placenta prævia, etc. The action of the drug on the uterus was described as a persistent tonic contraction, finally becoming tetanic. All the fibres are equally contracted, whereas in a normal labor there is a repeated shortening and lengthening of the long fibres, while the circular ones are relaxed over the presenting part. If by chance the child is expelled under ergot it is because, everything being in readiness, the fundal muscles have contracted a little the first. The contraction under ergot lasts for hours, and the child is compressed equally on all sides. Not only is the placental circulation, which ought to go on in the intervals of the pains, checked, but a strong pressure is brought to bear on the head and chest of the child, which by its continuance may be fatal. Again, it is the intermittency of the contractions which prepares the passages for the transit of the child, and if they are not so prepared various ill effects, from a minute fistula to an extensive sphacelus, may result, — these results being due more to continuity of pressure than to length of time. Moreover, the sudden expulsion of the fetus through unrelaxed passages may cause all sorts of rupture from that of the uterus to that of the perinaeum. Ergot is uncertain in its action, and may affect any part of the uterus solely, sometimes causing the hour-glass constriction.

To illustrate the large number of still-births ascribable to this agency, three cases were detailed, in each of which ergot was exhibited to dilate the cervix on the failure of uterine pains, from sixteen to twenty hours after the beginning of labor. In each case the child was known to have been alive at the beginning of labor, but all were still-born, and one had a bright red band, evidently due to constriction, about the head.

Various authorities were cited among those who first sounded the note of alarm regarding ergot. In 1850 the Academy of Medicine of Paris appointed a commission, who reported the danger from compression and narcotism. In accordance with this report, three years later the Academy voted against its use, except in miscarriage, hæmorrhage, etc. Subsequently Chapman showed that an "ergot-pain" was fatal to half the children if continued an hour. Thanks to present medical instruction the administration of ergot to dilate the os is rare among educated physicians, but the large number of still-births reported by midwives, and the fact that they all carry their ergot bottle in their pocket, shows that much damage is done by this class of accoucheurs. The writer thought that a few indictments for infanticide might have a salutary effect on these persons. The use of ergot was discussed and condemned in connection with retained placenta, when it acted mischievously by locking up the secundines. As a routine treatment against post-partum hæmorrhage it is unreliable, taking from fifteen to thirty minutes to act; moreover, it often causes vomiting, and if the patient is weakened by hæmorrhage it is not absorbed even if retained. Subcutaneous injection is the only

method of administration which is reliable. In threatened abortion and accidental hæmorrhage ergot is useless. With primiparae it is dangerous. If dilatation is complete in a multipara, the soft parts relaxed, there is no obstruction to the birth, and the attendant is sure that a few more pains are all that is wanted, he may give it cautiously, with the understanding that if the birth does not occur in a half hour the forceps shall be used. With this rare exception ergot should never be employed unless the uterus be empty. Viewing the use of ergot as a whole, the reader thought the race would be better off without it altogether.

DR. REYNOLDS in opening the discussion said that the abuse of ergot was due to disregard of instruction rather than to lack of it. He agreed with the reader as to his general rule not to use ergot till the uterus was empty, but in exceptional cases might employ it in the second stage there being no obstruction to a speedy delivery, and observing all the precautions which the essayist had laid down. In such cases small doses (five to ten drops) repeated often would soon show whether the action was to be favorable. The speaker alluded to the change in practice since a few years ago when a practitioner in a town near Boston said that himself and one other man did all the obstetric work of the town, one delivering with ergot the other with forceps. For substantaneous use the speaker preferred Boujeau's ergot, administered in equal parts of glycerine and water, by deep injection. As a routine treatment he gave ergot whenever an anæsthetic had been used, his experience being that under such circumstances the tendency to post-partum hæmorrhage was increased. For the first two or three hours after ergot the after-pains are increased, but after that they are less severe.

DR. BARKER recognized the importance of having positive rules, but the difficulty of laying them down in the case of ergot. He would never use it in the first stage, never to induce contractions, never except in vertex presentations. In perhaps one case in one thousand, in a second stage with circumstances similar to those described by the previous speakers, there being only a lack of force to complete parturition, he employed it. These cases, of which he had had perhaps three or four, were those where labor was retarded by an emotional condition which caused oversensitiveness to pain, so that the patient could not make use of the accessory muscles to help herself. Hence the pains were fruitless and so ceased. Here he would give a few whiffs of chloroform to overcome the morbid sensibility, and follow with two or three doses of ergot. If the birth was delayed more than a half hour, would use forceps. Dr. Barker disagreed with the reader as to the effect on after-pains, believing that ergot diminished them. In part it was for that object that he used ergot after the birth of the child, and *not* to prevent hæmorrhage or to expel the placenta. After pains are simply labor pains, and there will be none if there is nothing to expel, that is, if fixed contraction of the uterus is secured. The most important use of ergot is to promote involution, when, for any reason, this is retarded. It is valuable, conjoined with tonics and stimulants, in a "slow getting up."

The PRESIDENT asked the question whether it was the experience of any that an anæsthetic increased the action of ergot, as it did sometimes of opium, so that from having had no effect it suddenly manifested itself by precipitate activity.

This question was not answered. The discussion here for a time went outside the subject strictly before the Society.

DR. BARKER denied the assertion of a previous speaker that anesthetics increased the liability to post-partum hemorrhage. He used them constantly whenever the pains were at all severe, and had employed them thus in several thousand instances without having had a single case of post-partum hemorrhage. On the contrary, they prevent that accident, which is usually due to exhaustion of nerve power. Some women who had suffered from severe flooding as a regular thing after previous labors, when treated in this way had no hemorrhage, and were saved by chloroform the great exhaustion which they had heretofore experienced.

DR. HOWARD, of Baltimore, said he never used ergot to increase the expulsive powers under any circumstances. He thought that forceps were then to be resorted to. In the course of his remarks he expressed strong dissent from what Dr. Barker had said about the effect of chloroform on hemorrhage. He never would use an anæsthetic without following it by ergot. He depended greatly upon ergot when he had reason to fear post-partum hemorrhage. Squibb's extract, five grains to ten minims of water, injected deeply, had never in his experience caused an abscess, and produced its effect in one quarter the time that it would if taken by the stomach. When the uterus is more "frangible than dilatable," he found the best effects from chloral. One advantage not alluded to of ergot was the lessening of the tendency to puerperal fever by driving all the blood out of the uterus and preventing any stagnating discharges.

DR. TRASK, of Astoria, said he now used forceps in many cases where years ago he employed ergot. The latter is uncertain in its action. He administers a *full dose* (one drachm) just as the head is expelled, not to remove the placenta, which he expects to get out of the way before the ergot acts. He used this routine treatment on account of two or three cases which had happened when in multipare relaxation had come on in from thirty to forty-five minutes after the birth, with abdominal distention and flooding.

As to the use of anesthetics the speaker also differed from Dr. Barker. He so distrusted chloroform that he was resolved never to use it again. He had, last winter, a case where it caused uterine inertia, requiring the application of forceps, and followed by alarming hemorrhage.

DR. ENGELMANN, of St. Louis, emphasized the evils of ergot in the hands of midwives and ignorant practitioners. He said that ergot was to the midwife what forceps were to the skilled obstetrician. Some more harmless weapon ought to be put into their hands, as quinia, ipecac, or even Dover's powder. For himself the speaker always carried ergot, rarely used it, and then only when the uterus was empty. When subinvolution was feared there were safer agencies, as external pressure and hot-water injections. The latter should be always made antiseptic.

DR. DRYSDALE asked leave to defer his paper until some members in reply to whom it was written should be present.

#### TREATMENT OF THE PEDICLE IN OVARIOTOMY.

DR. SUTTON's paper on the treatment of the pedicle in ovariectomy was then read, in the absence of the writer, by the secretary. The paper discussed the

various methods in use among the leading ovariectomists of Europe, among whom the writer had been studying. In Houston's operation of 1701 there is no record of the disposition of the pedicle, and it is probable that the operator unconsciously performed enucleation of the lining membrane of the cyst. McDowell, in 1819, did the first systematic operation, and tied the pedicle, carrying the ligature through the opening. The extra peritoneal method was first employed in 1848. The *cérasseur* was first used in 1850. The methods of various operators during the last thirty years were briefly reviewed, most of the Germans, with variations as to the material of the ligature and the method of securing it, following in the main McDowell's original operation except that the free ends are cut off, and the pedicle thrown wholly back. Billroth, however, uses Pagnini's cautery after ligaturing; he does not use the clamp cautery. At present Sir Spencer Wells, following Stilling, uses the clamp, of which he is the only remaining advocate. It is worthy of notice that Keith also, in his use of the cautery, follows the same master, Stilling. The cautery is that of Baker Brown, and his method of employing it was learned from Koeberlé. The cyst is cut off one half inch above the clamp and the cautery at a dull red heat burns off the intervening tissue down to the clamp. The latter gradually becomes heated, and by the time the canterization has reached it, is itself in a condition to char the tissues that are held in its bite. They are thus converted into a substance like cold glue. With this method Keith has made the best record hitherto attained, fifty operations with only one death. He has now practically discarded the spray, having used it only twice in the last three months. Both these patients died. This result is ascribed to the septic condition of the infirmary where the operations were performed. But cases have occurred of poisoning from a five per cent. carbolic spray. Lawson Tait, it was remarked, ridicules Listerism, and uses for his instruments and sponges only pure water. In general the Germans follow Lister, and use the spray, though Billroth, after filling the room with spray, turns it off before the operation. The writer enumerated, as among favorable conditions for the operation, the use of purgatives after the operation, judicious use of opium, cleanliness, climatic influences, careful etherizing, absence of unnecessary spectators, having one regular assistant, avoidance of public hospitals. And as conditions of failure, besides the opposite of those just mentioned, repeated tapplings of the cyst and organic disease of other viscera.

MR. J. KNOWSLEY THORNTON, of London, being asked to open the discussion, said that waxing of ligatures, and steeping them in carbolic oil he had observed to cause pelvic abscess. He uses Chinese silk soaked in a five per cent. aqueous solution of carbolic acid. He corrected the essayist as to the position of Sir Spencer Wells with reference to the clamp, saying that that surgeon had for some years advocated the intra-peritoneal method, as almost all others have come to do. The speaker considered the spray an important element in the operation, and said that a perfect Listerism which could show a series of seventy-nine consecutive recoveries without a death was not to be lightly set aside. One advantage of the spray is that it enables the operator to dispense with drainage, which he found was apt to leave a weak spot in the cicatrix liable to permit ventral hernia. The speaker,

referring to a list of statistics given in the paper, made a correction as to the recoveries attributed to himself, which were in reality ninety-three in a series of one hundred cases. Practically his only deaths now are the malignant cases, and it is a question whether operation is justifiable upon such patients even at the solicitation of their friends. Theoretically Mr. Thornton is in favor of the cauterization, as not leaving any real foreign substance behind it, though this eschar might, he thinks, lead to putrefaction if Listerism were not observed. Practically he uses the ligature, the stump rapidly becoming vascularized if, as should be the case, the threads are not drawn absolutely tight. He had never seen a case of carbolic poisoning except once, in an infant, when nephrectomy was performed. He favored the free use of opium, giving a drachm of the tincture in the first twenty-four hours. In disagreement with the essayist, he avoids purgatives altogether. The matter of always having the same assistant was unimportant, no man being a competent operator unless able to work single handed. He concluded with a question about climatic influences, thinking they must be more unfavorable in America than in England. In answer to a question by Dr. Wilson, of Baltimore, Mr. Thornton said that laudanum at first diminishes the tendency to nausea, but after two or three days it was apt to cause sickness, which stopped with the cessation of the drug.

Dr. LYMAN considered opium as among the most effective antiphlogistics, and believed in its free use after operation. In answer to a suggestion from the President regarding bad effects from diminished secretion, he thought that these were more than counterbalanced by its antiphlogistic advantages. Apropos of nausea, he suggested that in special cases the soft opium picked out from the middle of the lump and administered in pill form was least likely to cause sickness.

Dr. KIMBALL, of Lowell, spoke of his long experience in ovariectomy as being almost a chronicle of the history of the operation. In the last thirty years he has had an opportunity to test most of the proposed changes in method. At first he tied the pedicle and left the ligatures inside. Then he had used the clamp, following Wells. Later he passed the ligatures through the posterior cul-de-sac into the vagina, after a time carrying them through a caula which still better facilitated drainage and permitted irrigation. Now he drops back the pedicle, burning it off with the cauterization at once, instead of, as formerly, first cutting it outside the clamp. He considers the spray of doubtful utility, and will not again use it. The speaker mentioned three cases, all within from twenty-four to forty-eight hours of the operation, of hæmaturia, suppression, and acute coma which he attributed to carbolicism from the spray. He uses Lister dressings externally. Regarding the influence of climate, he believed it was not so favorable as in England; he noticed that it was difficult here to comply with Brown's test that the skin should be in good condition at the time of operation. In answer to Mr. Thornton, Dr. Kimball said he had never known of hæmaturia, etc., simulating carbolicism, when the spray had not been used.

Adjourned.

During the intermission the Society and their guests were entertained by Dr. G. Kimball at the St. Botolph Club.

#### AFTERNOON SESSION.

The first paper was by Dr. T. PARVIN of Indianapolis on

#### THE CARE OF THE PERINEUM IN THE SECOND STAGE OF LABOR.

Statistics were given showing great divergence of observation regarding the frequency of ruptured perineum. This structure may, by reason of long exposure to the propelling force, give way several days after labor. The causes, so far as the pelvis is concerned, are a too acute angle of the pubic arch, too straight a sacrum, rigidity, infiltration, etc., of the perineum, and too great age of the primiparous patient. The causes referable to the fetus are lack of complete flexion of the head, and increased size of that part. The conduct of the labor was the element of the aetiology most discussed by the essayist. The use of the forceps is sometimes assigned as a cause, but it should be remembered that often their employment is delayed until the tissues have become oedematous, and they are often used under circumstances of haste. Failure to support the perineum and an attempt to do so have both been mentioned as causes of rupture. The reader believed that the true cause was precipitate delivery, that is, delivery when the force was too great and the time too short. Hence the secret of treatment is to hinder too abrupt expulsion. A position on the left side is most favorable as lessening downward pressure upon the fourchette and the too great separation of the knees, as well as from considerations of modesty and allowing the perineum to be better watched. The patient should be enjoined to breathe frequently and not to bear down. The head should be held back, and forceps may be of use in its management. If possible the head should be delivered in the interval between pains, and the fingers should press on the forehead of the child, so as to bring the occiput close up to the pubic arch. Incision as a prophylactic was considered. This is generally made laterally, but according to Tarnier is not always successful. He recommends an incision of the median raphe, curving away from the anus so as to spare the sphincter. The frequency of this operation was said to vary from three cases in 3246 in Dublin to 56 in 212 in Philadelphia. The paper closed with a plea for prompt sewing up of rents, for which purpose horse-hair was preferred as unobtrusive. The binding of the knees together after this operation was characterized as a "cruel barbarism."

Dr. ALBERT H. SMITH, of Philadelphia, opened the discussion, saying that to his mind it was more a question of managing the head than the perineum. The pressure of the head should be directed from the middle line of the perineum to the lateral portions where rupture rarely occurs. To do this, press on the part of the head which impinges against the mid-line of the perineum. This relieves the strain upon the raphe and at the same time widens the head. The manoeuvre is best executed with the thumb, but may be aided by the other palm lying on the perineum, the middle portion pressing it lightly, and the thumb and finger relaxing it by pressure on the sides. If the perineum is very rigid the finger may be advantageously used in the rectum, but it should be remembered that this may, if the pressure is considerable, cause paralysis of the sphincter. The speaker favors episiotomy in selected cases. He finds that incisions made one third of the way from the raphe to the clitoris on either side had a marked effect in letting the fourchette backward during transit of the head. If there is a slight rupture, he applies strong carbolic acid, so as to produce an es-



char and hinder septic absorption. If the rupture is deep, he sews it at once.

DR. MANN, of Buffalo, spoke of the treatment of rupture by *serre-fines* which he had formerly indorsed, but which he now no longer recommends. The accident of rupture is sometimes caused by a protrusion of the parietal bones catching in the upper part of the orifice and so increasing the tension. In such cases this part of the vulva should be slipped over the head first. His experience of episiotomy, confined to hospital cases, had been that diphtheritic deposits were apt to gather on the cut surfaces.

DR. CHADWICK believed that "supporting the perinaeum" was a misnomer, the proper manoeuvre being really a prevention of too rapid transit of the head. Contrary to Dr. Smith he saw nothing to be gained in diverting the pressure from the raphe to the sides. At the time of the emergence of the head the vulva is merely a circle attached at the perinaeum, and pressure is equal at all parts of that circle. No ordinary amount of abduction of the knees can stretch the perinaeum, but flexion of them can. Hence the thighs should not be carried too high when the head is emerging.

DR. HOWARD, of Baltimore, had confirmed Schroeder's statement of the greater safety of the lateral position by inquiries of a large number of parous women. Those who had escaped laceration were generally delivered on the side, and those with bad tears had all been on the back. When there was rigid perinaeum he found relaxation best promoted by anaesthesia. The speaker was surprised that no one had mentioned the influence of the shoulders in causing laceration. In his experience it was a common factor in producing rupture. To guard against it he was in the habit of introducing his finger and extracting the anterior shoulder.

With regard to the time of a primary operation the speaker preferred to do it at once, but he has had good results when obliged to defer it to the second day, therein differing from Hewitt, who says it is useless after one hour. The appearance of the freshly made tear may convey a fallacious idea of its extent and of the necessity for operation.

DR. P. F. MUNDE, of New York, spoke of the use of the forceps as a prophylactic. In one case where he had already done episiotomy, and feared a second laceration, the head did not come squarely down upon the floor of the perinaeum, owing to incomplete rotation; he put on forceps, and drawing the head well down onto the floor removed them, delaying the exit of the head as much as possible from that point. His treatment during the emergence of the head is with the patient on the side, the finger in the rectum, and the thumb on the head to push it back during the pains and extend it in the intervals, taking care not to produce a brow presentation. In this way he occupies fifteen to thirty minutes in getting it through the vulva.

DR. PARVIN, in closing the discussion, favored the old use of the forceps, when they were not removed but employed to keep the head well up to the pubic arch. He disapproved of the insertion of the finger in the rectum as exciting voluntary and reflex efforts, and taking up space. He considered the old term "supporting the perinaeum" as a true one. It is a reinforcement of the vulvo-vaginal ring.

DR. FORDYCE BARKER read a paper on

#### LEUCORRHOEA; ITS CONSTITUTIONAL CAUSES AND THERAPEUTICS.

It is not a disease, but is a symptom of many opposite conditions, and may itself become the cause of local changes. A variety of local means have been tried for its cure, as incising the cervix, sewing it up, and curetting the cavity. Their effect is only temporary, and the patients become a burden to themselves and a dread to their physicians. Leucorrhoea is their most prominent symptom, and they consider it, and not altogether wrongly, the cause of the rest. Tyler Smith believed that long continued leucorrhoea would cause erosion of the uterine canal, with the "cockscorn granulations," which are really the peniform rugae, enlarged, denuded of epithelium, and flexed. They resemble the results of laceration, but are distinguishable from the latter. Two cases in which Emmet's operation had been successfully performed with perfect relief of the symptoms, afterwards broke down by anxiety and overwork in taking care of sick friends; first leucorrhoea appeared, then excessive menstruation, then *backache*. The cervix in each case showed no sign of laceration, and no reposition of the lips was possible; yet the cock-scorn granulations were present. Both recovered under constitutional treatment and vaginal injections only. The reader agreed with Dr. Tyler Smith that leucorrhoea removes the epithelium and causes hypertrophy of the cervix. A case was then given in detail where a woman had been an invalid for eighteen months, unable to walk, the symptoms only mitigated by local treatment. There was excessive neuralgic pain, so that chloroform was necessary for the examination. The cervix was very low, sensitive, bleeding, os patulous, and everything bathed in a foul discharge. There was great gastric irritability and hemorrhoids. She was ordered to Long Branch, put on tonic treatment, and had sponge baths and vaginal douches of sea-water. The result was speedy cure of all the bad symptoms, recovery of locomotion, and pregnancy, the last child having been born twelve years before.

The importance of hygienic treatment for these cases was emphasized. The condition, sometimes known as "irritable uterus," corresponds to the "chronic catarrh of the uterus" of Scauzoni. Its constitutional causes are too often overlooked; among these are atmospheric influences, damp residence, plethora or anaemia (disturbances of nutrition), prolonged lactation, a standing position too many hours daily, nerve disturbances, (strong mental emotion being well known to cause leucorrhoea). The anatomy and physiology of the parts were then considered especially with reference to the circulation. The veins are of more importance as the seat of impediment than the arteries; they debouch into the uterine and pampiniform plexuses, which are outside the peritoneum. Any cause obstructing them disturbs the equilibrium of the circulation, especially any narrowing of the portal vessels; manifestly local treatment in such cases is fruitless. The writer had noted the disease frequently in young unmarried girls, especially those who had come to the city to finish their education; here overcrowding, overstimulation of brain, etc., may be assigned as causes.

The PRESIDENT indorsed the paper, saying that leucorrhoea ought no longer to be considered a disease.

DR. WILSON said that leucorrhoea might be a symp-

tom of an overtaxed brain or of indigestion. He criticised the tendency of gynecologists to be too much absorbed in local treatment. Any local trouble causes a demoralized state of mind which persists after the malposition or other mechanical trouble is relieved. When a woman has reached that point, often adversity or some necessary change in the manner of living is beneficial.

Brief remarks in accord with the paper were made by Dr. LYMAN and Dr. REEVES JACKSON of Chicago.

Dr. JOHNSON, of Washington, in confirmation of the last statement of Dr. Wilson spoke of cases that had got well when from lack of funds or other reason they had given up treatment and gone to work.

Dr. SMITH, while agreeing with the paper in its views as to the necessity for constitutional treatment, thought the local conditions demanded investigation. Why in a depraved state of the system does one patient suffer from chronic disease of the eye, another of the ear, and a third of the uterus? Because some local condition, inflammatory or otherwise, *elects* the particular organ as the seat of disease. What may seem constitutional treatment may in reality be a local treatment. Even "Long Branch" may have a topical effect, if it means absence of marital relations, avoidance of stair-climbing by use of an elevator, etc.

The PRESIDENT pointed out the reasonableness of perversions of nutrition being accompanied by sexual derangement, inasmuch as the functions of nutrition and generation are both presided over by the sympathetic system.

Dr. BARKER closed the discussion by referring to the value of the constitutional treatment when local examination is impracticable or unnecessary as in young virgins. He concluded with a sharp censure of the practice of some, particularly uneducated female practitioners, in continually examining their patients, who were thus completely broken down in their morale.

Adjourned.

#### RECEPTION AT THE ST. BOTOLPH CLUB.

In the evening the Society and its guests were invited to a reception given in their honor at the St. Botolph Club by the Boston Obstetrical Society. Many of the leading members of the profession in Boston were also present by invitation, and a pleasant evening was enjoyed.

#### SECOND DAY. MORNING SESSION.

The first paper was on

#### THE RELATIVE VALUE OF HYSTERECTOMY AND OF THE COMPLETE REMOVAL OF THE UTERINE APPENDAGES FOR THE CURE OF UTERINE FIBROIDS.

By J. KNOWSLEY THORNTON, M. B., C. M., of London, England.

The writer at the outset waived consideration of all so-called medical cases of fibroids, also of the many cases which caused the patients little or no discomfort. Also of polypoid growths which were readily twisted off. He confined his attention to the cases which, by hemorrhage more or less severe, pressure and displacement of neighboring viscera, cause pain or other grave symptoms, and whose removal necessitates abdominal section. These growths are chiefly fibrocysts, intramural, or subperitoneal fibromyomata, or sessile tumors, and though commonly said not to be

fatal, may cause a great amount of misery, and not infrequently, directly or indirectly, lead to death. Even when not necessarily fatal they may call for an "operation of expediency."

The statistics of hysterectomy in Europe are bad. In two hundred and twenty-one operations by ten surgeons there were only one hundred and thirty-one recoveries, the mortality being thus over forty per cent. The writer said, in passing, that he feared the real mortality of ovariectomy, if it could be known, was as high, but thought that with that high death-rate hysterectomy could not be looked upon favorably. In the operation for fibrocysts only (which most nearly resembles ovariectomy and gives the most favorable results) the mortality in the practice of these surgeons, including the writer, was 22.72 per cent. Taking the mortality of all cases of abdominal section for partial or complete supra vaginal hysterectomy at thirty to forty per cent., even though improvement has already begun with the use of the extra-peritoneal method, it is a dangerous operation, and the object of the paper was to recommend the substitution of a milder but equally effective procedure, namely, the removal of the uterine appendages. The first figures of Battey's operation were fourteen deaths in forty-six cases. Out of sixty cases by Mr. Thornton and two other surgeons, only five died, and of the writer's eight cases all recovered. The removal of the appendages cures the disease. The fibroid atrophies, the uterus soon regains its normal size or less, and the catamenia do not return. In all eight cases, one or both the ovaries were enlarged. It is not enough to remove the ovaries in whole or in part; a ligature must be applied to all the lateral vessels in the broad ligament.

After the blood supply of the ovaries and tubes is wholly stopped they are cut off. The tissues must be deeply traustrised and tied tightly. It is the ovarian and tubal arteries which are enlarged, and fortunately these are much easier to get at than the uterine arteries would be. Turning out the tumors from their capsule adds to the shock and is unnecessary, for directly the ligatures are applied the tumors begin to shrivel. In all of the cases where a year or more have elapsed the tumors have practically wholly disappeared, and the later cases seem taking precisely the same course. The writer uses perfect Listerism. The ligatures, of No. 3 Chinese silk soaked in a five per cent. solution of phenol, are perfectly absorbed. The mortality of the operation should be *nil*. Supra-vaginal hysterectomy is indicated in case the simpler operation should ever fail of its purpose, which the writer does not believe it will, or if there should be an alarming hemorrhage which makes the graver operation necessary.

Dr. GODDELL opened the discussion. He spoke of seeing Mr. Thornton operate in one of his cases where there was cyst of the ovary, which was opened and emptied. Hemorrhage was checked by protochloride of iron. A similar procedure in an operation by the speaker himself was the cause, he believed, of death. He was not disposed to abandon enucleation, in which he had been very successful. It does not mutilate the patient, and leaves the possibility of pregnancy. The speaker had performed oophorectomy four times for fibroids, with two recoveries. In commenting on these cases he mentioned incidentally that it was not uncommon to have a kind of false menstruation after the removal of both ovaries. Also that traction upon the

ovary he had observed to cause a peculiar species of shock, with great fall of the pulse. If during an ovariectomy fibroids are observed, both ovaries should be removed. The speaker closed emphasizing the great fatality of hysterectomy in this country, and even of exploratory operations. He would always do enucleation when possible.

DR. THOMAS said he had performed thirteen hysterectomies, with seven recoveries, of which one died in two months of chronic diarrhoea. He questioned much the propriety of the operation unless life is actually in danger. Forty per cent. of all Anglo-Saxon women are found in the post-mortem room to have fibroids, yet most of them never show any symptoms. If possible always remove fibroids per vaginam. It can be done if the vulsellum can be once fixed in the growth. The fear of going through the uterine walls is not well grounded. The speaker had three times done this himself without any bad results. He had never seen the intestine protrude through such an opening but once. The best method of doing hysterectomy is, if possible, to make a flap in the stump by a V-shaped incision; if this cannot be done, and the stump is broad, use Koeberlé's *serre-nœud* with glass drainage tube. When possible apply four ligatures to the pedicle and return it. Hysterectomy should not be done merely for hæmorrhage. This can usually be checked by curetting the endometrium, and removing fungoid growths. Often in cases where there is a large intramural tumor the hæmorrhage is really due not to this fibroid but to a small pediculated or submucous growth which could be easily removed. Caution should be used in doing hysterectomy after a course of ergot when the centre of the tumors may contain sloughs, which would be a source for septicæmia. The speaker had done seven oophorectomies (not for tumors), with five recoveries. Would certainly try that operation before hysterectomy for fibroid.

DR. KIMBALL spoke of his early experience of this operation, especially of having had the first successful result in it when undertaken upon a clear and correct diagnosis of fibroid. He characterized the operation as a "terrible" one, and refused to perform it unless driven to do so.

DR. ENGELMANN, referring to the symptoms of shock on stretching the ovary, cited the analogous effect in traction on the spermatic cord.

MR. THORNTON, in closing the discussion, said that though he had never noticed this phenomenon in direct traction on the ovary, he had long been familiar with it in rough sponging of the posterior cul-de-sac, of which the effect probably was to draw on the ovarian attachments. He prefers his new operation to enucleation unless the mucous covering of the tumor has ulcerated through, because the latter procedure requires to be repeated for subsequent similar growths. He would not return the pedicle in hysterectomy. The presence of the false menstruation after oophorectomy is puzzling. The amount of the flow seems to be proportionate to the degree of hæmorrhage from the fibroids before the operation.

#### THE ANNUAL ADDRESS BY THE PRESIDENT

was next in order. Dr. Lyman in the chair.

DR. EMMET spoke briefly of the work of the Society, and of the death of Dr. James P. White, of Buffalo, one of its founders. He then passed to the discussion of a professional subject, namely, A New

Method of Exploration, with the Pathology and Treatment of Certain Lesions of the Female Urethra. (The following is a synopsis: The general practitioner knows at present as little about the female urethra as he formerly knew about uterine disease before Sims invented the improved methods of exploration. Women have had their bladders heroically treated with nitrate of silver, when the disease was in the utero-sacral folds. The bladder has been opened, closed, and reopened without discovering that the real cause of the trouble was urethral polypus. Previous means of investigation have been inadequate for the diagnosis of urethral disease. Six years ago the author first practiced an operation which he has been since perfecting. The principle of it is a button-hole opening in the urethra whereby it may be inspected from the vagina. This method is the only one which is safe, simple, and within the capacity of any man of ordinary skill. The patient should be etherized, placed on the left side, and the anterior vaginal wall exposed. At first the writer used an instrument on the principle of button-hole scissors. The urethral blade being cylindrical, and the cutting blade meeting it through the urethro-vaginal septum. This he now no longer uses, substituting a block-tin sound in the urethra, upon which he cuts with a knife, extending the incision with scissors if convenient. The opening must stop short of the urethral outlet and of the neck of the bladder, else we shall produce incontinence. It should be beveled at the expense of the vaginal side, where the cut should be one third longer than in the urethral mucous membrane. The end toward the bladder should be more beveled than that toward the meatus. Through this opening the whole course of the urethra may be examined, the finger passed into the bladder, if desirable, and then the fistula be sewed up if wished. Contrary to the rule in closing vesico-vaginal fistula, the sutures must be passed well into the urethral mucous membrane. The patient must then lie abed a week, and the catheter should not be used. Or the fistula may be kept open any desired time by sewing the mucous membrane of the urethra to that of the vagina on the corresponding side of the button-hole. Cleanliness and the application of cerate to protect the freshly united sides from the action of the urine are all the precautions necessary. After the cure of the urethra this fistula can at any time be closed by secondary operation.

The essayist then considered the different forms of urethral disease already enumerated in his work on gynecology, with reference to diagnosis and treatment by this method. These are (1) inflammation; (2) pedunculated growths, which, if at the neck, are likely to be pushed before the endoscope and folded against the side of the bladder, being so lost to sight; (3) prolapse of the mucous membrane, which is often caused by the dragging action of the child's head; (4) fissure; (5) urethrocele, where there is a pouching of the membrane, often accompanied by a laceration between the long fibres. Here the excess of tissue may be removed through the opening; (6) laceration from forcible dilatation. This latter procedure Dr. Emmet emphatically condemned, saying that it often caused incontinence, which was very hard to cure.

DR. BARKER, in the absence of Dr. Lusk and in his behalf, spoke of the operation in high terms, the latter gentleman having used it with great success.

DR. SKENE, of Brooklyn, claimed that we have al-

ready an accurate means of diagnosis in the endoscope, which is adequate to the demonstration of all lesions except polypoid growths at the neck of the bladder. Minute fissures at that locality he claimed could thus be better seen than when everything was covered with blood and urine after an urethral opening.

DR. LEE spoke of favorable experience of Dr. Emmet's operation.

Adjourned.

During the intermission the Society was entertained by Dr. George H. Bixby.

#### AFTERNOON SESSION.

DR. T. G. THOMAS, of New York, read a paper entitled

#### NOTES OF TWENTY-ONE CASES OF EXTRA-UTERINE PREGNANCY.

After referring to the advance in our knowledge of the subject gained in the past ten years, and declaring his belief that ten years later the diagnosis and treatment of this class of cases would have become as certain as are those of female abdominal tumors now, he briefly reviewed each of the twenty-one cases which had come under his personal observation. In five cases there was rupture of the sac, of whom four died. In seven he interfered surgically, and three died. Two were tapped by the vagina, and both died. There was spontaneous discharge of the contents of the fetal tumor in three cases, of whom one died. Electricity was used in six cases, nearly all recovered. He had generally used an interrupted galvanic current, with seventeen cells, one pole in the rectum, and the other over the tumor, a few minutes at a time, for several sittings.

The symptoms in most of his cases which had led him to make the diagnosis were those of normal pregnancy accompanied by (1) irregular gushes of blood, ceasing and suddenly recurring, without assignable cause; (2) fixed grinding pain in one iliac fossa, and perhaps also down the corresponding thigh; (3) severe paroxysmal pain, with constitutional symptoms, soon passing off to return in a few days with increased violence; (4) symptoms of abortion without the appearance of the fetus; (5) the expulsion of membranes without an accompanying fetus. The physical signs which sustained the validity of the diagnosis were: (1) Increased size of the uterus, with displacement upwards, forwards, or laterally; (2) symptoms of vacuity in the uterus yielded by the passage of the sound or use of tents; (3) the presence to one side of or behind the uterus of a cystic tumor, somewhat painful, rather immovable, yielding to palpation a sense of obscure fluctuation and sometimes (though not of necessity) *ballotement*. In advanced cases the placental souffle, fetal heart, and fetal movements will be present, but in the tubal variety (which is most common) death occurs too soon to allow these means of diagnosis. To distinguish between a normal and an extra-uterine pregnancy he would dilate the cervix with a tent and explore the uterine cavity with his finger, though the presence of a fetus in the uterus would not disprove extra-uterine location, as both might co-exist.

He would draw the following conclusions: If the diagnosis be established with reasonable certainty before the end of the fourth month, he would advise elec-

tricity before all other measures, as it would be harmless if the diagnosis were wrong, it avoids the nervous disturbances caused by a cutting operation, and it requires no surgical skill. After the fourth month he would advise laparotomy (or electrolysis if the tumor be low down in the pelvis) since electricity would leave a large fetal body for absorption. If the pregnancy were abdominal he would wait for full term, and then do laparotomy or electrolysis. If full term be passed, and the fetus dead, he would wait the natural discharge of the fetal remains, and aid nature if necessary, but if there were bad symptoms he would do laparotomy with antiseptic precautions. If rupture of the fetal cyst occurred before the diagnosis had been made he would wait to see if the patient could endure it, but if the effects of hemorrhage, peritonitis, or septicæmia presented themselves, he would do laparotomy antiseptically.

DR. H. J. GARRIGUES of New York then read a paper upon

#### THE USE OF ELECTRICITY IN EXTRA-UTERINE PREGNANCY.

After giving the details of a single case the reader passed to general considerations. He held that the diagnosis of extra-uterine pregnancy in the earlier period was less difficult than that of normal pregnancy of the same date, and no more so than that of pneumonia or a fractured humerus. He relied upon the cessation of menstruation, nausea, the appearance of the breasts, colicky pain in the hypogastrium, frequent micturition, an extra-uterine tumor, over which there is felt pulsation in the vagina, the displacement of the uterus, the passage of blood and shreds by the vagina. Only parametritis, ovarian cyst, cyst of the broad ligament, and hydrosalpinx needed to be differentiated. There are five methods of destroying the fetus: (1.) Puncture of the sac, which is uncertain, and in which there is risk of hemorrhage and septicæmia. (2.) Injection, which is tedious. (3.) Electrolysis, with risk of septicæmia. (4.) Laparotomy, which is out of date. (5.) Dilatation of cervix, which might do toward the end of term. (6.) Electricity, which is sure and without danger, and which he advocated without reference to the age of the fetus.

DR. CAMPELL, of Georgia, detailed a case of tubo-ovarian pregnancy which went to full term without symptoms of rupture. He drew attention to the fact that alterations in the mammary glands, etc., might proceed from mere ovarian irritation.

DR. WILSON narrated a case of twin pregnancy, in which the uterine fetus was delivered at eight months, and the extra-uterine one at full term by abdominal section, living two years to die of some infantile disease.

DR. WILLIAM GOODELL differed from Dr. Garrigues as to the case of diagnosis in extra-uterine pregnancy, and gave notes of thirteen of his own cases, among which was one of a woman who, near full term, fell upon the upright of a chair and ruptured the wall of the uterus so that the foetus became sub-peritoneal, but recovered, and came to him many years later on account of an offensive vaginal discharge. The passage of the sound discovered a foreign body in the uterus, and, after incising the cervix, he removed fetal bones, intestines, and scalp.<sup>1</sup>

<sup>1</sup> Vide JOURNAL, September 14.

Dr. SMITH suggested the thermometric test to determine the death of the fetus.

Dr. LYMAN thought that in the stage when electricity was of most value the diagnosis was most difficult.

Dr. HOWARD, of Baltimore, mentioned several cases, and called attention to the hearing of the fetal heart without the placental souffle as an important point in diagnosis.

Mr. THORNTON, spoke of two cases of his own, and asserted his conversion from the knife to electricity since hearing Dr. Thomas's paper.

Dr. GOODELL agreed with Dr. Howard as to the value of the absence of the placental souffle, which, being really a uterine souffle, could not be present in extra-uterine pregnancy, since there was no uterine tissue, and, even were it placental, the placenta would be too far removed from the ear.

#### ANNUAL BUSINESS MEETING.

Thursday evening the Society held its annual business meeting at which the following officers were elected: President, Dr. Gilman Kimball, of Lowell; Vice-Presidents, Dr. A. H. Smith, of Philadelphia, and Dr. Theophilus Parsons, of Indianapolis; Secretary, Dr. Frank P. Foster, of New York; Treasurer, Dr. Paul F. Mundé, of New York; Council, Drs. John Byrne, of Brooklyn, W. T. Howard, of Baltimore, A. R. Jackson, of Chicago, and H. F. Campbell, of Augusta, Ga. Drs. M. D. Mann, of Buffalo, and W. H. Baker, of this city, were elected to fellowships, and Dr. Lawson Tait, of Birmingham, Eng., and Mr. J. Knowsley Thornton, of London, to honorary fellowships. It was voted that the next session of the Society be held in Philadelphia on the third Tuesday in September, 1883.

(To be concluded.)

### Recent Literature.

*Mental Pathology and Therapeutics.* By W. GRIESINGER, M. D., Professor of Clinical Medicine and of Mental Science in the University of Berlin; Honorary Member of the Médico-Psychological Association; Membre Associé Étranger de la Société Médico-Psychologique de Paris, etc., etc. Translated from the German (second edition) by G. LOCKHART ROBERTSON, M. D., Cantab., Medical Superintendent of the Sussex Lunatic Asylum, Haywards Heath, and JAMES RUTHERFORD, M. D., Edin. New York: William Wood & Co. 1882.

Griesinger's *Pathologie und Therapie der psychischen Krankheiten*, published in 1845, while the author was not quite thirty years old, and an assistant physician in an insane asylum, soon became the first authority in mental disease. The second edition, very much enlarged, appeared in 1861; the third, unchanged, in 1867, the year of the publication of a translation by the New Sydenham Society, and the fourth in 1876, after the author's death. Too much praise cannot be given to a book which marked an epoch in the progress of the study of mental disease, and which for nearly a third of a century maintained its position as the best treatise on insanity in any language. The views expressed therein are still in the main held by alienists in all parts of the world, although the book

is naturally far from being abreast of the work of the leading German writers of the present time.

The reprint of the Sydenham Society translation, just issued by Messrs Wood & Co., is on very poor paper, with such type and so crowded as to be read only with difficulty. On 370 pages are contained the 538 of the German, and the 524 of the English edition. In spite of the fact that the translation has been poorly done, most of the errors are of a kind not to lead one very far from the original. It is obvious, for instance, what is meant by *strong* inflammation, and that *mind* is understood where *soul* is expressed. It might not be clear that a *delirious perception* is a translation of the German word for *delusion*, and certainly none but a German scholar would know what is meant by saying that "dry and moist constitutions" (!) are equally liable to insanity.

However much this book is to be condemned as destructive of eyesight and productive of brain weariness, it must be acknowledged that Griesinger is still, to those who read only the English language, the first authority in mental disease, as well as the most scientific writer upon insanity.

*Annotazioni di Chirurgia Etoromorfa.* Per I DOTTORI G. ALBERTINI e P. PASZERI. Milano: Pietro Agnelli. 1881.

Under this title is published an excellent monograph on osteotomy and osteoclasia based solely on clinical facts in the experience of the writers.

The work is well illustrated, and is a valuable addition to the literature of the subject. With the exception of MacEwen and Boeckel's books the monograph in question is the most useful contribution on these new procedures in surgery. The illustrations alone present convincing evidence that osteotomy and osteoclasia are not a passing craze among enterprising surgeons.

— Triplets occur in France but once in 8256 labors. The following case, reported by Hergott (*Ann. de Gynéc.*, June, 1882), is the only one that has occurred in the last ten years in the maternity at Nancy. S., aged twenty-four, nullipara, entered hospital in labor five hours. Membranes had ruptured, cervix was obliterated, os dilated one inch, auscultation reveals two fetal hearts, one above umbilicus and to the right, the other below; on the left nothing is heard. Palpation is difficult, but one head is determined above on the right, a second is engaged. In two hours a female is born, followed shortly by a male. A third fetus is then discovered, presenting by the breech. Is soon born, and is a male. One female and two males is usual, but, usually, the presentation for all is vertex. The placenta was double, united by a membranous band. Each fetus had separate cords, but those of the males united, and were inserted into the same placenta. Each fetus was inclosed in separate membranes. On the third day the last child born died; the following day the second male; fifteen days after the female. The mother recovered. — *Am. Jour. of Obstetrics*, August, 1882.

# Medical and Surgical Journal.

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## THE NEW SCHOOL OF VETERINARY MEDICINE.

At the last meeting of the Overseers of Harvard University the appointment was made of a Professor of Veterinary Medicine, and thus the first step taken toward the establishment of a course of veterinary instruction.

The need of such an opportunity for the study of comparative medicine has long been felt in this community by those capable of appreciating the deficiency, and it is cause for congratulation that the want is at last to be supplied. The appointment, made at the same time with the new Professor of Surgery, suggests not exactly a close relationship between the veterinary and human medical courses, but at least a coöperation between them. Such an association would, without doubt, be for the benefit of both courses. Comparative medicine is capable of being utilized for the benefit of students of disease as seen in the human race; we are not aware that it is systematically so used, as yet, anywhere in the United States, though one of the oldest universities of the country is now maintaining a gentleman abroad, we believe at Alfort, who is fitting himself to instruct in such branches. The abundant opportunity for post-mortem examinations offered by a veterinary infirmary gives it certain advantages, and we can imagine a time when comparative medicine will form part of an introductory course to a higher medical school, as comparative anatomy does already in some of the schools of the old world — or better, perhaps, when human and comparative pathology shall be studied together, each serving to illustrate the other. We feel sure our dumb fellow-sufferers would be none the worse for being intrusted to the medical care of those who know something of the relations their diseases bear to human ailments.

We have only begun to study the reciprocal pathological relations of men and animals. Hydrophobia and glanders suggest well known relationships; trichinosis is even more important and influences strongly an important branch of commerce; and the work of Toussaint and his confrères at Alfort, Lyons, and other French veterinary schools, in connection with the researches of Pasteur, opens a field the importance of which to the human race we hardly dare to contemplate.

The first duty, however, of the newly appointed professor is evidently the instruction of future practitioners of veterinary medicine, and it is to be hoped the efforts of the university will be encouraged by the attendance of a goodly number of appreciative students.

The new professor, Mr. Charles P. Lyman, is known as the author of the report of the Agricultural Bureau on Contagious Pleuro-Pneumonia, and there is every reason to expect that he will prove a popular and successful instructor.

## ANTHROPOMETRY.

This subject, the importance and value of which is evidently making itself more widely felt, has on several occasions recently been brought before the readers of the JOURNAL, and we are glad to welcome a new contribution to it which comes from Milwaukee under sanction of the Wisconsin Board of Health. To the last report of that Board, Dr. Geo. W. Peckham, teacher of biology in the Milwaukee High School, contributed a paper on the Growth of Children. We are pleased to have this evidence that the work of Dr. H. P. Bowditch, embodied in his paper on this subject in the eighth report of the Massachusetts Board of Health, is bearing fruit, and stimulating others to labor in the same field.

A good deal may be done even in so extensive a department of inquiry by a few judicious, earnest, and enthusiastic workers, and much must be done in gathering and comparing individual and class measurements before general laws can be reached. We have previously directed attention to Mr. Galton's suggestions in regard to anthropometrical laboratories, and Professor Pagliani's researches and conclusions in regard to growth in Turin were noticed in the columns of the JOURNAL by Dr. C. S. Minot not long since.

Dr. Peckham's paper presents the results of measurements taken among the public and private school-children of Milwaukee, a city of 125,000 inhabitants. The cards used in obtaining the data were those adopted by Dr. Bowditch in his measurements of the children in the public schools of Boston. Measuring rods built upon firm platforms were used in taking the heights, and Fairbanks' scales, the accuracy of which was frequently tested, in taking the weights. Due care seems to have been taken in obtaining these data as well as in arriving at the birthplace of parents and grandparents. Some private schools were, as has been said, included in these inquiries.

In making up his tables, Dr. Peckham has departed from the usual practice followed by Roberts, Gould, and the majority of previous compilers of anthropological statistics, and substitutes "averages" for "means." His inquiries have impressed him strongly with the belief that race, sex, and age being left out of view, the degree of density of population is the most important factor in determining the size of individuals.

His results are summarized as follows: —

I. The rate of growth in the two sexes is such that the boys are taller until the twelfth year, and heavier until the thirteenth; between thirteen and fifteen the girls are both taller and heavier; after the age of fifteen the boys excel the girls both in weight and in stature. Girls nearly cease to grow when about seventeen years of age.

II. Children of pure American<sup>1</sup> descent are taller than children of foreign-born parents; but when compared in weight with children of German parents are, on the whole, lighter. The greater height is largely due to difference in stock or race.

III. For the same reason children of American<sup>2</sup> parentage are taller than those of either German or Irish; and the Irish are taller than the Germans.

IV. School children in Milwaukee are taller than school children in Boston. The weight of boys in Milwaukee is greater than that of boys in Boston. Girls in Boston are very slightly heavier than girls here. The superiority in height is probably due to the less degree of density of population in Milwaukee as compared with Boston, the struggle for existence is not so severe, and the life here has fewer urban disadvantages than in that city.

V. The height of American-born men, as is shown by my tables, is apparently more modified by the conditions accompanying density than by all other influences, race excepted; urban life as compared with rural life tending toward a decrease of stature. The forces here referred to act at all ages from five years upward.

VI. The rate of growth of Germans is markedly modified by residence in this country through one generation. In inter-marriage between Americans and Germans the offspring seem to take the height of the taller parent.

VII. The growth of the body and of the lower extremities takes place in such a way that the length of the body of the girl is less than that of the body of the boy until the tenth year, and thereafter greater until the sixteenth. From fifteen to eighteen the bodies of girls grow only two inches, and the bodies of boys over four. For the lower extremities, at nine years those of the girl are longer, at eleven shorter, and from twelve to fourteen again longer. At fourteen the lower extremities of the girls almost cease growing, while those of the boys increase by four inches between the ages of fourteen and nineteen.

#### MEDICAL NOTES.

—Prof. E. S. Wood, M. D., of Harvard College, and Prof. B. F. Davenport, M. D., of the Massachusetts College of Pharmacy, have been appointed by the Board of Health, Lunacy, and Charity the analysts under the act relating to the adulteration of food and drugs in Massachusetts.

—The *Berliner klinische Wochenschrift* makes the following observations upon the difficulties which lately arose in supplying a successor to Professor Laugenbeck: "Our readers are aware that not only Billroth, of Vienna, but also Volkmann, of Halle, declined complying with the call to Berlin. We cannot but, in the interest of our University and city (a large circle in which has manifested great interest in this nomination), express the liveliest regret at the refusal

of two such men, whose names, especially that of the former, must necessarily present themselves when the first German surgeon is sought to be obtained for the chief city of the German Empire. It would, however, be entirely untrue to assign these refusals to any other cause than the personal relations which both clinical professors have established with their respective universities. And Volkmann's refusal is a strong proof how little reality there is in the fear-created phantom that a powerful centralization is to be dreaded. If a town and University like Halle can maintain a rivalry with Berlin, and fetter the wishes of a power of the first rank, this shows how far we, to our great joy, are removed from the condition of things which prevails, for example, in France, where such an occurrence would be an impossibility."

—The New York Post-Graduate Medical School has issued its prospectus for the coming year. The faculty is as follows: James L. Little, M. D., Professor of Clinical and Operative Surgery. William A. Hammond, M. D., Professor of Diseases of the Mind and Nervous System and of Medical Electricity. D. B. St. John Roosa, M. D., Professor of Diseases of the Eye and Ear. Clinton Wagner, M. D., Professor of Diseases of the Throat. Henry G. Piffard, M. D., Professor of Diseases of the Skin. Frederic R. Sturgis, M. D., Professor of Diseases of the Genito-Urinary Organs and of Venereal Diseases. Montrose A. Pallen, M. D., Professor of Diseases of Women and of Operative Midwifery. Thomas E. Satterthwaite, M. D., Professor of Histological and Pathological Anatomy. Mary Putnam Jacobi, M. D., Professor of Diseases of Children. Edward C. Spitzka, M. D., Professor of Medical Jurisprudence and State Medicine. William G. Morton, M. D., Associate Professor of Diseases of the Mind and Nervous System and of Medical Electricity. Herbert G. Lytle, M. D., Associate Professor of Genito-Urinary Diseases and of Venereal Diseases. Edward T. Ely, M. D., Associate Professor of Diseases of the Eye and Ear. William H. Porter, M. D., Associate Professor of Histological and Pathological Anatomy. Whitfield Ward, M. D., Associate Professor of Diseases of the Throat. S. M. Roberts, M. D., Associate Professor of Diseases of Children. W. T. Alexander, M. D., Associate Professor of Diseases of the Skin. Henry Hughes, M. D., Associate Professor of Diseases of Women and of Operative Midwifery. M. Josiah Roberts, M. D., Instructor in Orthopaedic Surgery and Mechanical Therapeutics. Seneca D. Powell, M. D., Instructor in Clinical Surgery. Graeme M. Hammond, M. D., Instructor of Diseases of the Mind and Nervous System and of Medical Electricity. John H. Nesbitt, M. D., Instructor in Clinical Surgery. C. A. Van Randolr, M. D., Instructor in Gynecology and Operative Midwifery. G. Fairfax Whiting, M. D., Instructor in Diseases of the Throat. S. S. Burt, M. D., Instructor in Diseases of the Eye and Ear. J. Hilgard Tyndale, M. D., Instructor in Physical Diagnosis and Diseases of the Chest. N. E. Brill, M. D., Instructor in Medical Jurisprudence and State Medicine. There will be three lecture terms of seven weeks each,

<sup>1</sup> Pure American; both parents and grandparents born in the United States.

<sup>2</sup> American; parents born in the United States.

beginning respectively on the 6th of November, 1882 the 8th of January, 1883, the 12th of March, 1883.

—The *Glasgow Medical Journal* in a very trenchant book review takes occasion to criticise severely the use of medical, and particularly *quasi* popular, literature as a means for an author of "putting" himself. The book in question, on Diet and Regimen, is commended to practitioners who are advised in the preface that they may also "safely put it into the hands of their patients," the author carefully appending both his town and sea-shore address. The authorities cited seem to consist chiefly of other works by the same author, and the book ends with a descriptive catalogue of works by ———, M. D., occupying, with their contents, press opinions, etc., twenty-three pages. The naturalness of human nature is evidenced by the fact that a slight tendency to this same sort of thing is occasionally witnessed even in modest America.

—The same reviewer makes a criticism as pointed as it is brief on another book, namely:—

*Abridged Therapeutics.* By W. N. SCHUESSLER. London: Elliot Stock. 1880.

A concise manual of homœopathic therapeutics, of no value whatever.

## Disseclamp.

### "THREATENED WITH TYPHOID."

MR. EDITOR.—No journal coincides so nearly and so generally with my own ideas as the Boston Medical and Surgical, and for that very reason it is a pleasure to write you an occasional remonstrance when you give utterance to sentiments with which I cannot agree.

You object, in your last issue, to the phrase "Threatened with Typhoid," apparently because you think it is used by men who claim the power of aborting the disease after it is once fully established. For such use of the phrase I have no word of excuse; but still there is a threatening which may be properly spoken of as such. Let me give you a little item of personal history.

Several years ago I was an inmate of an institution in which typhoid fever showed itself. Two young gentlemen, with whom I was intimately connected, were successively stricken down with it. (The conductor ventilated the sewers of the neighborhood directly under their windows.) One of these cases remained in the house, and was in part under my care. The diagnosis in each case was confirmed by gentlemen whose official position guaranteed their ability. After the disease was fully established in the second case, I found myself afflicted with a slight headache, marked dullness, quickened pulse, and, if I remember, a raised temperature. Fearing that my condition was the result of imagination (I had naturally dwelt much upon the sickness of my friends and my similar exposure), I applied for advice to two physicians outside of the institution. They both told me I was threatened with typhoid, and advised me to clear out, which I did. In the country I very soon returned to my normal state, and after perhaps a week or ten days returned to my duty; long before either of the cases mentioned above had even begun to convalesce. There can be

no doubt, at least there was none in the minds of my advisers, that if I stayed I should have been the victim of typhoid: I was threatened with it, and the catastrophe was averted. Such cases are not rare. This one merely serves as an example.

Even with this incomplete note lying on my desk, a woman who has for two weeks nursed her brother with typhoid in a house where there have been two other cases, both fatal, comes to me to tell me that she feels decidedly stupid, and has a slight diarrhoea. Shall I quote your words, and tell her that she "has or has not the disease," and advise her to say *kismet*, with the Turkish soldier, and accept what the Lord sends her? Or shall I, on the other hand, incur your displeasure, tell her she is threatened with typhoid, and thereby induce her to absent herself from the scene of danger, and possibly escape? In following the latter course I do not deceive myself; I do not think that I deceive her; certainly I use language which the patient understands and may profit by.

I fear, Mr. Editor, I have simply failed to understand you. Y.

### LETTER FROM PHILADELPHIA.

MR. EDITOR.—Evident signs of renewed activity are already exhibited in our several Societies. The College of Physicians, at its meeting September 6th, examined a case of immense, multiple, lymph adenoma encircling the neck, in a man about fifty years of age, in which the size of the swelling threatened suffocation. Dr. Addinell Hewson, who exhibited the case, treated it with applications of moist clay spread upon strips of bandage, renewed daily; and within a month the swelling had greatly diminished, and when presented it had reduced to more than one half. There had been no suppuration. The case was exhibited during the course of the treatment, in order that he might again be shown at a stage when the tumors might be still more reduced or entirely removed.

Dr. Whitaker, of Cincinnati, who has been spending some time in Professor Koch's laboratory in Berlin, passed through this city on his return home, and the College of Physicians, at the instance of Dr. I. M. Hays and others, improved the opportunity by inviting him to deliver a lecture before the College, upon the Bacillus tuberculosis and the methods adopted for its detection. Dr. Whitaker consented to give an informal demonstration of the subject, and a special meeting of the College was called for the purpose of receiving it on the 18th inst., which was largely attended. The remarks of the lecturer were received with close and appreciative attention and applause. He introduced his remarks with a short reference to the history of the doctrine of the contagiousness of consumption, giving a *resumé* of the experiments of Villemin, Klein, Cohnheim, Klebs, Toussaint, and others with regard to determining the question of the communicability of tuberculosis; and finally described the discovery of Koch of the tubercle bacillus, and the means taken to verify the supposed fact of its being the primary cause of pulmonary consumption. The means by which this organism can be detected were given in detail. Having a solution of aniline oil, in excess, in water (previously agitated for five hours) add to it methyl violet in alcohol (a concentrated solution) in the proportion of one hundred parts of the first to eleven of the second;



then with a platinum probe (rendered aseptic by heat) a small portion of the sputum or tissue is taken up and laid upon a glass slide, which is then passed two or three times through the flame in order to dry it, being careful not to burn it. Some of the coloring solution is now placed in a watch-glass, and the glass slide placed on top of it, face downwards, so as to expose the specimen to the solution, where it is allowed to rest for half an hour. The next operation is to decolorize it to a certain extent by exposing it to an acid bath (nitric acid, one part, distilled water, two parts), in which it is immersed and allowed to remain until it is almost entirely decolorized. It is then removed, and washed; a few drops of vesuvin are then allowed to flow over the surface, which gives everything a brown color *except the tubercle bacillus*, which keeps the violet color. The excess of coloring matter is next removed, and the specimen is ready for mounting and examination under a power of from four hundred and fifty to five hundred diameters. A number of beautiful preparations were exhibited under the several microscopes upon the table. It was declared that the bacillus of tubercle might be identified not only by its chemical and physical characters, which were described, but also by physiological experiment. The method of culture followed by Koch and the results of his experiments upon rabbits are already known. It was found in the course of the experiments that the tubercle bacillus only thrived in a temperature of from 30° C. to 41° C., and therefore its natural habitat must be inside the human body, especially in the lungs. The pathology of consumption, therefore, may be regarded as definitely settled, its place being among the acute infectious diseases. Tuberculo-sis means infection by the tubercle bacillus, and the giant cells found in the alveoli, about which there had been much discussion, are now regarded simply as large capsules for bacilli. With regard to the question of protective inoculation, it was pointed out that phthisis is not a self-protective disease, and therefore inoculation would not be likely to grant immunity. Safety, on the contrary, is only obtained by keeping free from the parasite. In concluding his remarks, Dr. Whitaker said that it had always been regarded as a breach of politeness to spit in public, but now it must be looked upon as more than a disgrace, as constituting a real danger of spreading the disease by the infected material drying into dust to be breathed into the air passages of others. Remarks were made by several Fellows of the College, and some questions were asked, which the lecturer answered courteously. On motion of Prof. S. D. Gross a vote of thanks was unanimously tendered Dr. Whitaker for his kindness in presenting this subject to the College.

A very interesting case was reported at the last meeting of the Philadelphia County Medical Society by Dr. J. I. Eskridge, which was remarkable not only for the recovery of the patient, but also for the effects of the remedy employed and its extraordinary amount. A middle-aged man was overcome by mephitic gases in cleaning out a deep cess-pool, and two other men who went down to rescue him were affected similarly, though to a less degree. There was no accumulation of carbon-dioxide, as a lamp had been let down, and burned without being extinguished. When Dr. Eskridge was called to the patient, he was comatose, cyanosed, and the feeble pulse was beating at the rate of two hundred per minute. It was decided to give am-

monia by intra-venous injection, and accordingly the median basilic vein was cut down upon, and a temporary ligature placed around it. By mistake the aqua ammoniac fortior was obtained from the druggist, whereas the doctor administered it as if it were the dilute solution. Twelve syringefuls (each containing about thirty minims) were given in pretty rapid succession, with most marked effect; the heart regained its power, the pulse became full and strong, and fell to eighty in the minute; the man quickly revived, and entirely recovered. The accident happened three months before being reported, and the patient was presented in good state of health to the Society. A small abscess had occurred at the point of incision, but it was superficial, and had rapidly healed. In this case it was stated, therefore, that nearly six drachms of strong water of ammonia were given by intra-venous injection, not merely without injury, but with absolute benefit to the patient. No heart trouble of any kind was caused, nor in fact any other unpleasant result except the small abscess, which was probably due to the original incision.

Professor Goodell had a case of nephrectomy last week, in a private patient, sent from Salt Lake City. She was about fifty years of age, menstruation regular, supposed to have ovarian tumor of recent growth. Upon performing laparotomy (under the carbolic spray and other precautions) Professor Goodell found that the tumor was in reality renal, the kidney had been converted into an immense cyst, which was turned out, and the pedicle, including the largely hypertrophied though patulous ureter, was ligatured. A small calculus (resembling uric acid) was found lying in the cyst after removal. The patient, during the few days that have now elapsed since the operation, has done remarkably well, and gives promise of speedy recovery. The case will be reported to one of the societies, probably the obstetrical, some time during the winter.

While discussing interesting cases, it is worth while to mention one at the German Hospital, now under the care of Dr. Ferd. H. Gross. The patient, a robust man, over fifty years of age, and weighing nearly two hundred pounds, has suffered for years with trigeminal neuralgia of the right side of his face, for which he had all his teeth on this side extracted, but without relief. As his sufferings were becoming constant and intolerable, he applied to Dr. F. H. Gross, who advised ligature of the right common carotid, which was performed at the hospital. This relieved the pain entirely for a time, but it again appeared in the lower jaw, and this surgeon accordingly trephined the jaw and removed a considerable part of the trunk of the inferior maxillary nerve. After this the patient was entirely free from pain for two years. He then applied for relief from pains in the upper jaw, and Dr. Gross resolved to excise the second branch of the nerve by a modification of Wagner's method, which he performed as follows: A curved linear incision was made along the lower border of the orbicularis palpebrarum muscle, and the tissues dissected off so as to expose the origin of the levator labii superioris muscle, which was pushed to one side, so that a hook might be introduced under the nerve as it emerges from the infra-orbital foramen by means of which a silk ligature was next placed around the external branches and tightly drawn. Next, the periosteum was elevated from the floor of the orbit by proper dissection, and an elevator (made for the purpose out of a silver tea-spoon) was

placed under the periosteum, and the structures of the orbit were lifted up out of the way. The track of the nerve trunk could then be seen in the bone, and the canal was laid open, and the nerve was separated by a hook running all the way back to the sphenomaxillary fissure. A slender knife, bearing a very short and pointed blade at right angles to the shaft, was then introduced as far back as the foramen rotundum, and the trunk of the nerve cut, the peripheral end being next drawn out through the infra-orbital foramen, and the radiating branches were cut last; the wound was then closed by three or four ligatures. There was anaesthesia of the side of the nose after the operation, but no disturbance of vision. It is now more than a week, and everything is progressing toward recovery. There has been no pain whatever since the operation.

Having devoted so much space to the narration of cases, I am warned to be brief. Among the more important items of news is the presence in Philadelphia of Dr. Morell Mackenzie, of London, in whose honor an informal reception will be given by the Pathological Society on the 28th inst., on which occasion Dr. J. Solis Cohen will read a paper on Tuberculosis of the Larynx. As the profession generally is invited, it is hoped that some visitors may be present from Boston and other cities.

Among the minor items of interest occurring in this city, is that of a case of a healthy infant, three months old, one morning left by its mother in bed, who returning after a "few moments'" absence, found a large black cat sitting on the baby, with its head close to the child's mouth. The cat was at once driven away, but the child was dead. The query is, Did the child die of suffocation from having a heavy cat on its breast, or because the cat's breath was inhaled and was fatally deficient in oxygen; or was there a combination of both? The fact that the child's breath smelt of sweet milk might prove sufficient explanation of the position of the cat.

An instance of cream-puff poisoning occurred in this city recently, which resulted in a boarding-house keeper suing the confectioner for damages, because all his boarders were made sick. Another unusual suit for damages is down for trial next month. A lady sent a prescription to a druggist which required rhubarb pills; the intelligent assistant, not being able to find any of rhubarb, substituted compound cathartic pills, without notifying the patient, who took them according to the directions, was salivated and made very sick, and now seeks redress in the court for personal injury and loss of time.

I had also intended to devote some attention to what are claimed to be the oldest twins in the United States, living in Bucks County, Pennsylvania. They are both male, over ninety years of age, have always lived in the same house, and were never married. They always vote the Democratic ticket, and probably, like all the others, attribute their longevity to the free use of tobacco and alcohol, and no doubt rise each morning early and cut a cord of wood before breakfast, but for this your correspondent is unable to vouch from personal observation, and would not believe it if he saw it.

Professor Gross has been working hard over the new edition of his great work, the System of Surgery, which is now all completed, and the author is giving himself a season of rest at the seashore. He is looking quite well, however, and his manner is as cordial and courtly as ever. Although relieved of the labor of

didactic lecturing his interest in clinical surgery brings him constantly to the clinics of his son at the College hospital. The preliminary lectures are now being delivered at the colleges, the regular session of each beginning Oct. 2d.

#### WOMEN AT THE UNIVERSITY OF LONDON.

The following concerning the female candidates who have obtained honors at the recent examinations of the London University is taken from the *London Queen*:—

In intermediate examinations in medicine no woman's name appears in either sections of anatomy, materia medica, chemistry, or physiology, but in the examinations in arts and sciences, more particularly in the sections of modern languages, women are far more successful. The critical study of their mother tongue, however, seems hardly to be so much affected by them as that of French and German, although Miss Annie Dawe, of Bedford College, and Miss Louisa Brown, of Cheltenham, are in the second and third classes of honors in English. In Latin, though no feminine name appears in the first class, Miss Louisa Macdonald, of University College, heads the second, and Miss Helen Pattison, of the same college, and Miss H. E. Macklin, of Bedford, are in the third.

In French and German, however, the ladies more than hold their own. Miss Marguerite D. M. Goldschmidt, of Bedford College, is first of the first division in French, carrying off also the extra prize; and in the third class are the names of Miss H. Pattison, Miss C. Rickett, of Bedford College, Miss Adelaide Klein and Miss E. Macklin, both of Queen's College, and Miss Edith M. Pope. In German, again, the list is headed by a lady, Miss E. A. S. Dawes, and Miss Macklin, of Bedford College, are in the third class.

In the science subjects that are not strictly medical the name of one lady, Miss Elizabeth F. Toone, appears in the third class of honors in inorganic chemistry; while in experimental physics Miss Edith Aitken, of Gifford, is in the second class, and Miss Toone and Miss C. M. Pole, of Bedford College, in the third. Honors in botany fall but to the share of two ladies, Miss Aitken, who is in the first class, and Miss Isabel Clare Evans, of Mason College, Birmingham, in the second, while the zoological honors are all taken by men.

In the mathematical honor list the names of women do not appear, nor in that for zoology. In science generally the female students can hardly be said to be preëminently successful, while in modern languages other than English they have secured far more than the average proportion of the honors due to their numbers.

To the doctrinaires who maintain the absolute identity of the intellectual powers in the two sexes, the publication of these results must be the reverse of gratifying; while to those who recognize the rapid perception and great intellectual acuteness of well-trained girls, the list will not be surprising. That young women should prove better linguists than men of a similar age is what every experienced educator expected. That they should not be equal to them in abstract or practical science will disappoint no one except those cruetty individuals whose conclusions can hardly be excused even on the ground of their want of experience.

## REPORTED MORTALITY FOR THE WEEK ENDING SEPTEMBER 16, 1882.

| Cities.                            | Population by Census of 1880. | Reported Deaths in each. | Deaths under Five Years. | Percentage of Deaths from         |                |                     |                |                       |
|------------------------------------|-------------------------------|--------------------------|--------------------------|-----------------------------------|----------------|---------------------|----------------|-----------------------|
|                                    |                               |                          |                          | The Principal "Zymotic" Diseases. | Lung Diseases. | Diarrheal Diseases. | Typhoid Fever. | Diphtheria and Croup. |
| New York.....                      | 1,206,590                     | 613                      | 218                      | 30.64                             | 8.80           | 20.05               | 1.79           | 1.96                  |
| Philadelphia.....                  | 846,384                       | 316                      | 128                      | 14.22                             | 2.43           | —                   | 3.48           | 8.22                  |
| Brooklyn.....                      | 566,689                       | 266                      | 127                      | 34.95                             | .56            | 20.67               | 2.26           | 4.12                  |
| Chicago.....                       | 503,504                       | 249                      | 143                      | 37.55                             | 6.82           | 25.70               | 6.42           | 3.21                  |
| Boston.....                        | 362,535                       | 158                      | 46                       | 24.69                             | 5.70           | 19.00               | 3.80           | 1.90                  |
| St. Louis.....                     | 350,522                       | —                        | —                        | —                                 | —              | —                   | —              | —                     |
| Baltimore.....                     | 332,190                       | 171                      | 67                       | 29.78                             | 1.75           | 6.42                | 1.75           | 9.92                  |
| Cincinnati.....                    | 255,708                       | 99                       | 45                       | 23.23                             | 7.07           | 8.08                | 1.01           | 4.04                  |
| New Orleans.....                   | 216,140                       | —                        | —                        | —                                 | —              | —                   | —              | —                     |
| District of Columbia.....          | 177,638                       | —                        | —                        | —                                 | —              | —                   | —              | —                     |
| Pittsburg.....                     | 156,381                       | 70                       | 33                       | 32.84                             | 4.28           | 15.71               | 8.57           | 9.26                  |
| Buffalo.....                       | 155,137                       | 86                       | 57                       | 51.08                             | 3.48           | 29.03               | —              | 8.12                  |
| Milwaukee.....                     | 115,578                       | 65                       | 42                       | 31.66                             | 4.59           | 23.07               | 1.54           | —                     |
| Providence.....                    | 104,857                       | —                        | —                        | —                                 | —              | —                   | —              | —                     |
| New Haven.....                     | 62,882                        | 24                       | 11                       | 36.42                             | —              | 24.95               | —              | —                     |
| Charleston.....                    | 49,999                        | 40                       | 17                       | 25.00                             | 7.50           | 7.50                | 5.00           | 2.50                  |
| Nashville.....                     | 48,461                        | 20                       | 8                        | 28.66                             | —              | 19.04               | 4.76           | —                     |
| Lowell.....                        | 59,485                        | 35                       | 17                       | 31.43                             | 8.57           | 22.88               | 4.71           | 2.86                  |
| Worcester.....                     | 58,295                        | 17                       | 5                        | 11.76                             | —              | 5.88                | 5.88           | —                     |
| Cambridge.....                     | 52,740                        | 15                       | 7                        | 30.00                             | —              | 30.00               | —              | —                     |
| Fall River.....                    | 49,006                        | 37                       | 20                       | 40.50                             | —              | 27.00               | 8.10           | 2.70                  |
| Lawrence.....                      | 39,178                        | 21                       | 10                       | 33.33                             | —              | 28.56               | —              | 4.76                  |
| Lynn.....                          | 38,284                        | 16                       | 5                        | 31.25                             | —              | 18.75               | 6.25           | —                     |
| Springfield.....                   | 33,340                        | 12                       | 4                        | 33.33                             | —              | 16.66               | —              | —                     |
| Salem.....                         | 27,598                        | 7                        | 3                        | 14.28                             | —              | —                   | —              | 14.28                 |
| New Bedford.....                   | 26,875                        | 11                       | 6                        | 45.45                             | —              | 36.36               | 9.09           | —                     |
| Somerville.....                    | 24,985                        | 8                        | 4                        | 37.50                             | —              | 25.00               | 12.50          | —                     |
| Holyoke.....                       | 21,851                        | 16                       | 10                       | 62.50                             | —              | 50.00               | 6.25           | —                     |
| Chelsea.....                       | 21,785                        | 9                        | 4                        | 22.22                             | —              | 11.11               | —              | —                     |
| Taunton.....                       | 21,213                        | 10                       | 3                        | 40.00                             | 10.00          | 10.00               | 20.00          | —                     |
| Gloucester.....                    | 19,329                        | 6                        | 3                        | 16.66                             | —              | 16.66               | —              | —                     |
| Haverhill.....                     | 18,475                        | 3                        | 3                        | 33.33                             | —              | 33.33               | —              | —                     |
| Newton.....                        | 16,995                        | —                        | —                        | —                                 | —              | —                   | —              | —                     |
| Brookton.....                      | 13,608                        | 8                        | 2                        | 12.50                             | —              | —                   | 12.50          | —                     |
| Newburyport.....                   | 13,537                        | 9                        | 2                        | 33.33                             | —              | 22.22               | —              | —                     |
| Fitchburg.....                     | 12,405                        | 8                        | 4                        | 12.50                             | —              | —                   | —              | —                     |
| Malden.....                        | 12,017                        | 1                        | 0                        | —                                 | —              | —                   | —              | —                     |
| Seventeen Massachusetts towns..... | 122,878                       | 49                       | 25                       | 53.12                             | 2.04           | 44.90               | 2.04           | —                     |

Deaths reported 2476 (no reports from St. Louis, District of Columbia, and New Orleans); under five years of age 1142; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and fevers) 732, consumption 323, lung diseases 139, diarrheal diseases 410, diphtheria and croup 96, typhoid fever 78, small-pox 16, cerebro-spinal meningitis 16, puerperal fever 6, measles five, erysipelas one, typhus fever one. From *malarial fevers*, New York 22, Brooklyn nine, Baltimore four, Chicago, New Haven, and Springfield two each, Buffalo, Charleston, Nashville, and Taunton one each. From *scarlet fever*, Cincinnati seven, New York six, Buffalo four, Philadelphia, Brooklyn, Baltimore, and Pittsburg two each, Milwaukee, New Haven, Chelsea, and Newburyport one each. From *whooping-cough*, Brooklyn 10, New York eight, Charleston three, Philadelphia and Milwaukee two each, Cincinnati, Buffalo, Holyoke, and Nantucket one each. From *small-pox*, Baltimore 14, Philadelphia and Nashville one each. From *cerebro-spinal meningitis*, Chicago four, Buffalo three, New York and Philadelphia two each, Pittsburg, Fall River, Fitchburg, Peabody, and Adams one each. From *puerperal fever*, Buffalo three, Cincinnati, Milwaukee, and Lynn one each. From *erysipelas*, Philadelphia one. From *typhus fever*, Chicago one.

Sixty-three cases of small-pox were reported in Baltimore, Cincinnati seven; typhoid fever 85, scarlet fever seven, diphtheria five, in Boston; scarlet fever 24, and diphtheria six, in Milwaukee.

In 36 cities and towns of Massachusetts, with a population of 1,037,014 (population of the State 1,783,086), the total death rate for the week was 22.46, against 23.46 and 24.29 for the previous two weeks.

For the week ending August 26th, in 171 German cities and towns, with an estimated population of 8,445,698, the death rate was 26.0. Deaths reported 1216; under five years of age 2474; consumption 481, diarrheal diseases 376, lung diseases 268, scarlet fever 137, diphtheria and croup 123, whooping-cough 72, typhoid fever 67, measles and rubella 23, puerperal fever 16, small-pox (Munich and Bonn each one) two. The death-rates ranged from 11.3 in Metz to 49.7 in Posen; Königsberg 41.1; Breslau 40.1; Munich 24.5; Dresden 20.6; Berlin 26.9; Leipzig 17.3; Hamburg 22.4; Cologne 29.4; Frankfurt 18.6; Mainz 24.8.

In the 28 English towns, with an estimated population of 8,469,571, for the week ending September 2d, the death-rate was 22.7. Deaths reported 3688: acute diseases of the respiratory organs (London) 202, diarrheal diseases 649, scarlet fever 89, whooping-cough 81, measles 47, fever 45, diphtheria 24, small-pox (London seven) 11. The death-rates ranged from 15.6 in Bristol to 34.8 in Hull; London 19.7; Nottingham 21.8; Newcastle-on-Tyne 23.7; Liverpool 25.4; Birmingham 28; Sunderland 30.7. In Edinburgh 19.1; Glasgow 22.9; Dublin 27.3.

For the week ending September 2d, in the Swiss towns, population 494,390, there were 25 deaths from consumption, diarrheal diseases 21, lung diseases 10, diphtheria and croup six, erysipelas three, typhoid fever three, whooping-cough two, scarlet fever one. The death-rates were, at Geneva 9.3; Zurich 10.1; Basle 17.9; Bern 18.4.

The meteorological record for the weeks ending September 9th and 16th in Boston, was as follows, according to observations furnished by Sergt. O. B. Cole, of the United States Signal Corps:—

| Date.            | Barom-eter. | Thermom-eter. |          |          | Relative Humidity. |            |             |             | Direction of Wind. |            |             | Velocity of Wind. |            |             | State of Weather. <sup>1</sup> |            |             | Rainfall.             |                   |
|------------------|-------------|---------------|----------|----------|--------------------|------------|-------------|-------------|--------------------|------------|-------------|-------------------|------------|-------------|--------------------------------|------------|-------------|-----------------------|-------------------|
| September, 1882. | Daily Mean. | Daily Mean.   | Maximum. | Minimum. | 7.23 A. M.         | 3.23 P. M. | 11.23 P. M. | Daily Mean. | 7.23 A. M.         | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.        | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.                     | 3.23 P. M. | 11.23 P. M. | Duration, Hrs. & Min. | Amount in inches. |
| Sun., 3          | 30.128      | 70            | 83       | 60       | 93                 | 52         | 74          | 73          | S                  | S          | SW          | 5                 | 11         | 9           | O                              | O          | O           | —                     | —                 |
| Mon., 4          | 30.044      | 72            | 78       | 67       | 82                 | 76         | 92          | 83          | SW                 | S          | W           | 4                 | 7          | 6           | O                              | O          | O           | —                     | —                 |
| Tues., 5         | 30.111      | 67            | 81       | 66       | 75                 | 79         | 73          | 76          | NW                 | SE         | W           | 8                 | 6          | 3           | C                              | C          | C           | —                     | —                 |
| Wed., 6          | 30.215      | 62            | 72       | 58       | 78                 | 85         | 88          | 84          | NE                 | E          | E           | 12                | 12         | 2           | C                              | C          | C           | —                     | —                 |
| Thurs., 7        | 30.027      | 63            | 75       | 57       | 87                 | 66         | 90          | 87          | E                  | E          | SW          | 5                 | 5          | 8           | O                              | C          | C           | —                     | —                 |
| Fri., 8          | 29.946      | 67            | 81       | 62       | 93                 | 76         | 93          | 87          | S                  | SW         | NW          | 5                 | 5          | 4           | O                              | O          | O           | —                     | —                 |
| Sat., 9          | 30.028      | 61            | 65       | 59       | 93                 | 89         | 96          | 93          | NW                 | E          | N           | 6                 | 4          | 1           | O                              | O          | O           | —                     | —                 |
| Means, the week. | 30.071      | 66            | 83       | 58       |                    |            |             | 82          |                    |            |             |                   |            |             |                                |            |             | 8.36                  | .78               |

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; X., clearing.

| Date.            |    | Barom-eter. | Thermom-eter. |             |          | Relative Humidity. |            |            |             | Direction of Wind. |            |            | Velocity of Wind. |            |            | State of Weather. <sup>1</sup> |            |            | Rainfall.   |                       |
|------------------|----|-------------|---------------|-------------|----------|--------------------|------------|------------|-------------|--------------------|------------|------------|-------------------|------------|------------|--------------------------------|------------|------------|-------------|-----------------------|
|                  |    |             | Daily Mean.   | Daily Mean. | Maximum. | Minimum.           | 7.23 A. M. | 3.23 P. M. | 11.23 P. M. | Daily Mean.        | 7.23 A. M. | 3.23 P. M. | 11.23 P. M.       | 7.23 A. M. | 3.23 P. M. | 11.23 P. M.                    | 7.23 A. M. | 3.23 P. M. | 11.23 P. M. | Duration, Hrs. & Min. |
| September, 1882. |    |             |               |             |          |                    |            |            |             |                    |            |            |                   |            |            |                                |            |            |             |                       |
| Sun.,            | 10 | 30.061      | 60            | 70          | 53       | 69                 | 68         | 88         | 75          | NW                 | E          | SE         | 7                 | 8          | 1          | C                              | F          | O          | —           | —                     |
| Mon.,            | 11 | 29.849      | 60            | 65          | 56       | 90                 | 100        | 93         | 94          | NE                 | E          | NE         | 9                 | 18         | 17         | O                              | R          | R          | —           | —                     |
| Tues.,           | 12 | 29.898      | 58            | 68          | 51       | 100                | 51         | 61         | 71          | N                  | NW         | NW         | 18                | 19         | 6          | R                              | F          | C          | —           | —                     |
| Wed.,            | 13 | 30.198      | 50            | 68          | 46       | 72                 | 55         | 74         | 67          | W                  | E          | SW         | 8                 | 13         | 4          | C                              | F          | C          | —           | —                     |
| Thurs.,          | 14 | 29.868      | 62            | 68          | 53       | 86                 | 68         | 93         | 82          | SE                 | S          | SW         | 12                | 20         | 8          | O                              | O          | F          | —           | —                     |
| Fri.,            | 15 | 29.706      | 63            | 70          | 59       | 75                 | 48         | 71         | 65          | W                  | NW         | W          | 21                | 31         | 10         | O                              | F          | C          | —           | —                     |
| Sat.,            | 16 | 29.834      | 64            | 75          | 52       | 64                 | 28         | 42         | 45          | W                  | W          | NW         | 16                | 23         | 12         | C                              | F          | C          | —           | —                     |
| Means, the week. |    | 29.845      | 60            | 75          | 46       |                    |            |            | 71          |                    |            |            |                   |            |            |                                |            |            | 27.5        | 2.91                  |

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; X., clearing.

#### HAMPDEN DISTRICT MEDICAL SOCIETY.

At a special meeting held at the Massasoit House, Springfield, on Tuesday, September 12th, a committee, consisting of Drs. W. G. Brock, P. L. B. Stickney, and S. D. Brooks, was appointed to draft resolutions in regard to the recent deaths of one of our number. The report of the committee is as follows:—

Inasmuch as it has pleased the All-wise Disposer of human events to remove from among us by death our much respected and esteemed fellow-workers and professional brothers, Drs. Alvin Smith, of Monson, Sanford Lawton, of Springfield, and Cyrus Bell, of Feeding Hills, it becomes our special and grateful duty to record our expressions of sadness at their decease.

*Therefore, be it resolved,* That this Society, fully appreciating its loss in the death of these members, would deeply impute upon the memory its testimony to their moral and professional worth.

As officers and members of the Society they were efficient and faithful in their duties, and always active and interested in promoting and sustaining its best interests. Honorable and upright in their intercourse with its Fellows, they commanded and received their confidence and friendship.

As practitioners in their professional calling, each was the devoted physician the self-sacrificing, sympathetic, and warm-hearted friend. Zealous and faithful in all private duties and virtues, they with equal devotion served the public in various offices with ability and fidelity; in fine, in all social and public dealings they acted in strict conformity to the great Christian principles of rectitude and justice.

In their loss the Society most freely avails its sympathy, and mingles its sorrow with their friends and the communities among whom they lived and labored. To the immediate fam-

ilies of the deceased the Society proffers its heartfelt regard and sympathy in this time of their bereavement.

*Resolved,* That a copy of these resolutions be sent to the families of the deceased, and inserted in *The Springfield Republican* and *Daily Union*, and also in the *Boston Medical and Surgical Journal*.

WILLIAM G. BROCK,  
P. L. B. STICKNEY,  
S. D. BROOKS, } Committee.  
GEORGE C. McCLEAN, Secretary.

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM SEPTEMBER 15, 1882, TO SEPTEMBER 22, 1882.

WRIGHT, J. P., surgeon. Granted leave of absence for one month, with permission to apply for an extension of one month, on surgeon's certificate of disability. S. O. 181, Department of the Missouri, September 8, 1882.

HERBARD, VAN BUREN, major and surgeon. Orders to Fort Wingate, New Mexico, revoked. To report to commanding officer, District of New Mexico, for duty at Fort Stanton, New Mexico. S. O. 174, headquarters Department of the Missouri, August 30, 1882.

BACKE, DALLAS, surgeon. Informed by Adjutant General of acceptance of his certificate of disability of August 31, 1882, on sick leave from September 1 to 30, 1882.

BOSTON SOCIETY FOR MEDICAL OBSERVATION.—A regular meeting of the Society will be held at the Medical Library, 19 Boylston Place, on Monday, October 2, 1882, at eight o'clock p. m. Reader, Dr. A. L. Norris. Subject, Dyscisia; Observations on a Series of Cases. C. M. JONES, Secretary.

## Original Articles.

## WHAT CONSTITUTES A MEDICO-LEGAL AUTOPSY?

BY S. D. PRESBREY, M. D.

At the trial of Thomas McMullen for the murder of his wife, Annie McMullen, held before the Supreme Judicial Court in Taunton, in April, 1882, the question of the completeness of the autopsy in that case was made an important element of the defense. For the clearer understanding of the matter the principal points in the evidence bearing upon this question are here introduced.

*Medical Examination of the Body of Annie McMullen, with facts learned on Personal Inquiry as to the Cause and Manner of Death, by Medical Examiner Dwelly, of Fall River.*—At seven o'clock on the morning of July 25, 1881, I was informed by the police that Annie McMullen was lying dead at a house in the rear of 29 Canal Street. In company with the officer I immediately proceeded to the place. The body lay on a bed in a small room in the second story of the house. It was lying on the back across the bed, which was greatly disarranged. A pool of blood was on the cloth under her head, and blood was still slowly exuding from under the scalp from a wound in the side of the head. Her hair was matted and filled with blood, and several splinters of wood were entangled in it. The room had been closed till opened by the officer, and had a sickening odor and was filled with flies. Blood was spattered upon the walls, and soiled clothes, which had evidently been used in wiping the blood from the floor and walls, were lying about the room. I learned, on inquiry, that McMullen had on the day before (Sunday) beaten his wife, and that he had been in the habit of beating her. On finishing the view I ordered the body removed to the undertaking rooms of Waring Brothers. After having been authorized by Mayor Braley, and having requested the attendance of Drs. Brown and White as witnesses and assistants, I proceeded to make an autopsy at nine o'clock A. M. (The body when found was still warm about the abdomen and chest where covered with the bedclothes, but the face and extremities were cold. The day was very close and warm.) The body was stripped of its clothing, and the sticks and splinters removed from the hair and carefully preserved.

## COPY OF THE RECORD OF AUTOPSY.

The body of a woman about five feet three inches in height, of medium flesh, and estimated to weigh about one hundred and fifteen pounds. Rigor mortis not well established. Death was considered to have taken place within twelve hours preceding autopsy.

The face was much swollen and discolored. Both eyelids were greatly distended and very dark in color from extravasated blood. The conjunctiva of the left eye was injected with blood. There was a wound in the upper lid of the left eye just under the brow and on the edge of the orbit of about one inch in length, extending through the integument. The head was extremely bruised upon the whole top and sides as far as the line of the ears, suggesting that it had been forcibly and repeatedly struck with some hard and blunt instrument. A wound through the scalp about an inch in length was found just above and behind the right ear, and upon the vertex another, one and a half inch in length, extending about half through the scalp. An extensive abrasion of the skin reached from the right brow and temple half way down the face. The backs of the hands and ulnar sides of the forearms were nearly covered with severe con-

tusions and abrasions, and were very much discolored by extravasated blood. There were also several abrasions on the shoulders and on the chest at the top of the sternum. A severe contusion on the right side over the region of the liver measured seven inches in diameter. Both nates were bruised and discolored. Many other bruises and abrasions of less extent and severity were found on different parts of the body. All the above-named injuries were of recent origin.

Internal examination. On lifting the scalp there was found a large quantity of effused blood, covering the entire vertex and extending over the temples, filling completely the temporal muscles and the surrounding connective tissue. The scalp from the top and sides of the head was so swollen and filled with effused blood that it literally felt like a bag of jelly. There was no fracture of the skull, nor any internal appearance of injury to the brain or its coverings. The heart, lungs, and all the abdominal viscera were apparently healthy except the liver, upon the anterior surface of the right lobe of which were seen several small nodules. The right side of the heart was filled with coagulated blood. The stomach contained a very little fluid. Death resulted from shock, consequent upon the injuries to the head and other parts of the body.

Medical Examiner Dwelly testified in accordance with the record of the autopsy as given above, and that, in his opinion, death was caused by the shock of the repeated blows, no one of which might have been sufficient to cause death, but all of which together were the cause of shock which proved fatal. On cross-examination Dr. Dwelly stated that he made as complete an autopsy as is usual; that he examined the brain thoroughly; that he did not open the spinal canal; that the spinal cord is an organ; that he knew that injury to the spinal cord might produce instant death; and that after he had completed the autopsy he refused to allow Dr. Charles C. Terry to make an internal examination of the body.

(It is proper to state here that after the completion of the autopsy the counsel for McMullen made application to Dr. Dwelly to allow Dr. Terry to be present at the examination, not knowing that the work had been already done. As this was impossible, he then asked for the privilege of a second autopsy by Dr. Terry. This was refused, but it was agreed that Dr. Terry might view the body in the presence of the medical examiner and make such external examination as he desired.) Drs. Brown and White, who were the witnesses to the autopsy, substantiated the testimony of Dr. Dwelly. Mrs. Sullivan, and several other women living in the vicinity, testified to having heard the sound of blows with some hard, flat substance, many times repeated, and that with these sounds were mingled the cries of a woman.

Mr. Cummings, in opening the defense, used these words: "How good an autopsy was made by the government? We shall show you that it was incomplete. While the examiner looked in three places for the cause he neglected the fourth. He found the probable cause, but in cases like this we want to know what the actual cause was."

Thomas McMullen, the defendant, testified that he took a broom and hit his wife once or twice with it; that she went out in the evening for water; that he fell asleep, and awoke at four o'clock the next morning, and not seeing his wife got up and found her lying dead on the stairs; that he took her up and laid her on the bed. Cross-examined. Struck her and broke the broom-handle over her, and then used his hands. (The testimony regarding finding the body on the stairs was unsupported.)

Dr. Charles C. Terry, of Fall River, in his testimony mentioned the vital organs, and among them included the spinal cord. "The autopsy would not

<sup>1</sup> Read at the Annual Meeting of the Massachusetts Medico-Legal Society, June 15, 1882.

be complete without the examination of every vital organ. An examination of the spinal cord could not be made externally."

Dr. Dwelly, recalled, stated that he examined the brain and also the upper portion of the spinal cord; that there was no fracture of the base of the skull; that the right side of the heart being filled with coagulated blood was an indication of the manner of death (shock), but not an infallible one.

Dr. Terry, recalled. "I do not think a sufficient examination was made in this case to ascertain the cause of death. I asked permission of Dr. Dwelly to make an autopsy, but he refused to let me. I noticed that the neck was swollen and discolored, and that the head was limp or loose; it wobbled about; it attracted my attention as something unusual. The neck should have been examined. In my judgment not more than six hours had elapsed between her death and the time of the autopsy." Cross-examined. "In an autopsy, if I found the cause of death in one spot I should look no further. The opinion of a medical examiner is always open to dispute."

Dr. George L. Keene, of Providence, R. I., testified that an autopsy would not be complete unless all the vital organs were examined; that if in making an autopsy he found the cause of death at once he should go no further, unless at the request of friends or to satisfy himself.

Dr. John H. Mackie, of New Bedford, testified that when the cause of death had been found it was not necessary to push an autopsy beyond that point. In this case he considered that the cause had been satisfactorily found.

Medical Examiner Presbrey thought the autopsy was complete, in that it established the cause of death, and that there was no more necessity of opening the spinal canal in this case than there was of examining the stomach and liver for poisons.

Thomas McMullen was found guilty of "murder in the second degree."

As it is the aim of the medical examiner to establish the truth, and to forward the cause of the broadest justice, it is of the first importance that his work should be such as shall command universal respect. To his direction the State intrusts the first steps in every trial for murder, and the autopsy which he makes may become the foundation upon which the whole trial is to rest. To us as medical examiners, then, no question can be more vital than that involved in the above trial, and which I have chosen as the subject of this paper.

If we seek an answer to the question in the derivation of the word autopsy, we shall find, to our disappointment, that it literally means *personal inspection*, simply, but throws no light on the method or extent of such inspection. It is evident from Chapter 200 of the Statutes of 1877, that a wide distinction should be drawn between a "view" and a "further examination" or autopsy, the former comprising an inquiry into "the cause and manner of the death," the latter a thorough and exhaustive examination of the body itself with the purpose of settling precisely the cause of death if such be possible; for in no case can the two terms, "view" and "autopsy," be considered synonymous, nor does the law specify any method of determining which shall be made, except to leave the question to the judgment of the examiner and the approval of the city or town officers. We must turn, then, for definition to usage,

and to a consideration of the purpose and object of an autopsy.

Orth says, "Our object may be to ascertain the cause of death; in this case the examination must be thorough and methodical, otherwise an important point might be easily overlooked. It was formerly the custom to separate medico-legal from the so-called pathological autopsies, and in forensic cases to limit the examination to those changes which were immediately connected with the legal question at issue. But this was all wrong, for one can never know beforehand how important the morbid condition of any special organ may become during the course of the investigation, nor is one in a position to give a final and weighty opinion as to the fatal disease, the cause of death, or the condition of particular organs, unless each and every organ in its individual and associated capacity has been accurately studied and made out. For these reasons the new regulations for procedure in medico-legal cases in Prussia prescribe a careful and methodical examination and description of all parts of the body in their several relations, and at the present time a medico-legal is only distinguished from a pathological autopsy in that everything which may serve the ends of justice is treated with even greater accuracy and detail than is the case in an ordinary autopsy."

Virchow "drew particular attention to the necessity of insisting (in autopsies for medico-legal purposes, as in everything else now) upon completeness of examination and exactness of method, both in the investigation and in note-taking, so that it might be decided, subsequently, though not in anticipation, whether there was any significance or importance in what was observed, or whether it was accidental and unessential." Again, "a not insignificant portion of the administration of the criminal law is entirely dependent upon a correct and objective examination on the part of the medical jurist. It would, I am sure, be a matter of no difficulty to collect a great number of examples in which the faulty performance of the autopsy has rendered obscure cases in themselves clear and simple, and has made unintelligible those which were at all ambiguous."

The advice of Woodman and Tidy is pertinent: "Let your post-mortem examination be a thorough one. Do not, for example, make so serious a mistake as to neglect the examination of the *head*, because the death was a sudden one, and you found *heart* disease. Death is sudden in some cases of cranial hemorrhage, and remember apoplexy may coexist with, or be caused by, poisoning." And in cases of poisoning "note all pathological appearances, for you must endeavor to prove not merely that the deceased died from poison, but that death did not result from natural causes."

Reese, in a note in the last edition of Taylor, remarks, "In medico-legal cases involving the question of life and death, the examination of the body of the deceased cannot possibly be too thorough and exhaustive; the omission of any one organ is a radical defect," and cites two cases that occurred in this country in 1872, in which the incompleteness of the autopsies became serious defects in the evidence at the trial, the one from non-examination of the spinal cord, the other from omission to examine the kidneys and other important organs.

Taylor says that "the great art of counsel who defend persons charged with murder or manslaughter

consists in endeavoring to discover what the medical examiner omitted to do."

Thus we find that usage, as established by the best authorities, demands nothing less than the most thorough, exhaustive, and methodical examination of the body in medico-legal autopsies.

But it is, perhaps, desirable to study our subject more in detail. Section 8 of the Law of Medical Examiners requires that the examiner "shall make personal inquiry into the cause and manner of the death," and shall at the autopsy "carefully reduce to writing, or cause to be reduced to writing, every fact and circumstance tending to show the condition of the body, and the cause and manner of death." His first duty, then, is carefully to note the position and surroundings of the body when first found. To this investigation the circumstances of each individual case alone can set the limit. It is easy to imagine how facts so learned, apparently the most trivial, may prove to be of the first moment in the course of the trial, and though other officers of the law may also be expected to give attention to matters of this nature, it is none the less the duty of the medical officer.

We next come to the external examination. The facts to be learned under this division cannot be too carefully ascertained. They are often quite as weighty as those reached by section, and quite as likely to be appreciated by a jury. No simple survey of the surface as a whole should satisfy. The same exactness of method and thorough attention to detail should prevail here as in every other part of the work. After the marks of death itself have been noted, every region and each natural opening of the body should have a proper share of attention. The details of such an examination are most abundantly treated in Casper's Forensic Medicine.

There can be no question of the importance of the next division of the work, the internal examination, for too many are inclined to dwell upon this to the exclusion of the work mentioned above; hence I need call attention to no details, for any neglect here can only be attributed to inexcusable carelessness. My duty lies mainly in an attempt to define the limits of this work. All authorities are united in the opinion that under all circumstances the three great cavities, the head, the thorax, and the abdomen, should be opened and their contents minutely studied. As regards including in this list the spinal canal, authorities differ, but all again agree that not only the spinal cord but any and every part of the body should be examined if there is reason to think that important information can be gained thereby.

Woodman and Tidy, under the heading, How to Make a Post Mortem, after describing the examination of the head, say, "Now proceed to the examination of the spinal cord and its membranes," thus including this in the regular order of work. Beck says: "The vertebral column must be viewed throughout its whole extent, as to its being fractured, or dislocated, or contused. In doubtful cases it requires strict attention, since injuries to it are often of a very complicated nature." He then describes a case of fatal injury of the spine in the neck with no external indications, and remarks, "in such and similar cases it may be expedient to remove the whole of the cervical column." The history of this case was of course known to the examiner. On the other hand Virchow, in the reports of those cases which he makes to illustrate his method of

medico-legal investigation, makes no mention of the spinal column, but is most exhaustive in his exploration of the three cavities. And yet one may read in the translator's preface to the same book, "they (the autopsies) may be taken as examples of the way in which all post-mortem examinations for medico-legal purposes should be conducted."

In the Edinburgh Regulations we read, "In commencing the dissection of the body, it must be laid down as an unavoidable rule that all the great cavities should be examined, and also every important organ in each, however distinctly the cause of death may seem to be indicated in one of them. It is right to examine the cavity of the spine, and at all events its upper portion, in any case where an unequivocal cause of death has not been discovered elsewhere."

The Method of the North Carolina Board of Health directs that "the opening of the vertebral canal, or of separate joints, is never to be omitted in cases in which any information may be expected from such examination." Taylor and Orth, and many other authors, seem to follow almost to the letter the idea of Casper, "that in every case in which it may seem important to open the spinal column it must not be omitted." Lastly, it would seem clear that so important an organ should not be passed by, if our decision upon the cause of death partakes of the nature of "diagnosis by exclusion." Should any other portions of the body not mentioned above seem to be capable of throwing light upon the investigation, they should be studied.

The question of poison and the necessity of employing a chemist is one that will arise, and to which the examiner must give a definite answer. The burden of proof rests in this case as in the question of opening the spinal column. All authorities giving directions for investigation in such cases commence with the clause "if poison is suspected." This suspicion may arise from the circumstances of the case if they be known, or may originate in the facts developed in the course of the autopsy. In either case the duty is clear to proceed to investigate for poison. It may be desirable also to do so in case the result of the autopsy is entirely negative, as it is hardly right to deny that the cause of death can be found by examination unless we are in condition to speak positively regarding poison.<sup>1</sup>

No mention has been made of the use of the microscope, though there undoubtedly are cases in which it may be used to advantage, but as a general rule the instrument is probably more useful in pathological than in medico-legal investigations.

In cases of infanticide, in addition to the search for the cause of death it is necessary to undertake such investigation as shall aim to give answers to each of the three following questions, namely:—

- (1) What is the age of the child?
- (2) Was the child born alive?
- (3) If born alive, how long did it live?<sup>2</sup>

Should suspicion light upon a person as being the

<sup>1</sup> See an article by Medical Examiner E. P. Miller, in No. 4, vol. i., of the Transactions of this Society, on the Conditions and Circumstances which should Induce the Medical Examiner to employ a Chemist.

<sup>2</sup> In this connection I cannot refrain from calling attention to Ogston's Lectures on Medical Jurisprudence, in which, in closing the subject of Infanticide, he gives "directions for the systematic conduct of the medico-legal inspection of the infant." In these directions all the details peculiar to such an examination are abundantly set forth.

mother of the child, the questions to be determined concerning her are:—

- (1.) Whether she has been delivered of a child?
- (2.) Whether the signs of delivery correspond as to time, etc., with the appearances observed on the child?

In conclusion, then, we can say that the only absolutely fixed requirement of the Medical Examiner in making an autopsy is the investigation of the three great cavities, and that in addition to this he shall according to his judgment make his work so complete in every case as to be reasonably satisfied of the cause of death, or of the fact that the cause of death cannot be learned by an examination of the dead body.

## HEALTH OF CRIMINAL WOMEN.<sup>1</sup>

BY E. M. MOSHER, M. D.,

Superintendent Massachusetts State Reformatory Prison for Women.

THE word criminal, though commonly applied to the inmates of penal institutions, includes in its strict sense all persons who commit an offense against law, whether convicted or otherwise.

In America the number of such persons within the precincts of each State depends not only upon the amount of its population, the stringency of its laws, and the vigilance of its police force, but also upon the number and size of its cities, and the industries which it carries on.

Wherever men and women are herded together, as in the poor and squalid portions of large cities, or great numbers are employed at special work, as in our manufacturing towns, there will be found ripe those influences which make criminals of men, and even more surely of women.

The physical condition of individuals often deteriorates, *pari passu*, with the moral nature, especially in those cases where intemperance and unchastity are the underlying vices.

To study the diseases of such a class with the hope of arriving at any but the most general conclusions seems a formidable task; and yet, since the inmates of our jails, houses of correction, and prisons are but representatives of a much larger number who walk our streets, scattering contagion, both moral and physical, and filling our hospitals and dispensaries with patients, it seems worth while to see what can be deduced by a careful examination of a number sufficiently large to represent the class under consideration.

The object of this paper is, therefore, to ascertain, if possible, the extent and direction of the influence which a life of crime exerts upon the health of individuals, and as our observations have been mainly confined to criminal women, we have limited our study to this class.

The statistics which we shall present have been taken from the records of the Massachusetts State Reformatory Prison for Women, and extend over a period of four years.

During this time 2196 women were committed to the prison for crimes, which, for the sake of convenience, we have classified under the following heads, namely,—

Class I. Offenses against person and property.

Class II. Offenses against chastity.

<sup>1</sup> Read before the American Social Science Association.

## Case III. Offenses against public order.

The first class (offenses against person and property) includes all the cases of assault, fraud, larceny, arson, burglary, manslaughter, etc. In this class we find but 310 commitments. The larger number of these women were of foreign birth or parentage; their ages ranged between fifteen and fifty-three years; nearly all could read and write, and about half were unmarried. Many were sentenced for the first time.

In the second class (offenses against chastity) there were 515 commitments. A larger proportion were of American birth or parentage than in either of the other classes; most of them could read and write, and more than half were unmarried.

The third class (offenses against public order) includes the cases of drunkenness, vagrancy, disturbers of the peace, common railers and brawlers, idle and disorderly persons (which is but another name for either drunkenness or unchastity), etc.; 1271 such persons were committed. They were mainly of foreign birth. Among the number were many old women, though the average age was about thirty years. A large number could neither read nor write, and fully three fourths were married.

It is safe to say that of the whole number committed during the four years more than four fifths were intemperate, and more than three fourths were unchaste.

Turning now to the hospital record, we find 2076 cases of illness during this time. Some of these were readmissions of the same individual. A small proportion were infants, which, with the cases recorded under the head of "slight ailments," we have thought best to exclude, thus leaving 1704 cases of illness, of which a careful diagnosis was made, and a record of symptoms and treatment kept.

Upon tabulating these, we find syphilis to be the prevailing disease, three hundred and five cases being on record: To these might be added more than as many more, in whom the disease was not in a sufficiently active form to make their admission to the hospital a necessity.

With these figures before us it is safe to conclude that one woman out of every four committed to the prison was syphilitic. Thirty-two of these cases were found under Class I, one hundred under Class II, and one hundred and seventy-three under Class III.

Of the one hundred women sentenced for larceny, who were sick in the hospital during the last two years, eighty-six were known to be unchaste.

Next in frequency we find cases of alcoholism, of which there were one hundred and ninety-eight; of these one hundred and seventy-one were found in Class III, eleven and sixteen in Classes I. and II. respectively.

Twenty-five cases of delirium tremens occurred, all but two of which belong in Class III.

There were one hundred and thirty-nine cases of tonsillitis, which were very equally distributed among the three classes. One hundred and one of these occurred during the winter of 1878 and 1879.

Dyspepsia and rheumatism were common ailments, though but sixty-three cases of each were sufficiently acute in character to need admission to the hospital. The number treated from the dispensary was large. These patients were as widely distributed as the habit of intemperance.



Only thirty well marked cases of insanity were recorded during the four years, and several of these were commitments to the prison of women who had been transferred to a lunatic hospital during a previous sentence. Twenty of the thirty belonged under Class III.; also twelve of the fifteen epileptics who found shelter in the hospital.

Paralysis, neuralgia, and hysteria prevail most largely in Class I. in proportion to the number of commitments; here, also, are found the greatest number of cases of anæmia and diabetes.

Of the seven cases of puerperal fever which occurred five belong to Class II. (offenses against chastity), also eight of the fifteen cases of masturbation placed under special treatment. Diseases of the eyes, malarial fever, miscarriages, and pulmonary consumption, occur in excess also in the second class. Of the last named affection there were in all twenty-eight cases, in most of which the disease was established when the women were committed to the prison.

But four cases of pneumonia and eight of pleurisy occurred. Twenty-one cases of bronchitis were treated in the hospital.

Seventy-two cases of uterine disease were sufficiently severe to need hospital care for a time; a larger number of women were able to work, but required medical supervision.

Coming now to the surgical patients, we find but thirty-two cases in Class I., against sixty-five in Class II., and one hundred and sixty-two in Class III. Abscesses and ulcers occurred in great numbers, as might be expected in a population like this. Rectal diseases also were common.

Twenty-four deaths occurred among adults at the prison during the four years; of this number, one died of alcoholism, two of apoplexy, one of brain softening, one of diabetes, one of edema, and one of gangrene of the lungs, one of heart disease, one of enterocolitis, two of peritonitis, five of phthisis pulmonalis, one of puerperal fever, two committed suicide, and five died of syphilis. Seventeen of these were found under Class III., four under Class I., and three under Class II.

Among the cases of syphilis treated a great variety of conditions were observed. Many women came to the prison in the most revolting state possible, and in which they had, not infrequently, carried on their vile practices for months. Some of these claimed to have sought admission to the general hospitals, but had been refused because of the character of their disease. In other women the initial lesion was still present when they were committed to the prison. A number seemed healthy when they entered, but after a time manifestations of the disease in its later stages appeared. All these cases were treated systematically and thoroughly, with results favorable or otherwise, according to the virulence of the disease, the stage in which treatment was begun, and the length of sentence of the prisoner. The danger of contagion with so many syphilis collected together was great, and complete isolation in many cases was an absolute necessity. If committed for less than two years they had to be set at liberty before the disease could be brought fully under control, perhaps to become again a source of pollution.

The condition called alcoholism, so often seen in our penal institutions, is one of general depression following long-continued stimulation by intoxicating

liquors, with lack of proper food. It is manifested by trembling of the hands and tongue, twitching of the facial muscles, profuse perspirations, an unsteady gait, and incoherence of thought and expression. One woman out of every eleven committed to the prison was taken into the hospital in this condition. Under a nutritious diet, and rest in bed, these patients soon recovered sufficiently to go to work, but many returned to the hospital later on with some other ailment, most often dyspepsia or rheumatism, those strong allies of intemperance. Some of the cases of delirium tremens were exceedingly violent, but no deaths occurred.

Dyspepsia and constipation of the bowels were the two affections of the digestive tract most common among the prisoners, often taxing the skill and patience of the physician more than many severer maladies. Most of the cases of rheumatism were of a chronic character.

The small number of cases of pulmonary disease leads us to conclude that affections of the respiratory organs are not a necessary accompaniment of prison life; proper food and clothing, good ventilation, and a fair amount of sunlight being here, as everywhere, their best preventives.

There have been sixty-eight births at the prison; only one parturient woman died, although many were so diseased that their infants died before or shortly after birth.

Among the surgical cases indolent ulcers, mainly of the leg, were of frequent occurrence, often detaining women in the hospital for weeks who otherwise were able to work.

Some of the cases of rectal disease were of long standing and exceedingly severe in character, while others were so simple as not to need admission to the hospital during treatment.

An examination of the foregoing cases leads us to the following general conclusions:—

I. Intemperance and unchastity are the two vices which fill our penal institutions with women.

II. The influence of these vices is detrimental to health of body, increasing its susceptibility to disease, and lessening its recuperative power.

III. The diseases which follow as a direct result of these vices are syphilis, alcoholism, dyspepsia, rheumatism, and general anæmia.

IV. Morbid conditions of body react upon the moral nature, increasing and perpetuating the tendency to criminality; hence the importance of careful medical supervision as a reformatory measure.

V. More ample provision should be made in all large cities for the isolation and thorough treatment of venereal patients of both sexes, either by the addition of special wards to the general hospitals or by the establishment of hospitals for this class.

VI. The women who commit high crimes, that is, larceny, burglary, arson, manslaughter, etc., possess a more sensitive nervous organization than those who commit only offenses against chastity and public order.

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—A metropolitan journal of wide if not select circulation contains the following choice advertisement: Wanted immediately, a good street-talker on medicine. One who can officiate in the office during the day. A man with a good presence and long hair preferred. Address, with references and salary wanted, —.

## PROGRESS IN DERMATOLOGY.

BY G. H. TILDEN, M. D.

## MULTIPLE FIBROMATA OF THE SKIN AND THEIR RELATION TO MULTIPLE NEUROMATA.

At the celebration of the twenty-fifth anniversary of the Pathological Institute, in Berlin, Von Recklinghausen contributed in honor of the occasion the detailed reports of two cases of multiple cutaneous fibromata combined with multiple neuromata, together with a very thorough commentary upon the same. The cadaver of a woman, fifty-five years of age, presented a countless number of cutaneous tumors, of various sizes, for the most part rounded in shape and pediculated. The larger ones especially were polypus shaped, and reached a size of five centimetres in length by four centimetres in thickness. These growths were most numerous upon the breast and belly, while upon the back they were of larger size and more thickly crowded together, being in the latter region almost all pediculated, and as large as a walnut. There were also many of these tumors upon the back of the head. They were covered with entirely intact and smooth skin, and many of them sent out processes into the subcutaneous tissues, which processes could be easily felt through the attenuated cutis. Some of the tumors were harder to the feel than others, and in the larger ones were to be distinguished localized spots of induration. The tissue of which these tumors were composed was whitish in color and moderately soft, lax, and transparent, often opalescent in appearance. Easily detached from the surrounding subcutaneous tissues, the tumors presented rounded protuberances which dovetailed into the latter. Many of these growths could be pulled apart, showing them to be made up of a looped and twisted net-work of bands of varying diameters. The meshes of this net-work were filled with a tissue similar to that forming the bands themselves, but softer and more ductile. Those tumors also, which were confined entirely to the corium, were obscurely plexiform in structure. On the trunks and branches of the cutaneous nerves, and of the nerves of the extremities, notably upon those of the lower extremities, were found multiple fibromatous neuromata. There were also discovered soft fibromata in the periosteum of the left tibia, and in the walls of the stomach and jejunum, small, miliary fibromata. The patient had stated that the cutaneous tumors had existed all her life, without causing pain or inconvenience, but was unable to say whether they had increased in size or number.

Upon microscopical examination the neuromata presented most plainly the characteristics of soft fibromata. There was not the smallest new formation of nerve fibres, and neither fatty degeneration nor disintegration of existing nerve fibres, these being well preserved and traceable through the thickest neuromata. There was evident, however, new (added) formation of connective tissue in long wavy bundles, very delicately fibrillated, containing small, somewhat flattened, and longish connective tissue corpuscles, and traversed by a widely meshed net-work of blood vessels. The enclosed bundle of nerve fibres was but very slightly dissociated by the newly formed connective tissue, most of which was situated between the bundle of nerve fibres itself and its lamellated sheath.

The fibromata of the skin were made up of a trans-

lucent though viscous connective tissue containing cells of exceedingly small size, so that after staining, only the nuclei of the same were visible. These cells were more numerous than in the connective tissue of the normal corium, and the newly formed tissue itself much softer and less distinctly striated. The tongue-shaped protuberances on the under side of the tumors were found to contain, for the most part, altered sweat glands, sometimes hair follicles, and occasionally an entering nerve. The arteries involved in the new growth were thoroughly embedded therein, but still surrounded by a thin adventitia, while the epithelium lining the canals of the sweat glands was in immediate contact with the tissue proper of the tumor. The hair follicles as a rule were unchanged. The bundles of nerve fibres and the solitary nerve fibres present were naked, destitute of any connective tissue sheath, but showed no signs of pathological change. The coils of the sweat glands contained in the tumors were unrolled and separated, with in some instances decided elongation of the canal, which here and there contained masses and cylinders of hyaline substance. The smaller nodules in the corium consisted likewise of crumpled bands of finely fibrillated, cellular connective tissue. The skin covering the cutaneous tumors was stretched and thinned, but showed nowhere the localized enlargement of papillae peculiar to warts.

The nodules in the walls of the stomach and intestine were made up of the same soft, cellular, connective tissue as the cutaneous tumors. Any connection between them and the nerves of the stomach and intestine was difficult of demonstration, but in two of these nodules were found large, rounded, granular bodies, destitute of nuclei, and regarded by Von Recklinghausen as probably cells of the plexus myogastricus in a condition of atrophy. Besides the above were found in the mesentery of the jejunum, and on the stomach, small neuromata situated upon nerve filaments. The growths in the periosteum of the tibia proved to be very soft fibromata, containing many blood-vessels and nerves.

A close connection if not identity in pathogenesis between the cutaneous fibromata and the tumors found upon the nerves is foreshadowed by the facts, that the new-formed connective tissue in both varieties of tumor is the same, and that fibromatous neuromata were often found incorporated with the cutaneous tumors entering into them from below. The starting point for the tumors of the skin is probably in the deeper layers of the corium, the vessels, nerves, sweat glands, and hair follicles affording paths favorable to the development of the pathological process.

With the idea that the netlike structure of the cutaneous tumors was due to the development of fibromata upon a cutaneous plexus of nerve fibres, the author examined this net-work with reference to the existence of axial nerve fibres, but as a rule without success.

A second case came under the observation of the author which aided materially in the solution of the problem as to whether all these tumors have a common origin, beginning as new formation of connective tissue around nerve fibres or bundles. The patient, a man forty-seven years of age, presented very much the same appearances as the first case, being covered with cutaneous fibromata. Along the course of several of the subcutaneous nerves also, were to be felt, under entirely unaltered skin, thickenings and indurations, in all probability false neuromata. Four tumors

excised from the back of this patient showed, as in the first case, plexiform structure and combination with false neuromata. In these specimens the nerve fibres were found to extend through a great portion of the tumor unchanged. Starting from a nerve trunk which had already undergone fibromatous thickening, as far as the nerve fibres were traceable, they were seen to be surrounded by newly formed, soft, cellular connective tissue. In those portions of the tumor where the newly formed tissue was harder, more distinctly striated, and less rich in cells, the nerve fibres were not to be made out. There was no distinct line of demarcation between these two varieties of connective tissue, and the nerve fibres as they extended into the harder portions of the tumor, simply vanished without any trace of degeneration. Sweat glands, hair follicles, and sebaceous glands were absent.

Von Recklinghausen considers himself justified in assuming an identity of pathogenesis for all of these tumors, for the following reasons:—

First. That the two varieties of tumor were found associated in the same individual.

Second. That the new-formed connective tissue present in both varieties of tumor was of the same character.

Third. That in the first case fibromata were found connected with muscular and visceral nerves as well as upon cutaneous nerves, and that the fibromata of the periosteum of the tibia were particularly well supplied with nerves.

Fourth. That in both cases the cutaneous fibromata were not uncommonly in intimate connection with nerve fibres.

He concludes that the multiple soft fibromata of the skin originate as false neuromata, and should therefore be designated as multiple neuro-fibromata. After discussing at length the aetiology of these tumors and their relation to other pathological processes in the skin, the author finishes in these words:—

"To return to the idea with which I prefaced these observations upon fibromata, namely, that the different connective tissue portions of the skin share in the production of new formations, not in equal but in typically different degrees. As this idea seems to win some support from the foregoing facts, I may venture to propose a tabulated schedule which shall indicate the predilection of different morbid processes, for diverse portions of the skin. There are associated:—

"(1.) The connective tissue sheaths of the nerves, vessels, and follicles: Neuro-fibromata, leprosy, and elephantiasis mollis.

"(2.) The lymph vessels: Lymphangio-fibromata, elephantiasis lymphangiectodes, and carcinoma.

"(3.) The serous cavities (*Siftpalten*) and canaliculi (*Siftpkanülen*) belonging to the connective tissue frame-work of the skin and to the envelopes of the various structures contained therein: Acute inflammatory tumors, leukæmic lymphomata, tubercle, lupus, sarcomata, granulomata, and elephantiasis mollis, and dura.

"(4.) The veins: Chancre, small-pox, and erysipelas.

"(5.) The arteries and blood capillaries: Chronic inflammatory new formations, with a tendency to cheesy degeneration, certain granulomata and angiomas.

"By adding to this list callosity, hard (epithelial) warts, adenomata, neuro-papillomata, and ichthyosis congenita, as peculiar to the epithelial layers of the skin, we include nearly all dermal tumors."

The book closes with a complete and condensed

summary of all the hitherto published cases of multiple fibromata and neuromata.<sup>1</sup>

#### MYXEDEMA.

Ord,<sup>2</sup> in demonstrating six cases of this disease before the International Medical Congress at London, emphasized the following as its peculiar characteristics:—

(1.) General swelling of the skin, unattended by induration of the same, and unaccompanied by albuminuria. The skin is everywhere rough, dry, and translucent. The oedema which is the cause of the swelling is not influenced by position (force of gravity), and does not disappear upon pressure.

(2.) Noteworthy smoothing out of all the lineaments of the countenance. Dark bluish-red color of the cheeks, which ceases abruptly at the edges of the eyes, and is in strong contrast with the paleness of the eyelids. A lifeless, inert expression of countenance.

(3.) The articulation of words is of characteristic slowness and incompleteness. The sluggishness of thought, of comprehension, and of emotion is annoying to the patient himself. The memory suffers. The disposition becomes more and more anxious and irritable. The senses of taste and smell are perverted. The sight remains unimpaired, and rarely is there any alteration of the sense of hearing.

(4.) The gait is feeble, and attended with shortness of breath. The patients stagger and sink upon the knees. Some allow the head to hang down upon the breast.

(5.) The bodily temperature is always below normal, and the patients are continually shivering.

(6.) The hair and teeth degenerate and are lost.

(7.) The connective tissue of the whole body is in a condition of peculiar swelling, reminding one of the tissue of the umbilical cord. The fibrille, cement substance ("Kittsubstanz") and nuclei of the same are in a state of hyperplasia, and the tissues contain large quantities of mucin. This condition of the connective tissue causes the disappearance of the cells of the parenchyma of different organs, as has been most clearly demonstrated in the thymus gland, liver, and kidneys, also in the brain, spinal cord, and muscles.

(8.) The disease attacks women much more often than men, usually at an age beyond thirty years. Pregnancy has no influence upon the disease, and syphilis and the abuse of alcohol are not causes.

Differing in opinion from others who seek for the cause of the disease in some affection of the nervous system, Ord considers the malady to be one of the connective tissue.

(9.) Death ensues in various ways, generally by reason of degeneration of the kidneys, with symptoms of uræmic poisoning, occasionally with maniacal symptoms or those of marasmus.

#### ACUTE CIRCUMSCRIBED OEDEMA OF THE SKIN.

H. Quinke describes,<sup>3</sup> under this name, a disease which bears striking resemblance to so-called giant urticaria. The disease manifests itself by the appearance of oedematous swelling of the skin and subcutaneous cellular tissues in circumscribed spots, of from two to ten centimetres in diameter. These tumors show themselves most commonly upon the extremities

<sup>1</sup> Ueber die multiplen Fibrome der Haut und ihre Beziehung zu den multiplen Neuromen. Berlin, 1882. Verlag von August Hirschwald.

<sup>2</sup> Monatshefte für praktische Derm., April, 1882, p. 51.

<sup>3</sup> Monatshefte für praktische Derm., 1882, No. 5, p. 129.

in the neighborhood of the joints, but may also come upon the body and face, in the latter region more particularly in the lips and eyelids. The swollen portions of skin are not, as a rule, reddened, but are pale, rather translucent in appearance, and not sharply defined. The subjective sensation is that of tension, itching being rarely felt. The mucous membranes of the lips, soft palate, pharynx, and entrance to the larynx may also be invaded by similar swellings, and to such an extent that difficulty in breathing ensues. One case, in which were manifested gastric and intestinal symptoms, suggests that the mucous membranes of these organs may be also affected. In another instance repeated serous effusions into the joints took place. Coming on suddenly, and, as a rule, simultaneously, in different regions, these swellings, after an existence of from several hours to a day, disappear with equal abruptness. By reason of the appearance of successive crops of such lesions, the malady, as a whole, may be prolonged for several days or weeks. The general health is generally undisturbed, but in some cases there was indefinite prodromal indisposition, and during the existence of the eruption heaviness of the head, thirst, and diminution in the quantity of urine. A rise in the temperature of the body was never observed. Once having been attacked, the individual is subject to recurrences of the disease, usually in the same regions of the body, sometimes at regular, sometimes at irregular, intervals of time. The affection appears oftener in men than in women. The patients were, as a rule, healthy in other respects, some of them of nervously irritable temperament. In one instance the malady was inherited by the child of the patient, the disease manifesting itself during the first year of life. The disease is to be classed among the angio-neuroses. Prophylaxis consists in regulation of the general condition, more especially of the digestive functions. Atropine seems to be of some service. In several instances scarification was necessary on account of œdema of the larynx.

#### PATHOLOGY AND TREATMENT OF RHINOPHYMA.

According to Dr. Hans v. Hebra,<sup>1</sup> histological examination shows the normal elements of the skin in a condition of distorted, irregular hypertrophy. The structures in which this hypertrophy is most manifest are the blood-vessels, connective tissue, and the sebaceous glands, notably the latter, which attain gigantic size, and become transformed into cyst-like bodies. The epithelial layers covering the papillae are the only tissue not participating in the pathological process. Contrary to Wilson's opinion, the affection has nothing in common with elephantiasis Arabum. Rhinophyma never originates with, nor is accompanied by, inflammatory processes, while the true elephantiasis Arabum consists essentially in hypertrophy of connective tissue, due to repeated attacks of erysipelas inflammation, and in the resulting chronic œdema of the parts. In elephantiasis the œdema, especially in the more recent cases, is so great that upon incision into the diseased tissues, large quantities of albuminous fluid escapes, which is never the case in rhinophyma. In the latter disease the tissues are not soaked with fluid like a sponge, but show infiltration merely of embryonic cells. In elephantiasis the corium and papillary layers of the skin take but little share in the pathological

process, which is confined to the subcutaneous tissues, directly the opposite being true of rhinophyma, so that periostitis and consequent new formation of bone, so common in elephantiasis, does not occur in rhinophyma.

The treatment followed by the author with encouraging results, consisted in paring down the excrescences upon the nose, and carving as good a looking feature as possible out of the shapeless mass. By reason of the existing dilatation of blood-vessels, the bleeding is often excessive, but may always be controlled by compression. Subsequent treatment is symptomatic and antiseptic, the raw surfaces eventually becoming covered with a layer of sound epidermis, showing here and there only, traces of cicatricial tissue.

#### LUPUS.

The following conclusions are given by Dr. Raudnitz,<sup>2</sup> as the result of the statistical examination of two hundred and nine cases of lupus. Neither anatomically nor clinically can a difference between scrofulous and idiopathic lupus be made out, the disease appearing in the same form in already scrofulous and in entirely healthy individuals. A combination with inherited tuberculosis is only discernible in from ten to fifteen per cent. of all cases. The abscesses of the lymphatic glands, so frequently met with in scrofula, are almost never found in lupus. A contemporaneous manifestation of lupus in blood relations is seen only in the rarest instances, and hereditary transmission of lupus from parents to children perhaps never takes place. The infrequency of association between lupus and pulmonary tuberculosis decidedly speaks against the identity of these affections. On the other hand, the facts that in at least thirty per cent. of the cases observed, lupus was developed upon or only in the neighborhood of cicatrices due to scrofulous disease, or upon mucous membranes already changed by catarrhal processes; that in twelve cases injury, and in eight cases local attacks of erysipelas were given as exciting causes of the disease, would indicate that lupus is often due to a localized, specific predisposition, the nature of which is entirely hypothetical. The small proportion of cases, seventeen in number, in which lupus was found in combination with often trivial affections of the skin, contradicts the assumption that in lupus we have to do with a generalized predisposition of the skin to pathological changes.

#### CURE OF LICHEN RUBER ACUMINATUS WITHOUT THE USE OF ARSENIC.

Unna<sup>3</sup> from his experience is of the opinion that lichen ruber is amenable to external treatment alone. The usual method, introduced by Hebra, that of internal administration of arsenic, although efficient, is very slow, demanding months for its completion, improvement rarely being manifest before six weeks. By the inunction of a salve containing corrosive sublimate and carbolic acid, the author has cured six cases in periods of time varying from eight days to three weeks. The length of the treatment bears definite relation to the previous duration of the disease. Two cases of eight days' standing were well in eight days; two cases of from four to six weeks' duration demanded treatment for two weeks; while two cases, which had lasted six months and a year, re-

<sup>2</sup> Vierteljahresschrift für Derm. und Syph., ix. Jahrgang, Heft 1, p. 81.

<sup>3</sup> Monatshfte für praktische Derm., 1882. No. 1, p. 5.

<sup>1</sup> Vierteljahresschrift für Derm. und Syph., xiii. Jahrgang, Heft 4, p. 693.

quired continuous inunction for three weeks. The following is the formula for the salve, which morning and evening is to be plentifully rubbed into the whole body, the patient being kept in bed between woolen bed clothes:—

$\mathcal{R}$  Hydrarg. bichloridi corros. 0.5–1.0, acidi carbolici 20.0, ung. zinci benzoat. 500.0. Diachylon salve may be substituted for ung. zinci, and in cases where there is much thickening of the epidermis, ten grammes of creta p. p. may be added to the salve.

This treatment was in every instance well borne. Mercurial stomatitis was avoided by the free use of a solution of chlorate of potash as a mouth wash and painting the gums with various astringents. The urine peculiar to carbolic acid poisoning was seen by the second day in almost all the cases, and a transitory and trivial feeling of weakness manifested itself on the third or fourth day. This, however, is fully offset by the fact, that after the use of the salve for a day or two the patients were well in other respects and enjoyed sound sleep, thus regaining their former strength, which had become impaired by loss of rest due to intolerable itching. In milder and more circumscribed forms of the disease the inunction is only necessary at night, the patients attending to their work during the day-time. Whether this method of treatment is equally competent in cases of lichen ruber planus remains to be demonstrated.

#### ACTION OF SALICYLIC ACID UPON THE SKIN.<sup>1</sup>

When applied to the skin salicylic acid is an agent causing the elevation, without the formation of a blister, of normal or pathologically thickened epidermis, in the form of a consistent whitish colored membrane. The line of separation is always within the epidermal layers of the skin, and the stronger the solution of the acid, the deeper down (nearer the papillary layer) does dissociation take place. The author has never seen a moist, serum exuding surface result from the application of the acid. For all forms of callus, with or without hypertrophy of the papillae, for psoriasis palmaris and plantaris, non-specific as well as specific, and for every variety of epithelial accumulation or hypertrophy, salicylic acid, by reason of its being colorless, odorless, and unirritating as well as painless in its application, is the best keratolytic (causing separation of epidermis) agent. In order to be efficacious in this direction it should be applied not in the form of a watery, ethereal, or alcoholic solution merely painted on, but in solution in collodion, ten per cent., or better still, as a salicylic plaster covered with gutta-percha, and left in position for from four days to a week.

#### VENEREAL AND COMMON WARTS.

Unna<sup>2</sup> recommends for the treatment of condylomata acuminata and ordinary warts the continuous application of nungent hydrarg. containing five per cent. of arsenic. In the case of a young girl upon whose hands were a hundred or more warts, the unbroken application for three weeks of a plaster containing in each 0.2 square metre 10.00 grammes of arsenic and 5 grammes of mercury, caused entire disappearance of the disease without any irritation of the normal skin. Cure was effected not by reason of necrosis and destruction of the warts, as after the use of caustics, but by resorption, as in cases of spontaneous cure.

## Hospital Practice and Clinical Memoranda.

### DIFFICULT LABOR. PERINEPHRITIC ABSCESS. CARBOLIC-ACID POISONING.<sup>3</sup>

BY A. T. CAROT, M. D.

The following case presents several points of interest:—

(1.) The survival of the child after the long arrest of the after-coming head at the brim of the pelvis and the compression required for its delivery.

(2.) The occurrence of a perinephritic abscess in a puerperal woman.

(3.) The appearance of carbolic poisoning after the very temporary use of a weak solution of the acid.

(4.) The excellent effect of pilocarpine in restoring the action of the kidneys disabled by the carbolism.

Mrs. C., a small, slight woman, was confined in 1880 with a child at seven and a half months. Though the conjugate diameter of the pelvis was but nine centimetres, no trouble was experienced in this confinement, owing to the small size of the child. She became again pregnant, and on March 18, 1881, I was called to attend her in the birth of a child at full term.

The waters broke at the outset of the labor, and after twelve hours of good pains the head had not engaged in the pelvis. I therefore, with the advice and assistance of Dr. W. L. Richardson, performed version, having first etherized the patient. No difficulty was met until the trunk and arms being born, the head was arrested at the brim. Traction as strong as I dared use failed to start it, and I accordingly applied the forceps, but my hands being fatigued by the version I soon resigned them to Dr. Richardson, who delivered the head after what seemed eight or ten minutes of violent exertion. The child at first made no effort to breathe, but after ten or fifteen minutes of artificial respiration breathing was established.

The uterus contracted well. Four stitches were taken in the perinaeum, which had been somewhat lacerated.

The convalescence went on well with no untoward symptoms till the thirteenth day, when she was suddenly seized with a violent chill, and her temperature, which had been continuously normal, rose to 103.3° F.

She now complained of some pain in the right flank; and between the lower ribs and the crest of the ilium on that side there was a sense of resistance to deep pressure and considerable tenderness. In the evening of that day she had another severe chill, followed by fever, during which her temperature reached 106.5° F., and her pulse over 160.

A vaginal examination showed the uterus to be well contracted, returned almost to normal size, freely movable, and with no hardness or tenderness anywhere in its neighborhood.

An ice-bag was applied over the right side, and quinine was administered internally. From this time a distinct, circumscribed swelling slowly appeared, filling the right side between the lower ribs and the crest of the ilium, and extending forward to the outer edge of the rectus muscle. This whole region became flat upon percussion, and the flatness, extending back to the spine, surrounded and was continuous with the kidney dullness. This swelling did not increase stead-

<sup>1</sup> Monatshfte für prakt. Derm., 1882. Band 1, No. 4, p. 128.

<sup>2</sup> Monatshfte für prakt. Derm., 1882. Band 1, No. 3, p. 96.

<sup>3</sup> Read before the Boston Society for Medical Observation.

ily, but at times distinctly receded and became smaller and less painful, so that sometimes it seemed possible that it might wholly disappear. Examinations of the urine yielded no light as to its character. During this period of alternate increase and diminution of the swelling, extending over more than a month, the temperature remained always high, varying from 100° to 103° F. The stomach was very irritable from the first, so that at times for two or three days the nourishment had to be given almost wholly by enema.

At one time also the patient was a good deal annoyed by severe attacks of asthma at night, which were speedily relieved by moderate doses of iodide of potash.

On the forty-first day from the initial chill, the swelling in the side, which had within a few days become distinctly more prominent and gave an indistinct sense of fluctuation, was aspirated through a point about three inches below the edge of the ribs and two inches outside of the right linea semilunaris, and twelve ounces of exceedingly fetid pus were withdrawn. The temperature at once fell, and for a few days remained between 99° and 100° F.

Eight days later the abscess had partially refilled, and the temperature had again risen to about 103° F.

I again aspirated, and drew off four ounces of pus similar to that first obtained.

In this aspiration I introduced the needle through a point further back, so as to favor the pointing of the abscess in that direction where the opening would be a dependent one.

No fall of temperature followed this aspiration, and five days later, the abscess pointing along the track of the needle, I made a free opening, and introduced a drainage tube. This operation was done under ether, and I was able to explore the cavity quite thoroughly with my finger. It had contracted to a size capable of containing three or four fluid ounces, and in the upper part was to be felt what I took to be the lower edge of the liver.

After this operation, which was done antiseptically, the temperature fell to about 97.5° F. The dressings were changed the following morning, and almost no discharge found. The tube being clogged, I injected a very little, not more than one ounce, of a solution of carbolic acid, of a strength of one to thirty. This seemed to escape readily and entirely. That afternoon she had several loose, black dejections, and soon after the appearance of the diarrhoea began to vomit. Her urine on the following morning was of almost inky blackness. The dressings were immediately changed, the abscess was washed out with liquor soda chlorinat.  $\mathfrak{z}\text{i}$ , aquæ  $\mathfrak{z}\text{x}$ , m., and oakum was substituted for the carbolized gauze. As the patient's strength was much reduced, nutritive enemata were given every two hours until the vomiting ceased, which it did on the following day. For some days sulphuric acid lemonade was freely exhibited with the hope of assisting the elimination of the carbolic acid from the system.

The urine continued almost black for four days, after which it was rather smoky for a week longer. As it cleared, however, it became very scanty, and on June 1st (seven days from the appearance of carbolic poisoning) not more than three or four ounces were passed in the twenty-four hours. One half a grain of nitrate of pilocarpine was given in two doses. Part of this was lost by vomiting, but considerable perspi-

ration and salivation was produced. Four days later, the amount of urine having increased but little, one fourth grain of nitrate of pilocarpine was administered at night by the rectum, and followed by a good perspiration. In the morning she passed four ounces of urine, and from this time the function of the kidneys was restored.

At no time could anything abnormal be detected in the urine by chemical or microscopical examination.

From this time she improved gradually though with constant drawbacks, due to the very sensitive condition of her stomach, accompanied at one time by marked icterus. The abscess healed readily, and was entirely closed in four weeks from the time of opening. For some time, however, there were occasional sharp, griping, and cramp-like pains in the right side, accompanied by constipation. I suspected these to be due to some obstruction of the ascending colon at the site of the abscess, and they were always relieved by small, continued doses of castor oil.

Now, a year later, both mother and child are in excellent health.

## Reports of Societies.

### **PATHOLOGICAL SOCIETY OF PHILADELPHIA.**

DR. C. B. NANCREDE, RECORDER.

THURSDAY evening, September 7, 1882. Vice-President, J. SOLIS COHEN, in the chair.

#### **CASE OF CARCINOMA MAMMÆ.**

Presented by Dr. C. B. Nancrede for Dr. CHAS. WIRGMAN.

Mrs. Josephine M., aged forty-eight years; married at twenty-three; the mother of three children, the last born sixteen years ago. Had nursed all her children, but the last died from marasmus, owing to the small amount of milk the mother had, although lactation was free after the first two confinements. She never had any abscess of breast, traumatism, or eczema of the nipples, although she had always experienced pain and uneasiness in the right breast when nursing. There was no trace of carcinoma in family history. A sister had had an enchondroma of one of the metacarpal bones. When young the patient had suffered from dyspepsia, and on one occasion had had an attack of hæmoptysis. Of late years Mrs. M. has grown very stout, although never robust nor strong. About the middle of June, 1882, she first noticed a lump in her right breast, at its upper inner quadrant, about the size of a hen's egg. A few nights previously she had been awakened by a severe lancinating pain in the right breast, but experiencing no further inconvenience she paid no attention to it. The mass did not seem to grow till handled and an exploring needle had been inserted, when the growth became softer, much larger, painful, and the skin and superjacent veins rapidly showed marked changes. I saw her August 6, 1882, with Drs. Wirgman and Hearn, when the only additional points to be noted were that the growth was freely movable with the breast upon the chest walls, and that a mass the size of a pigeon's egg could be felt in the axilla, under the outer margin of the pectoralis major muscle.

Dr. Wirgman removed the whole breast by two semicircular incisions, opened up the axilla, and re-

moved all the glands up to the clavicle. This operation, again, emphasizes what Dr. S. W. Gross has specially insisted upon, namely, that although the axillary glands may appear before operation uninvolved, that when the axilla is opened numbers are often found enlarged. This accords with my own repeated experience. Although slow in healing, the case has done well since operation.

This case presents special points of interest, which I shall now dilate upon. In the first place, its history and appearance were eminently suggestive of a rapidly forming sarcoma, which was either cystic or, what at once suggested itself to me before etherization, one into whose substance hæmorrhage had occurred. Upon careful examination under ether, the discovery of the enlarged gland at once suggested the strong improbability of sarcoma, which view I abandoned. After the removal the macroscopic appearances once more threw doubt on the diagnosis, as there was, for at least one half, if not more, at the circumference of the growth, a distinct appearance of a capsule, and, as I had surmised, the tumor had been broken down by a hæmorrhage into its substance. Subjected to microscopic examination, the specimen was again puzzling, since sections of the first pieces embedded showed in every portion of their extent, with a few very slight exceptions, small spindle cells of a connective tissue type. Dissatisfied, I embedded a second piece, sections of which revealed a typical carcinoma of the soft variety. This again illustrates what I have many times insisted upon in this Society, namely, that either very large sections of growths should be made, as Dr. Seiler advocates, or sections from several and varied portions of the morbid mass should always be carefully examined. Dr. Tyson said that the presence of a capsule seemed to be clearly demonstrated.

#### RECURRING CARCINOMA OF MAMMA AND AXILLARY GLANDS.

Presented by DR. C. B. NANCREDÉ.

The patient, Mrs. F., aged thirty-seven years, from whom the specimens were removed, before the discovery of the primary tumor, about eighteen months back, was in perfect health, although from pecuniary losses she had undergone much mental anxiety since the Chicago fire. Hearing a vivid account from a friend of another case of carcinoma mamma, her mind became deeply impressed, and shortly after she discovered a growth in the upper inner quadrant of the left breast, which continued to grow until it had attained, at the time of the first operation, to the bulk of a small orange, namely, one year after her first discovering it. She lost much flesh from the time of the discovery of the growth. She had never suffered from any form of traumatism, had had no eczema of the nipple, and although she had borne one child a number of years back, and had suckled it, had never had sore nipples. There was nothing which could be fairly construed as an hereditary history of carcinoma. The primary operation had consisted in a removal of part of the breast. In less than two months after this a small nodule appeared in the cicatrix, while the axillary glands began to enlarge rapidly. On July 8, 1882, I saw her in consultation with Drs. R. R. Taylor and Harlow, when I found that there was a small nodule in the middle of the original cicatrix, while the axilla was occupied by the mass of indurated glands, which I here present. The growth partially embraced the axillary

artery, since when the former was compressed the radial pulse was decidedly affected. Not being allowed to remove the whole breast, I freely excised the small recurrent growth, and after a tedious dissection removed the axillary tumor, laying bare the artery and vein for a space of over an inch, clearing everything out to the clavicle, and distinctly recognizing the coracoid process of the scapula. Although not the place for a clinical discussion, I cannot refrain from emphasizing the importance of the thoroughness with which this axillary dissection should be performed. Not a single gland should be left, enlarged or not. Properly conducted there is hardly any hæmorrhage, a vessel rarely requiring ligature. This case was treated on Listerian principles, but with a spray of acetate of alumina, and the wound was dressed with the same. There was no inflammation, heat, pain, nor subsequent induration, and, if I remember rightly, the case required but five dressings until the wound became superficial, and fewer would have been necessary had perfect coaptation been secured. One or two points, where stitches made marked tension, showed a surrounding skin blush, which disappeared on the removal of the stitch; immediately contiguous to this the wound edge looked as if made but a few minutes before, thus showing that the irritation of *tension* was the trouble, which, as before said, very rapidly disappeared when the deeply embedded stitch was cut. The temperature rose to 100.2° F. at the end of the first twenty-four hours, after which it remained under 100° F. The pain after the removal of the pressure of the button-stitches amounted practically to nothing, according to the patient's own statements, and it will be remembered that she had the experience of a former operation for comparison. I believe that this is the first case where acetate of alumina has been used in this city in a Listerian operation, and its success disposes of the absurd statement that carbolic acid is Listerism.

#### CARCINOMA OF STOMACH.

Presented by DR. J. II. MUSSER.

The clinical aspects of this case were so definite that when the man applied to the medical dispensary of the hospital of the University of Pennsylvania for treatment, early in April of this year, it was without difficulty that malignant disease was diagnosed.

He was a farmer of good habits, fifty-three years old, and previously in good health. For the last six months he had suffered from "weakness of the stomach" and general debility, which prevented him from working. He had lost much flesh, and had constantly a severe sickening pain in the epigastrium extending to the upper part of the lumbar region, which became much worse within an hour after eating. Appetite was poor, tongue clean and pale, bowels constipated, with troublesome flatulence. A tender, non-pulsatile, movable tumor extended across the epigastrium from the margins of ribs on one side to a similar site on the other, one inch and a half above the umbilicus. He presented an anæmic, cachectic appearance.

Dr. H. Plank, of Morgantown, took charge of the case, and wrote me April 21, 1882, that he was much benefited by the treatment instituted, but was confined to bed by sheer exhaustion. June 5th the doctor reported increased weakness and emaciation, and that the pain had extended along the left side to the same shoulder. He took but little nourishment, and he commenced vomiting June 10th undigested food, mu-

eus, and grumous, purulent matter. He died June 28th of exhaustion, after a nine months' illness.

Dr. Plank kindly sent me the specimen I here present. One fourth of the pyloric end of the stomach is involved in the growth, which extends along the greater curvature for four inches, along the lesser two inches, and completely encircles the organ. The stomach walls in front of the disease were dilated, the muscular coat being hypertrophied, and the mucous membrane congested. The mass encroached upon the calibre of the viscus so as almost to occlude it. The tumor consisted of three nodules, one of which was ulcerated on its mucous surface, and presented the appearance of a scirrhus. The glands in the lesser omentum were diseased.

#### SPINDLE-CELLED SARCOMA OF THIGH.

Presented by DR. J. HENRY C. SIMES.

The patient, from whom this specimen was removed, presented himself for admission to the Episcopal Hospital, on August 30, 1882. He is sixty years old, an Irishman, and gave the following history: Two years ago he first noticed at the lower and outer part of the thigh a small swelling which grew rapidly to the size of a hen's egg when it was removed. Shortly after the wound had healed, a second tumor was noticed in the cicatrix, having the same character as the previously removed growth. This was also removed by operation, and again, in a still shorter interval, a third similar growth was developed in the same locality, which was also removed by the knife. When admitted to my wards, there was found upon examination, at the lower and outer part of the thigh, a linear cicatrix about two inches long, beneath and adherent to which, as well as to the surrounding integument, was seen a tumor as large as a walnut, movable upon the deeper tissues, painless, dense, and irregularly nodular. There was no glandular enlargement observable. No other tumors were present. The tumor was readily removed, being adherent only to the overlying skin, which was included in the incisions. Microscopic examinations showed that the neoplasm consisted entirely of large spindle-shaped cells, which contained large oval nuclei.

#### THE AMERICAN GYNECOLOGICAL SOCIETY.<sup>1</sup>

##### THIRD DAY. MORNING SESSION.

BEFORE the reading of the first paper resolutions were presented and passed complimentary to Dr. Chadwick, the retiring secretary, recognizing his faithful service in that capacity since the founding of the Society.

The first paper was upon

#### THE INFLUENCE OF HIGH-HEELED FRENCH SHOES UPON THE FEMALE FORM, AND UPON THE RELATIONS OF THE PELVIC ORGANS.

by DR. S. C. BUSEY, of Washington, D. C. At the outset the author gave an exceedingly interesting historical *résumé* of the development of the shoe in civilization. The first use of the heel seems to have been to make a short man look tall. The peculiarity of the French heel is not its height nor its narrowness so much as its shelving forward, which brings the point of support under the plantar arch instead of under the

calcaneum. The evolution of types of form is like that of types of character, and especially in the female form it is impossible to set up any standard as normal. The form of the individual is the product of education, age, pregnancy, maternity, stature, habits of carriage, mobility of joints, degree of natural curves, etc. Asymmetry is the commonest deformity. The actual effect of French heels is difficult to demonstrate with certainty, because one cannot experiment on two exactly similarly formed women, with the presence and absence of that factor.

Pagez describes a perfect female foot as broad, full in the instep, with a well-marked great toe, and a slightly longer second toe, the little one being small or almost rudimentary. The foot should rest on the heel, the first metatarso-phalangeal articulation, and the phalanges of the toes. These points constitute piers whence spring the two arches which make up the foot. These arches are elongated in walking, first by downward pressure of the body, second by raising the toes. In a natural gait each of these piers, from the heel forward, successively supports the weight, giving a gliding, undulatory movement. The French heel displaces the posterior support, and both piers of the double arch strike at once, which is fatal to grace of motion. In standing normally the weight is supported by the calcaneum; with the French heel it is carried to the metatarso-phalangeal articulation. The instep is made higher, and the foot *shortened*. The individual stands as if upon an inclined plane, which fatigues the muscles, and leads to their atrophy. Moreover, the French heel impairs the arch by impinging upon it at one point, the keystone, whereas architecture teaches that if an arch need support at all, it should be applied equally to all parts of the arch. The axis of gravity is thrown forward at the foot. This is offset by throwing the knees forward and the hips back. It may be laid down as a rule that when any vertical curve of the body is increased it is followed by a compensatory secondary curve in the opposite direction, usually occurring in the nearest part possible. This compensatory curve induces another, and so on. Thus the woman's buttocks become prominent, her leg and thigh a little flexed, her abdomen and breast protrude, and her face may be carried upward. As the pelvic brim and the uterine axis form angles normally of sixty and thirty degrees respectively with the horizon, when the increase of the dorso-lumbar curve tilts the pelvis back, its plane becomes flatter, and the uterine axis approaches the perpendicular. Then the bladder fills in front of the uterus and farther tilts it back. This occurs in short women in whom compensatory curves have thrown the neck back; but tall women, with a tendency to carry the head down, may get their compensatory balance by throwing the pelvis forward, increasing the angle of its brim with the horizon, and diminishing that of the uterine axis.

DR. BARKER said that this was all true in theory, and that women wearing French heels ought to suffer from uterine displacements. But a large experience with what might be called a "high-heeled" *clientèle* during the fifteen years that this fashion has been in vogue failed to show effects as marked as might be expected. The English ladies never have worn these heels, yet their gait is far from graceful. While the French, who are just beginning to give them up after so many years of use, are among the most graceful walkers, and French actresses and ballet-girls who are the most ad-

<sup>1</sup> Concluded from page 305.



dicted to the fashion, have the finest carriage of any class of women in the world. The speaker had failed to find any particular pelvic disease as the effect of French heels.

DR. THOMAS agreed as to the discrepancy between theory and fact on this point, and suggested that perhaps, as the health of woman's mature life was due so much to youthful influences, the immunity of these women depended on the fact that they were properly shod in childhood. He thought that the great benefit which lawn-tennis was exerting upon female physique was due, independently of the exercise it afforded, to the fact that it compelled the discarding of tight clothes and high heels.

DR. MUNDÉ challenged a statement of the essayist that the small intestine normally occupies Douglas' cul-de-sac, saying that the posterior wall of the uterus and the anterior of the rectum were in apposition.

DR. VAN DE WARKER said that authorities differed on this point.

DR. T. M. DRYSDALE, of Philadelphia, read the next paper on

#### THE OVARIAN CORPUSCLE: ITS ORIGIN AND CHARACTERISTICS.

This was in answer to criticisms made by members last year upon a paper of similar tenor. He first discussed the origin of the corpuscle, claiming that it was an epithelial cell of the inner wall of the cyst, which was cast off in an undeveloped, rudimentary state, owing to the great functional secreting activity of these cells. It is usually of a period anterior to the development of any nucleus, and shows evidence of partial granular degeneration. His principal points were that (1) this is an actual cell, (2) that it is distinct from the pyoid bodies described by Lebert, and (3) it is not identical with a cell described by Bennett in 1852.

MR. THORNTON, in discussing the paper, disagreed with the writer as to the priority of the cell over the nucleus in the process of development, and believed that the Drysdale corpuscle was the nucleus of a rapidly dissolving cell. He had found cells indistinguishable from this in cysts of the kidney, spleen, and ovum, and thought that for ordinary observers the corpuscle was not pathognomonic of ovarian cyst.

Adjourned.

The Society were entertained at luncheon by Dr. Chadwick.

#### THIRD DAY. AFTERNOON SESSION.

DR. E. VAN DE WARKER, of Syracuse, read a paper upon

#### THE MECHANICAL THERAPEUTICS OF VERSIONS AND FLEXIONS OF THE UTERUS.

Opinions were divided, said the reader, as to the value of mechanical appliances in the treatment of these conditions, and, among those who were agreed on this point, there was variance as to the best appliance. From his stand-point there was need of pessaries, but they must be used with intelligence and care. Too much was not to be expected of them. He considered, first, the natural limitations of the pelvis to mechanical appliances; and, secondly, the value of the various mechanical devices.

The problem presented is to raise a uterus nearly to the norm, or, at least, to relieve symptoms. Now, the uterus being a movable body, the norm cannot be absolute. A pathological condition may precisely resemble a normal condition of the uterus in angular inclination, and will only differ from it in respect to mobility. In version we have an immobility, from habit, not from fixation. If we improve the uterine condition we restore its mobility. In the use of mechanical appliances we must remember that these are limited by the necessity of uterine mobility, by the vagina itself, by the need of safety for the soft parts of the pelvis, and by the avoidance of harm to an organ, nerve, or vessel, of the pelvis.

(1.) There is normally extreme mobility of the uterus, since its supports are not attached to a fixed point upon it, and it does not move upon a fixed centre of rotation. Its position alters in respiration, articulation, coughing, change of posture, walking, and in abdominal expulsive movements. [Illustrated on the black-board by copies of actual tracings taken with a mercurial manometer.] And pessaries must be adjusted to meet all these movements. The mechanical force of the uterus, under these circumstances, which may be exerted at any time, varies from one to seven pounds, the equivalent (according to Duncan's computation) of an easy labor. At least three quarters of an inch should be allowed for mere uterine mobility.

(2.) The limitations of the vagina are absolute, and cannot be evaded. The uterus cannot be lifted beyond what the vaginal walls will allow. If we carry the elevation of the uterus so far as to obliterate the vaginal folds, we have merely put it in a fixed position. The posterior and anterior version pessaries really act by drawing upon the posterior and anterior vaginal walls. The vaginal limitations are more marked in antversion than in retroversion. What has been said is true of versions only, not flexions. There is no means dependent upon the vagina alone which will redress flexions. What relief is here obtained by such means is due to the mere uplifting of the organ.

(3.) The danger to the soft parts mainly arises from two causes. One is an imperfectly fitting pessary. And this is an insidious danger, since the mischief may gradually occur and ulceration take place before we know it; while erosion may be produced by a pessary too small as well as by one too large. The fitting of a pessary is a most important matter. The other danger is imprudence in the use of pessaries, which is mainly due to the willfulness or stupidity of the patient. The latter should be strenuously urged to consider herself as always under treatment so long as she wears a pessary, and be examined at frequent intervals.

(4.) Among the most marked injuries to the pelvic contents are those of the bladder and urethra. The rectum is rarely disturbed except by fecal accumulation and the production of piles. Dysmenorrhœa is a not infrequent result. There is liable to be pain in postural changes, which is never to be neglected.

The reader closed with a synopsis of a classification of all the known forms of pessaries.

DR. CAMPBELL objected to the use of the word "fit" as applied to the relation which should exist between the pessary and the uterus, since that implied a condition which would result in fixation of the uterus. Before any pessary can be used, the uterus must be replaced, and he advocated the knee-

chest method of reposition. A pessary ought to be looked upon as a crutch, to be used as a support during the movements of the day, and to be laid aside during the night. A stem pessary should not be considered as a support at all, but as a splint to keep the uterus stiff while the broken hinge at the point of flexion is mending, during which period the patient should remain at rest. He agreed with the reader that no external support could straighten a flexed uterus. He considered an intra-uterine stem as a surgical appliance, dangerous, but necessary.

Dr. WILSON detailed the difficulties he experienced in dealing with uterine displacements. He often had to try several pessaries before getting the right one. The required dimensions could not be measured or estimated with any accuracy. He very rarely saw an ante-flexed uterus derive any benefit from the use of a pessary. He felt that little harm could come from a too tight fit when he could pass his finger comfortably between the pessary and the vaginal walls. The uterus should be allowed perfect mobility, and the patient should have no consciousness from sensation of wearing a support. After all, he regarded the use of a pessary as an experiment in each case.

Dr. MUNDÉ held that the first requisite was to determine what the normal position of the uterus is, and the second, what to do for it. Anterior displacements as a rule do not call for mechanical treatment unless accompanied by prolapse. He was not an enemy of stem pessaries, though he believed they required watching. A stem might be needed to straighten an ante-flexed uterus, but the risks were quite commensurate with the benefit derived. In posterior displacements he could get no benefit from mechanical support. The genu-pectoral method of replacement of a retroverted uterus was sometimes successful in his experience and sometimes failed.

Dr. LYMAN thought that each case needed its own pessary. He would take the Hodge pessary for example, and mould it to suit each case. Mechanical support, however, he regarded as but a small part of the treatment of displacements. He would determine, if possible, the cause of the malposition, and, after treatment of the cause, would hope to replace the uterus with a reasonable prospect of its staying without foreign support. Pelvic cellulitis he regarded as at the bottom of the whole trouble.

Dr. VAN DE WARKER asserted his belief that a stem was the only practical method for ante-flexion, though it needed care. He doubted the value of the ability to pass the finger between the pessary and vaginal walls as a test for the fit of a pessary, since the conditions were altered by change of position. He admitted the difficulty of fully explaining the action of the Hodge pessary, which he considered both lifted the fundus and also drew on the anterior vaginal wall by the cervix.

On motion of Dr. WILSON a resolution of sympathy with Dr. D. H. STORER, of Boston, an honorary Fellow of the Society, was passed.

The retiring president, Dr. EMMET, after a few valedictory words, introduced his successor, Dr. KIMBALL, of Lowell, who expressed his thanks to the Society for the honor conferred upon him.

On motion of Dr. WILSON a vote of thanks to the retiring officers was passed, and on motion of Dr. HOWARD, a vote of thanks to those who had entertained the Society.

## RHODE ISLAND MEDICAL SOCIETY.

GEORGE D. HERSEY, M. D., SECRETARY.

A QUARTERLY meeting of the Rhode Island Medical Society was held in Providence, Thursday, September 21st, the president, Dr. JOE KENYON, in the chair.

Dr. J. H. ELDEREDGE, one of the delegates to the St. Paul meeting of the American Medical Association, presented an interesting report, especially of the work of the Section on Obstetrics.

Dr. W. E. ANTHONY gave an account of the annual meeting of the New Hampshire Medical Society.

Dr. W. O. BROWN, a delegate to the Massachusetts Medical Society, read a *résumé* of the papers and proceedings of the last annual meeting.

Dr. J. H. ELDEREDGE offered a few practical remarks on

### TEDIOUS LABOR DUE TO RIGIDITY OF THE OS UTERI.

This condition is most often met with in primiparae, and commonly those suffer most who are short and stout, and who have been in high health. It is a mistake to resort soon, in such cases, to efforts at mechanical dilatation of the os. Impatient meddlesomeness in the early stage of labor may result in severe lacerations of the neck of the womb. If the membranes are unbroken, and there are no special reasons for a speedy delivery, it is better to resist the importunity of the patient and her friends, and wait for nature to relax the os uteri.

As the pains increase in severity twenty grains of chloral may be given per rectum, and repeated if necessary. Chloroform was recommended as a useful anæsthetic during the first stage of labor. It should only be used, however, to produce a transient influence during a pain.

It is only in the later period of this stage that any manipulation is warranted. Attempts at assistance must not come too early, and must be practiced with care to be of any real help.

There is a border territory between the first and second stage of labor, when the pains have taken on a forcing character, and yet the os has not fully yielded. The head may be forced well down into the pelvis still covered with the lower segment of the uterus. It is then that manual dilatation, under an anæsthetic, is justified. When the parts are sufficiently relaxed the forceps may be used.

The venerable Dr. GEORGE CAPRON had intended to read a paper on

### MISCARRIAGES,

but was too ill to attend. His paper was read by Dr. W. E. ANTHONY.

Among our most reliable resources for preventing abortion are rest in bed, a light diet, with cool acidulated drinks, opium, and cold applications. *Viburnum prunifolium* is probably valuable.

Ergot and matico were recommended as hæmostatics, as well as ice in the vagina, or a tampon of cotton saturated with a solution of alum.

In case a three or four months' placenta is retained, better let it alone; after the sixth month safety would be on the side of delivering it.

Dr. E. P. SIMMONS, of Tiverton, reported the results of 523 vaccinations on 481 patients. There were 257 primary cases, of whom 207 reported and were successful; 50 did not report. One primary case had

been previously vaccinated thirty times without result, the thirty-first time was successful. Bovine virus was used. Of 220 secondary cases, 115 reported "successful," and 20 "no result."

Dr. E. T. CASWELL reported five cases of

#### LITHOLAPAXY.

I. A man aged sixty. Operation one hour. Uric acid calculus. Weight of fragments one hundred and seventy-three grains. The patient walked a mile fifteen days after the operation, and four weeks later rode fifty-five miles in a wagon without discomfort.

II. A man aged sixty-nine. Uric acid stone. Fragments weighed forty-seven grains. This case was complicated by cardiac disease, on account of which the operation was for a while postponed. Successful.

III. A man forty-seven years of age. A stone was detected in the prostatic urethra, seven and one half inches from the meatus. Under either the stone slipped into the bladder, where it was easily seized. Weight fifteen grains. The stone was composed of a piece of bone as a nucleus incased in a soft shell of phosphatic deposit. No history of syphilis, abscess, or accident. The patient got well, and was out in ten days. Seven weeks after the operation he had an enlargement of the perineum, which Dr. Caswell opened, but found no pus. Two weeks later the probe detected dead bone at the bottom of the sinus.

IV. A woman, aged fifty-one. Operation forty minutes. Fragments weighed, dry, one hundred grains. Rapid recovery.

V. A man, aged fifty-nine. Operation two hours. Two stones composed of uric acid with nuclei of oxalate of lime. Weight of debris 1040 grains wet, 815 grains dry. Patient out in a fortnight.

Dr. D. E. COXE reported a case of impassable stricture of the urethra, with numerous fistulae around the penis, scrotum, and perineum. External perineal urethrotomy without a guide was done successfully.

Dr. E. M. SNOW presented for distribution copies of his report upon births, marriages, and deaths in Providence during the year 1881, being his twenty-seventh annual report upon this subject.

During the year 1881 there were 2803 births, 2145 deaths, and 1202 marriages reported in Providence.

Dr. C. E. WOODBURY, of Providence, superintendent of Rhode Island Hospital, and Drs. G. F. BLIVEN and F. T. ROGERS, both of Westerly, were elected Fellows.

### Recent Literature.

*On Ovarian and Uterine Tumors; their Diagnosis and Treatment.* By T. SPENCER WELLS, Vice-President of the Royal College of Surgeons of England, etc. Philadelphia: P. Blakiston, Son & Co., 1012 Walnut Street. 1882.

This is what might be called a second edition of Mr. Wells's *Diseases of the Ovaries*, published in 1872, with the addition of several chapters on uterine tumors and on excision of the uterus more or less complete. Most of our readers will agree with the opinion expressed by Dr. Henry Savage, of London, in the dedication of his beautiful work on the *Anatomy of the Female Pelvic Organs*: "To Thomas Spencer Wells, for more than a quarter of a century my colleague at the Samaritan Hospital, through whose genius alone

the ovarian operation ceased to be a surgical disgrace and abdominal surgery a terror." The book opens with an introductory chapter on the reproductive cell, the ovary, and the ovum; then follows a long chapter on the different kinds of ovarian tumors and their natural history.

The second chapter treats of the diagnosis of ovarian tumors, and the methods and means of distinguishing them from other abdominal enlargements. In this chapter all the abdominal tumors and swellings which could possibly be mistaken for an ovarian cyst are enumerated. The medical treatment of ovarian tumors is very properly disposed of in a short chapter of four pages. The palliative treatment of these tumors is next described, and the various surgical procedures which were formerly advocated to destroy them when the physician wished to try any means except excision. The younger generations of surgeons, who know that ovariectomy is done nearly every day with almost uniform success, can hardly conceive of the bad odor in which the operation stood twenty-five or thirty years ago, when Dr. Keith in Edinburgh was almost literally followed by the coroner — the same Dr. Keith who has recently had seventy-nine successive successful ovariectomies.

Chapter V., on the rise and progress of ovariectomy, is extremely interesting. It was owing to the lectures of John Bell in Edinburgh, in 1794, that Dr. Ephraim McDowell, of Kentucky, performed ovariectomy in 1809 with a successful result. The claim that Dr. McDowell was the earliest ovariectomist can never be reasonably questioned, and is now allowed throughout the civilized world. Since McDowell's time the operation has been performed everywhere, but it is only within the last sixteen or seventeen years that it has been unreservedly accepted, and very much of this success is due to the author of the book before us.

Chapter VII. describes the preparation of a patient for ovariectomy, the duties of the nurse, and the description of the necessary instruments. Mr. Wells is an advocate of Listerism, and believes in the spray, and attributes his improved percentage of recoveries of late years to the rigid observances of Listerism.

Another chapter is devoted to a description of the operation, and another to the treatment of the pellicle and of the abdomen and its contents after the cyst has been taken away.

The remainder of the book, so far as it relates to ovarian disease, discusses double ovariectomy, ovariectomy performed twice on the same patient, the treatment of patients after operation, incomplete operations, exploratory incisions, and the subsequent history of patients who have recovered.

As ovariectomy has opened the way for abdominal surgery, it has of course encouraged the ovariectomist to attempt the removal of uterine tumors of various kinds. Mr. Wells gives his experience in the surgery of uterine tumors in the last fifty pages of the book. We are inclined to think, however, that as time goes on there will be fewer removals of the uterus for cancer, and that removal of the ovaries, Fallopian tubes, and broad ligaments will be substituted for removal of the uterus in the case of uterine fibroids. At present the balance of evidence seems in favor of Listerian ovariectomy; but if the results narrated by Mr. Lawson Tait and others can be accepted, this is open to doubt, and we may dispense with the spray and with chemical antiseptics. At the present time, how-

ever, our results are so good with Listerism that we are unwilling to dispense with it. It is to be regretted that the book has no index. This is so rare in an English publication that one is very much surprised at the omission. Any surgeon or physician, whether an ovariotomist or not, will find much to entertain and instruct him in Mr. Wells's treatise.

## Medical and Surgical Journal.

THURSDAY, OCTOBER 5, 1882.

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HOUGHTON, MIFFLIN and COMPANY,  
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### REPORT OF THE COMMISSIONER OF EDUCATION FOR THE YEAR 1880.

THIS bulky octavo of eleven hundred and odd pages, just received, contains many things of interest to the medical profession, and treats of many subjects in the shaping of which physicians, more, perhaps, than any other class of the community, should make their influence felt.

The commissioner states that the present year has been marked by a great increase in the amount and value of the information received at the office with reference to the conduct of education in our own and in foreign countries, and by a corresponding increase in the public demand for the distribution of information. The means allowed the office for carrying on the interchange of intelligence are entirely inadequate, whether regard be had to specific inquiries or to information which should be published in the general interest of this department of public affairs.

Seven circulars of information and six bulletins have been published during the year, comprising among others the following subjects: College libraries as aids to instruction; rural school architecture, with illustrations; English rural schools, with illustrations; a report on the teaching of chemistry and physics in the United States; vacation colonies for sickly school children; the Indian school at Carlisle Barracks; industrial education in Europe; medical colleges in the United States.

The number of American correspondents of the office, including officers of State and local systems and institutions of learning, is 8231, or more than four times the number at the beginning of the present decade. To the material derived from these sources must be added the foreign matter, reports, and periodicals, all of which must be examined and summarized for the report.

The commissioner gives in tabular form a comparative statement of the number of schools of medicine, dentistry, and pharmacy reported to the office each year from 1870 to 1880 inclusive, with the number of instructors and students. Such schools are classified

as "regular," "eclectic," and "homœopathic." The table we reproduce:—

|               | 1870 | 1871 | 1872 | 1873 | 1874 | 1875 | 1876  | 1877  | 1878  | 1879  | 1880  |
|---------------|------|------|------|------|------|------|-------|-------|-------|-------|-------|
| Institutions. | 61   | 82   | 87   | 94   | 99   | 106  | 102   | 104   | 107   | 114   | 120   |
| Instructors.  | 548  | 750  | 726  | 1148 | 1321 | 1172 | 1201  | 1278  | 1337  | 1405  | 1609  |
| Students.     | 6247 | 7047 | 5905 | 8881 | 9505 | 9571 | 10443 | 11233 | 11839 | 13321 | 14096 |

From this we see that the number of institutions, of instructors, and of students were just about doubled during the eleven years, whilst the population of the country increased only about 25 per cent. during the same period.

Of these schools 72 are designated as "regular," with 1131 instructors, 9876 students, and with \$79,703 income from productive funds, and \$392,784 income from tuition and other fees during the year 1880; of the small total amount of income from productive funds \$62,052 is credited to Massachusetts alone. As the total amount of productive funds is stated to be \$199,306, it would seem as if the rate of interest were uncommonly favorable. The "eclectic schools" numbered six, with 65 instructors, 833 students, and receipts from tuition and other fees of \$32,735. The "homœopathic schools" numbered 12, with 188 instructors, and 1220 students, their income from tuition and other fees being \$33,258. There were 16 dental schools with 219 instructors, 730 students, and an income of \$91,240; and 14 pharmaceutical schools, with 57 instructors, 1347 students, and an income from fees of \$27,842.

The grounds, buildings, and apparatus of the "regular" schools were valued at \$1,929,170; of the "eclectic" schools at \$221,000; of the "homœopathic" schools at \$185,000.

In speaking of the condition of medical education and the improvement in medical training the commissioner says: "From time to time in my annual reports I have discussed such topics or mentioned such facts as would serve to convey a correct idea of the progress and condition of medical training in this country. The improvement has been gradual, but some progress has been made in the right direction.

"Ten years ago only one medical school in the United States had a course of instruction extending over three years; now there are several. Then more than half the schools really required no more than attendance on one course of lectures; now only a small number venture to announce such laxity, however low, their real standard may be. Then preliminary education and entrance examination, though much talked about, were not insisted on except in a very few instances; now several schools require a better preparation and encourage educated men by special inducements to enter their walls. Then graded courses of instruction were hardly heard of; now they are common, and commonly advised if a choice of course is afforded. Special opportunities for graduate study have arisen at several points. The profession has been roused to some self-activity by these and other events, which is, perhaps, the most hopeful sign of all I have mentioned.

"The profession has been overcrowded to such extent for so many years, chiefly because of the scandalous ease with which men imperfectly educated, or not educated at all, have been able to assume its titles and attempt its duties, that I do not know whether the increased admission of women during the last decade is to be considered as an advance in the right direction or not."

The commissioner then refers to the satisfactory progress made by several States in legislation in medical and sanitary matters; he considers that the good done by the various State Boards of Health cannot be estimated, and that the influence of their work should be increasingly felt in every public enterprise and on public intelligence in all parts of the country. Massachusetts is given the credit of imparting the first impulse by example as well as by precept to these organizations.

Fifteen nurse training schools reported fifty-nine instructors, 1303 pupils since organization and 323 in attendance, with 663 graduates, of whom 157 belonged to the class of 1880. The growth of the schools is briefly noticed, the need of their training emphasized, their facilities for instruction mentioned, and their value to private families shown.

In regard to the general school education of the young we note the following items:—

From the statistical summary generalized without reference to States, it appears that the total school population was, for thirty-eight States, 15,351,875; for eight Territories, 184,405; the number enrolled in the public schools was, for thirty-eight States, 9,680,403; for ten Territories, 101,118; the number in daily attendance was, for thirty-four States, 5,744,188; for eight Territories, 61,154; the number of pupils reported in private schools was, for twenty-one States, 561,209; for four Territories, 6921; the total number of teachers was, for thirty-eight States, 280,034; for ten Territories, 2610; the number of male teachers was, for thirty-five States, 115,964; for eight Territories, 948; the number of female teachers was, for thirty-five States, 156,351; for eight Territories, 1306; the total public school income was, for thirty-eight States, \$82,684,489; for ten Territories, \$1,255,750; the total public school expenditure was, for thirty-eight States, \$78,836,399; for ten Territories, \$1,196,439; the permanent school fund was, for thirty-three States, \$119,184,029; for two Territories, \$3,694,810.

The expenditure per capita of the school population varies from ninety-six cents in Alabama to \$14.91 in Massachusetts; the expenditure per capita of enrollment from \$1.12 in North Carolina to \$17.80 in Colorado. The percentages of enrollment and average daily attendance are highest in Massachusetts and lowest in Louisiana.

There are sixteen different school ages in the States and Territories, seventeen years being the longest period and six years the shortest. The earliest age at which children are admitted to the public schools in any State is four years. In ten States and one Territory the school age is from six to twenty-one, and

in seven States and three Territories from five to twenty-one.

The statistics of public schools in 244 cities, comprising about one sixth of the whole school population, one tenth of all the teachers, and more than one fourth of the annual school expenditure reported for the entire country, present the following totals: Total population (census of 1880), 10,700,800; school population, 2,661,198; number of school buildings, 4042; number of sittings for study, 1,029,616; number of teachers, 29,264; pupils enrolled, 1,710,461; average daily attendance, 1,105,763; estimated real value of property used for school purposes, \$88,914,413; total receipts, \$27,189,301; total expenditures, \$25,074,360. The average expenses per capita of daily average attendance for instruction and supervision vary from \$5.83 in Carbondale, Pa., to \$25.88 in Virginia City, Nev.; and for incidental expenses from \$1.02 in Carbondale, Pa., to \$11 in Sacramento, Cal.

The great importance of attention to school hygiene and to the construction of Sanitary school buildings is recognized in the report, and the commissioner says:—

"Notwithstanding the numerous complaints of poorly constructed buildings, defective ventilation, etc., the last ten years have been marked by progress in all the sanitary conditions of school-houses.

"In many cities the care of these buildings is intrusted to special officers, and many reports include a representation of the actual condition of school buildings.

"The lack of competent architects, the indifference of the public, and the want of funds are the main obstacles in the way of the perfect adaptation of city school buildings to the convenience of the work and the requirements of health."

Reference is made in the report to Dr. Javal's interesting work on the physiology of reading and writing, which we are inclined to think is destined to have no little effect in modifying the printing of school books.

We are glad to notice that among other things the commissioner strongly urges the importance of thorough instruction in arboriculture or forestry.

#### THE INDEX CATALOGUE. VOLUME III.

WE welcome with renewed pleasure the third volume of the Index Catalogue, which presents itself uniform in size and appearance with its predecessors. It brings down, perhaps one might say it exhausts, the alphabet through D. Its author titles number 9043; its book titles 8572; its journal articles 28,846; and in addition there are catalogued in this volume 4335 portraits under the heading Collection of Portraits. It is to be hoped that the future searcher for portraits will not be tempted, beyond his power of endurance, to use strong language, when he is obliged to turn back from Portraits to Collection in his search.

Perhaps the most striking point about this volume

is the very large space taken up by the subject of Asiatic cholera, which covers one hundred and forty-eight pages. Nothing could better illustrate the importance of this scourge, or the rôle it has played in the world's history. If the mere index of its literature, in which but a single line may be the representative of the largest volume, fills so many royal octavo pages, who can give the actual number of pages covered by the original books and articles catalogued? How much of it is original work, and how much is parasitic copying no one will ever care to inquire. But after all this immense mass of material has been piled up, how much more do we know of the actual nature of the disease and the way to control it? Something of its natural history, undoubtedly, and something about its prevention, little about its actual entity and its cure. Perhaps we should, on the whole, find encouragement in that statement, for study is better than sloth as prayer is better than sleep, and a gramme of prevention is better than a decagramme of cure. (Unfortunately, in translating into the decimal weights it is difficult to preserve the exact proportion of the original without depriving the proverb of its terseness, an attribute almost as essential to the popular acceptance of a proverb as its truth.)

Cinchona and its derivatives of similar names cover five pages and a half. The clavicle shows its importance surgically by requiring six pages of the index. Climate covers but five pages, and cold an equal number. Cod-liver oil occupies the space of two pages only. Coffee fills a little less space. Colic takes up nearly nine pages, dropsy nearly the same space, dysentery about thirty pages, dyspepsia about six pages.

Few authors cover a page. Dzondi is one of the authors whose various writings fill nearly that space. Sir Astley Cooper hardly exceeds half a column.

Everything which has been said in praise of the wonderful undertaking on the appearance of the first and second volumes might well be repeated over the third. Our admiration increases with the succeeding volumes. The first, second, and third volumes bear respectively the marks of 1880, 1881, and 1882. Our gratitude over their creation takes the form of a hope that the fourth volume will appear in 1883.

#### MEDICAL NOTES.

— Our correspondent "Y" in last week's issue misses the point of what we had to say on "threatened" typhoid. The cases he cites (especially the first) illustrate the few instances in which, as we admitted, the use of the term was defensible. At the time when "Y" was advised to get away from the hospital he was in a relaxed condition, due to mental apprehension, overwork, unsanitary influences, or what not, and thereby in a most favorable condition for the reception of the typhoid poison which there was every reason to believe was then present in his surroundings. Hence it was wise to remove him from the exposure, and it was not absurd to say that at *that time* he was "threatened with typhoid." But these instances when

the time and method of exposure can be definitely known are not common. As the expression is most usually and, as we believe, unscientifically employed, it is when the typhoid, if it be that at all, is at the end of its prodromal stage, that is, when it is a question between a fully developed typhoid which has passed through its period of incubation and a febricula or some other disease. To the patient the expression under discussion usually conveys the hope that the fever may be "broken up," while to the practitioner it means that two or three days more of watching will be necessary before he can tell whether the disease is typhoid or not.

— The *Daily News*, of Cumberland, Maryland, announces the arrival in that town of Dr. Edward H. Brigham, of Boston, and tells an interesting story of the cause of his visit, somewhat as follows: In 1863 Dr. Brigham, then quite a young man, was a private in the Thirtieth Massachusetts regiment, and was in the second battle of Bull Run. There he was captured, but was paroled and was sent, with a number of others, to Harper's Ferry and afterwards to Cumberland, where he arrived sick and very weak. While in this condition he passed the residence of Mr. Peter Hein, who lived near the camp, and leaning against the front gate asked Mrs. Hein for a piece of bread, and to be allowed to sit on the porch and rest. The good-hearted lady called her husband, and he came to the stranger. Although the soldier was unkempt and travel stained Mr. Hein at once saw that he was a refined gentleman, unaccustomed to such rough life. After he had conversed with young Brigham a few moments his heart opened to him, and he compelled him to remain, retaining him in the house for three weeks, when he returned him to camp strong and well. The kindness shown at that time has never been forgotten by the recipient, and for nearly twenty years a regular correspondence has been kept up.

— The morgue in Paris is now rendered less obnoxious to the first and second pairs of nerves of its living visitors by the introduction of a freezing apparatus, consisting of a modification of the Carré method, in which the cold is produced by the evaporation of previously liquefied gaseous ammonia. But instead of water a solution of calcium chloride, which remains liquid at a temperature of 20° F., is made the direct recipient of the cold thus generated, and is carried in pipes to the top of the building, whence it falls in cascades. The same fluid is again collected and reëxposed to the freezing machine. In this way the temperature of the room is kept well below the freezing point constantly. When bodies have become putrid or require to be kept longer than usual they are placed in a row of cases like a set of pigeon holes, where by means of the same apparatus the temperature is maintained at a much lower point. The bodies which have been kept at 20° F., and which have been for weeks of stony hardness, show very little tendency to putrefaction. The original cost of the whole apparatus was not less than £1000, but the expense of maintenance is insignificant (each pound of coal in Carré's machine producing ten to twenty of ice), and consists almost

solutely of the cost of fuel, the chloride and the ammonia being used and re-used indefinitely.

— It is rumored that Dr. Oliver Wendell Holmes, Parkman Professor of Anatomy in the Harvard Medical School, is about to resign the professorship which he has so long adorned.

— A successful operation for strangulated hernia is reported as having been performed at sea on one of the British Peninsular and Oriental steamships by the surgeon of the vessel. The hernia was of great size, and it was found necessary to open the sac; the operation was performed while the ship was running against a hard sea, was done upon the main deck in order to secure good light, and the after-treatment was carried on in a cabin where the temperature averaged from 86° to 90° F., as the state of the sea required the ports to be shut. Yet the recovery was uninterrupted and speedy.

— According to the researches of Robert (*Archiv für exper. Pathologie*, B. xv., S. 22), which have been conducted in the laboratory of Schmiedeberg at Strassburg, the kreatin which exists abundantly in all extracts of beef has a remarkable effect on the muscular system, inasmuch as it increases its actual power and greatly extends its capability of continuous work. His experiments were made on frogs, and of many substances tested, besides kreatin, only hypoxanthin and caffeine possessed a similar action; and hypoxanthin is likewise a constituent of beef tea. Beef tea, therefore, if not so highly nutritious as it is generally assumed to be, is yet not so entirely useless as some observers would have us believe.

— The chemist of the Health Department of Brooklyn reports on the analysis of the water from twenty wells in that city, eight as very bad, seven dangerous, and four suspicious. The sources of contamination are not in the wells themselves but in the soil they drain. The report concludes: "These analyses show that nine tenths of the wells examined are more or less affected by the sewage of the city, and must be a source of constant danger to the health of those who use them."

— *Lyon Médical* reports a case in which a physician who had attended at a duel was subpoenaed to give evidence in court, and declined to answer the questions on the ground that what he knew was learned in his professional capacity and under the seal of secrecy that had been imposed upon him. His plea was adjudged fallacious on the ground that a promise to keep silence regarding a crime is illegal, and a refusal to answer being held equivalent to a failure to appear, he was fined a hundred francs and costs.

— The yellow-fever epidemic at the South continues unabated, though in Texas it has changed its location somewhat. Brownsville, which has suffered so severely, is now slightly relieved. Up to September 23d there had been in that town 1870 cases with 103 deaths. The disease is, however, creeping up the Rio Grande. At Pensacola the fever has been rapidly spreading during the last week of September, and up to the 30th ult. there had been 783 cases with 78 deaths. It is reported that here, contrary to the general rule, the

negroes seem especially susceptible to the disease. The local Board of Health has one hundred and twenty paid nurses on duty, besides about two dozen Sisters of Mercy.

— An exhibition of rational dress is to be held in London under the auspices of the Rational Dress Society. A prize of \$150 will be given for the garb most nearly meeting the aim of the association.

— David Evans, of Wakefield, N. H., died September 29th at the age of one hundred and four years four months and five days. Up to the age of ninety-two he worked on his farm regularly with his men. Until within a few months he was able to get about out-of-doors in pleasant weather. His mother lived to the age of one hundred and two years and two months.

## Miscellany.

### DR. OLIVER WENDELL HOLMES ON MEDICINE.

The *London Medical Times and Gazette* publishes Dr. O. W. Holmes' Medical Highways and By-Ways, and accompanies it with the following editorial remarks:—

Englishmen, especially English doctors, in the present day are like the Athenians of old, ever looking for some new thing; and this eagerness to learn, with the least possible delay, everything that may have in it the germ of advance, is a trait of the national character which we would not for one moment wish altered, for it is essential to progress. We, like most journalists, make it our business to meet this want so far as lies in our power, by putting before our readers, without loss of time, that which we think will interest them. This week we depart from usage by printing an address which is now several months old. Its very excellence is the excuse for our delay. Other matters have pressed upon us, for which we have been obliged to immediately find space lest, when the occasion had passed away, the fugitive words might have lost much of their interest. But when Dr. Wendell Holmes adorns a medical festival with wise, humorous, and graceful speech, it is not necessary to be minutely acquainted with the circumstances which lead him to open his lips. He makes the occasion great; the occasion does not add importance to his remarks. He is always entertaining and always instructive.

Dr. Oliver Wendell Holmes is a poet, a humorist, a philosopher, *sui generis*. Most, indeed nearly all, of those writers of his country and language who have earned, by writings akin to his, a place in the temple of fame, have looked for most of their poetic inspiration either to nature or to the past. Some have left the noisy, smoky town, with its ugliness and its vulgarity, and dreamed sweet thoughts amidst the song of birds, the rustle of trees, the purring of brooks, or the roar of the sea. Others have familiarized themselves with the silent splendor of the past, times which have left us only the grand remains of what was best in them; all the littleness, ugliness, and baseness that existed then having long since perished, and what was great and beautiful alone survived. But Dr. Holmes has struck out a path of his own. He has gilded with his fancy the prosaic existence of an American boarding-house. Although a lover of nature, and able to appreciate antiquity, yet he has never turned himself

away from the actual present, from the homely ways of the poor, the vulgarity of the rich, the hard, dry materialism of science, the hopes and fears, the faults and the virtues of every-day men and women in their every-day surroundings, and everything he has touched he has lit up with poetry, wit, and wisdom.

The present address is an illustration of this. The history of medical science we all know to be a thing to be proud of; it is a history illustrating the power of the human mind in wrestling her secrets from Nature, and showing individual examples of unselfish devotion to the cause of humanity such as cannot be surpassed and can seldom be paralleled. But few beside Dr. Holmes either could or would have clothed this dry though noble skeleton with such a luxuriant growth of fanciful allusion, thoughtful suggestion, and wise precept. In the history of medical science, however, we have a theme which no one will hold to be unworthy of the highest genius. But what shall we say of the natural history of quackery? — of credulous folly on the one hand, and self-delusion or willful imposture on the other? The broad highway along which Medicine has marched to greater and greater conquests over disease may indeed suggest high thoughts; but what of the by-ways along which charlatans have crept to plunder? Nevertheless, this subject is not unworthy of consideration. The public do resort to quacks, and they do so prompted by natural, and in themselves praiseworthy, instincts. And all quacks are not deliberate impostors. Even from them the wise may learn. They, like ourselves, have to do with a capricious, ignorant, timid, suspicious, and yet confiding public. If a quack is successful, there must be a reason for his success, and though we may not choose to follow his methods, yet it cannot be useless to try and find out the secret of that success. Dr. Holmes contemplates the different forms of popular medical delusion, not merely as a philosopher, but as a medical man; he can thus not only look at them, but see through them. We will not, as we might well be tempted to do, quote from his eloquent address, but will refer our readers to it, confident that they will follow him with pleasure and profit, alike through the by-ways as through the highways of medicine.

#### “THREATENED TYPHOID.”

MR. EDITOR, — I was glad to see one of your correspondents speak up for the term “threatened with typhoid,” but sorry he did not “go the whole figure” and boldly assert the power of medicine to abridge if not exactly “cut short” that disease. My practice for the last dozen years has been in about the worst drained section of the whole city, one in which typhoid fever is peculiarly rife. Your readers will scarcely credit my statement when I say that though all my neighbors are perpetually busy with this disease, I, with two large medical charities on my hands, rarely see a case except in those early “threatening” stages so well described by your correspondent. The cases which I do see of real confirmed typhoid are almost wholly those when I am called in too late, that is, after the first week. I believe, on my own experience, that typhoid fever in the first week, and especially in the first few days, can in most cases be much shortened by treatment and the severe symptoms of the later stages prevented or lightened. There is nothing new

about this claim. Typhoid fever is as old as man, probably, and was successfully treated by Hippocrates, Sydenham, Rush, and many more before Bretonneau or Louis were thought of. Their treatment was principally cathartics, supplemented by bleeding and emetics. In my experience, if you can produce an artificial diarrhoea by cathartics, and especially mercurials, in the early stage, you will, as a rule, shorten the disease. An emetic at the very outset, as recommended by Dr. James Jackson, I have often found very useful. The common treatment is to let the case run on till the patient is almost dead with blood-poisoning, and then stimulate. It is a most fatal practice, and accounts for the usual great mortality of typhoid. I began this way myself. The theory is that the patient is weak and has a long disease to go through, and must therefore be stimulated to keep up his strength. Hippocrates knew better than this when he said: “Bodies not properly cleansed, the more you nourish the more you injure.” Sydenham alluded to it when he said: “The dread of malignancy in disease has killed more men than gunpowder;” because it made men afraid to use evacuating measures, the only means of eliminating the poisonous material from the system. These men may have been fools; my own personal experience may be utterly fallacious; but it will take more ridicule than has yet been brought to bear upon me (which is not a little) to convince me of either the one or the other.

Yours respectfully,

EDWARD T. WILLIAMS, M. D.

#### SYMMETRICAL SIGNS OF BASIC CAVITY.

DR. J. MITCHELL BRUCE in a series of articles in the *Practitioner* on Basic Cavities mentions a point which we do not recollect having seen elsewhere alluded to. He says it probably occurs in connection with other excavations, as at the apex, but is best appreciated in cavities at the base. To quote his own words: —

“On listening over the healthy side of the chest at a spot corresponding symmetrically with the seat of cavity, the observer may be surprised to find that the respiratory sounds, especially the expiratory, are here also of a somewhat cavernous or at least tubular character; and he is led to diagnose consolidation or excavation of the opposite base. In one case I have even heard the same ‘key-hole wailing’ sound in expiration, as over the seat of excavation. I have little doubt that this sound over the opposite base is an *echo*; for I have observed it continue unchanged for months, and post mortem have found no local disease whatever to account for it. It appears to me to be more distinct (in the case of cavities at the *posterior* base) at some distance from the spine than close to it — another feature in favor of its being an echo. The cavernous sounds of the affected side are probably conducted up the bronchus, and reflected down the corresponding air-tubes of the healthy lung.”

#### FROZEN MEATS.

IN a communication to the *Sanitary Engineer* Dr. Prosper de Pietra Santa calls attention to the application of artificial refrigeration to meats for the purpose of destroying parasitic germs. Experiments have



shown that a temperature of  $-19^{\circ}$  C. is necessary for the complete destruction of all such germs, and it is said that meat so treated is more digestible than ordinary meat. The Academy of Sciences of Paris have been recently investigating the subject. A statement was made by M. T. Carré, the inventor of a system of refrigeration by ammonia, that one of his machines producing 300 kilogrammes of ice per hour can operate on a space of a hundred cubic meters containing 60,000 kilos. of ham, with an expenditure of 900 kilos. of coal, and from two to three kilos. of ammonia in twenty-four hours, and reduce its contents to  $-30^{\circ}$  in the space of nine days. A single man is sufficient to manage the apparatus, and the total expense does not exceed 480 francs. This would make the cost of refrigeration a little less than one centime per kilo.

In his paper M. H. Bouley states that meat submitted to congelation does not undergo any modification after thawing, but remains as it was before. As the use of raw meat is very common in modern therapeutics, exposing one to the ingestion of the eggs of all sorts of parasites, by submitting meats of all kinds for one or two hours to a temperature of  $-40^{\circ}$  or  $-50^{\circ}$  the eggs and parasites will be certainly destroyed.

On the other hand, observation shows that frozen meats can be kept even longer than others and become more digestible. In one of the last sessions of the Institute, M. Dumas, the illustrious chemist, stated that thawed meat was as healthful and sapid as the ordinary meat from the butcher. He even thinks that freezing of meat is as good a means as cooking to remove from it the danger from parasitic organisms which can develop in the interior of the human body.

After a discussion, in which Dumas, Bouley, Frany, and others took part, the Academy agreed to the following opinion:—

*First*, That raw meat is easier of digestion than cooked meat.

*Second*, That in the therapeutic use of raw meat physicians should prescribe in preference meat which has been frozen.

#### A CASE OF DIABETIC COMA WITH LIPÆMIA.

A CASE of diabetic coma with lipæmia is reported by Messrs. Fraser and Logan in the *Edinburgh Medical Journal* for September.

The results of the post mortem examination are summarized as follows:—

In the blood there was found fatty matter, precipitated albumen, and a substance having an odor like that of acetone. The fat seems to have adhered largely to the sides of the blood-vessels, causing an obstruction in the flow of their contents, resulting in congestion and in extravasations of the vascular contents. The lung stasis thereby produced would account for the dyspnea and cyanosis; and the cerebral congestion would probably cause coma, the production of which might have been aided by defective nutrition and by poisoning resulting from accumulation of effete matter and from the presence of acetone.

These may be regarded as the immediate causes of the fatal termination. The remote cause seems to have been exposure to cold, one of the results of which was an inflammatory change in the kidneys, which interfered with their eliminative function, and hence the marked diminution in the quantity of urea, and probably of glucose, excreted. The evidence appears to

point to the fact that the fatty matter so largely present in the blood was universally and equally distributed throughout the body. Its origin may in that case be reasonably assigned to some constituent existing in the blood, which had somewhat rapidly undergone transformation. The blood corpuscles could not have produced it, for their number was not lessened.

The chemical relationship between glucose and fat is a very remote one, nor can albuminous matter be either rapidly or easily transformed into fat. An altogether satisfactory explanation, therefore, of the origin of the abnormal constituents present in this and in similar cases cannot be given from existing data. We can only advance hypotheses; and our contribution to these hypotheses is that from the glucose present in the blood the acetone was mainly derived, while the fatty matter originated from a transformation of the albuminous constituents of the blood-plasma.

#### THE THORACOPLASTIC OPERATION OF ESTLANDER.

DR. FENGER, of Chicago, presents in the *Medical News* an account of this new operation as successfully performed by him upon a girl sixteen years of age. She had suffered from empyæma for two years and a half when first seen, for the last year of which she had a fistulous opening in the tract made by an aspirating needle a few months previously. There was some sinking of the chest wall on the right side, but carbolic washing and Lister dressings applied for three months failed to produce any further closure of the cavity. The fistula started two and one half inches below and half an inch to the right of the nipple, between the sixth and seventh ribs, and lad upward and backward into the empyæma cavity into which a probe could be passed five and a half to six inches. The amount of discharge was from one and one half to two table-spoonfuls daily.

Percussion resonance was clear over the clavicular and in the infraclavicular region, down to about the fourth rib, but dull from this point down to the liver. In the place of the clear percussion, vesicular respiration was somewhat weak, but still could be distinctly heard. On the dorsal side there were clear percussion and vesicular respiration all over the scapula; in the infrascapular region, dull percussion and no respiration sound.

The patient was growing weaker, had lost her appetite, and complained of frequent pain in the right side and of headache. Finally, fifteen months after the establishment of the fistula, the operation was performed to enable the chest wall to collapse enough to meet the lung, no hope existing of further expansion of that viscus. The incision was carried upward and backward from the mouth of the fistula about five inches in length. By means of a gouge the sixth rib was denuded of periosteum, and a piece seven centimetres long removed by a bone forceps. In the same manner six centimetres of the fifth rib were removed. After this had been done it was possible to introduce the little finger into the empyæma cavity, which was found to be two inches long, an inch and a half high, and about an inch deep, extending up behind the fourth rib, the apex being at the third intercostal space. The upper border of the incision could be drawn upward beyond the fourth rib, which was denuded, and a piece

six centimetres in length removed. The walls of the cavity were found to be firm, hard, connective tissue, covered with a layer of flabby granulating tissue. All of the latter was removed by the sharp spoon. The hemorrhage during the operation was trifling, no ligatures were needed, the slight hemorrhage from two of the intercostal arteries being stopped by torsion.

The operation was done under Lister, a counter-opening being made near the angle of the scapula. The subsequent progress was good, the drainage tube was removed from the cavity in thirty-seven days, and the cavity and fistula were completely closed in fifty-four days. Seven months later the patient presented herself in good appetite and condition, with no cough. The comparative chest measurements were as follows:—

About the nipple the circumference of the left thorax was thirteen and a quarter inches; of the right ten and three quarters inches, measurements being made below the angle of the scapula. At the axilla the circumference of the left thorax was thirteen and three quarters inches; of the right, eleven and three quarters. In the region of the eleventh dorsal vertebra the circumference of the left thorax was twelve and a half inches; of the right, ten inches. The anterior surface of the sternum was turned to the right. The deepest sinking in of the right pleural cavity was at a point just above the nipple, corresponding to the fourth rib, where the antero-posterior diameter was three and a half inches; at the corresponding point on the left side, the diameter was five inches. Immediately below the clavicle, the antero-posterior diameter on the right side was three inches; on the left, three and three quarters inches.

Though the ends of the resected ribs could be felt, the firmness between them showed a regeneration of osseous tissue.

On the right anterior side there was clear percussion to the fourth rib, below this point, dull; in the axillary region clear percussion to the fifth rib, below this point, dull. On the posterior side percussion in the suprascapular, infrascapular, and interscapular regions, was clear; in the infrascapular region, dull.

This operation, that is, costal resection, not for cancer or for room for drainage, but to permit the obliteration of a cavity by collapse of the chest wall, was first systematized by E-stlander, and a report of eight cases published by him in the *Revue Mensuelle de Médecine et de Chirurgie*, February, 1879.

### OVARIAN PRESSURE.

A PARIS correspondent of the *Chicago Medical Journal and Examiner*, speaking of the results of ovarian pressure as practiced by Charcot at the Salpêtrière, says:—

"One of the first patients presented was a young girl of charming appearance. The only visible sign of a departure from normal physiology was a persistent inward contraction of right foot. She was, however, wearing a ceinture which produced pressure in the region of the ovaries. The ceinture was removed, and immediately a violent fit of coughing was developed, which, even for the short time that it was exhibited, was positively painful to observe. The ceinture was reapplied, and the coughing ceased as by magic. Another patient was presented, with whom the removal

of the ceinture was followed by the regular development of the various stages of epilepsy, exhibiting all the violence of agitation, frothing at the mouth, rapid, powerful muscular movements, followed by the most complete opisthotonus. The application of the ceinture cut short these paroxysms at any particular stage of their development with the most remarkable promptitude. Some half dozen patients were presented, illustrating in a similar way the same influence. In one case, when the removal of the ceinture was not followed immediately by an onset of the epileptic attack, the assistant gave a very slight but rapid tangential blow of the hand in the small of the back, and immediately the epileptic attack began, culminating in the cataleptic condition.

"One case was exhibited of unusual interest, on account of its history. Becoming pregnant, it was found that the points on which pressure had to be exerted in order to relieve the attacks of epilepsy, gradually ascended as the pregnancy developed."

### DEATH OF THE OLDEST PHYSICIAN IN PROVIDENCE, R. I. GEORGE CAPRON, M. D.

DR. GEORGE CAPRON, of this city, died September 21st, of apoplexy. He had been in active practice here for sixty years, and worked up to the very day of the onset of his fatal illness. As an obstetrician he stood preëminent. His genial nature and his great kindness toward the poor caused him to be respected and beloved by all classes. Physically he was a remarkable man, and seemingly never tired. The amount of work he performed during his three-score years of constant practice cannot be estimated.

PROVIDENCE, R. I., September 25, 1882.

### ACTION OF THE PROVIDENCE MEDICAL ASSOCIATION ON THE DEATH OF DR. GEORGE CAPRON.

At a special meeting of the Association held September 23, 1882, Dr. E. M. Harris, the president, occupied the chair, and appointed Drs. Ely, Snow, and Perry a committee to draft a minute and resolutions, which were as follows:—

"Another of the original members of this Association has passed on to the silent land, one rich in years and in the respect of those within and without the profession.

"For the many years we have had the pleasure of his acquaintance we have never heard one speak ill of him. For nearly sixty years he has given his whole mental and physical strength to his chosen profession, given we might say, in every sense of the word; for, though simple and frugal in his tastes and mode of life, he left none of this world's goods; yet he worked for his patients early and late.

"As a man he was cheerful, kind, and genial, considerate of the feelings and rights of others, a gentleman in the best sense of the word.

"As a physician he was esteemed and respected by his fellows, and in his favorite branch of the profession it was unanimously conceded he stood above us all.

"Though old in years he was young in his zeal for all that was new and true in his speciality, as all who have attended our meetings and listened to his well-thought-out papers can testify.

"He was most wonderfully spared the mental and physical infirmities of old age.

"May his kindness of heart, his unselfish labor for those who trusted their lives in his hands, ever live in our memories and stimulate us to act well our part in what remains of life.

J. W. C. ELY, M. D.,

E. M. SNOW, M. D.,

T. W. PERRY, M. D.

"By vote of the Association it was then resolved, that the preceding 'minutes' be entered upon the records of the Association, and that a copy be sent to the family of Dr. Capron, and also to the *Boston Medical and Surgical Journal* and to the Providence newspapers for publication.

"Resolved, That as an Association will attend the funeral of the deceased."

WILLIAM R. WHITE, M. D., Secretary.

## REPORTED MORTALITY FOR THE WEEK ENDING SEPTEMBER 23, 1882.

| Cities.                           | Population by Census of 1880. | Reported Deaths in each. | Deaths under Five Years. | Percentage of Deaths from         |                |                      |                |                       |
|-----------------------------------|-------------------------------|--------------------------|--------------------------|-----------------------------------|----------------|----------------------|----------------|-----------------------|
|                                   |                               |                          |                          | The Principal "Zymotic" Diseases. | Lung Diseases. | Diarrhoeal Diseases. | Typhoid Fever. | Diphtheria and Croup. |
| New York.....                     | 1,206,590                     | 635                      | 302                      | 26.67                             | 7.23           | 14.45                | 1.13           | 3.26                  |
| Philadelphia.....                 | 846,984                       | 350                      | 157                      | 17.97                             | 3.71           | —                    | 3.14           | 8.55                  |
| Brooklyn.....                     | 566,689                       | 283                      | 145                      | 37.77                             | 9.71           | 24.71                | 1.06           | 6.00                  |
| Chicago.....                      | 503,304                       | 250                      | 149                      | 33.60                             | 7.20           | 14.40                | 6.40           | 4.40                  |
| Boston.....                       | 362,595                       | 186                      | 76                       | 28.49                             | 5.13           | 19.23                | 3.76           | 5.13                  |
| St. Louis.....                    | 350,522                       | —                        | —                        | —                                 | —              | —                    | —              | —                     |
| Baltimore.....                    | 332,190                       | 188                      | 80                       | 38.20                             | 2.13           | 10.64                | 4.16           | 12.24                 |
| Cincinnati.....                   | 255,708                       | 111                      | 58                       | 20.72                             | 7.21           | 10.81                | 2.70           | —                     |
| New Orleans.....                  | 216,140                       | 97                       | 24                       | —                                 | —              | —                    | —              | —                     |
| District of Columbia.....         | 177,638                       | —                        | —                        | —                                 | —              | —                    | —              | —                     |
| Pittsburg.....                    | 156,381                       | 74                       | —                        | 45.90                             | 4.05           | 17.55                | 10.80          | 10.80                 |
| Buffalo.....                      | 155,137                       | 96                       | 54                       | 46.73                             | 4.25           | 32.56                | 1.42           | 4.25                  |
| Milwaukee.....                    | 115,578                       | 69                       | 54                       | 39.12                             | 5.80           | 28.98                | —              | 4.35                  |
| Providence.....                   | 104,857                       | 39                       | 15                       | 15.36                             | 10.24          | 10.24                | 2.56           | —                     |
| New Haven.....                    | 62,882                        | 32                       | 16                       | 25.00                             | 3.13           | 15.62                | 6.25           | —                     |
| Charleston.....                   | 49,999                        | 26                       | 13                       | 19.23                             | 3.85           | 7.69                 | —              | —                     |
| Nashville.....                    | 43,161                        | 28                       | 9                        | 35.71                             | —              | 17.86                | 10.71          | —                     |
| Lowell.....                       | 59,485                        | —                        | —                        | —                                 | —              | —                    | —              | —                     |
| Worcester.....                    | 58,205                        | 24                       | 18                       | 41.58                             | —              | 29.11                | 8.32           | 4.15                  |
| Cambridge.....                    | 52,740                        | 23                       | 13                       | 30.38                             | —              | 17.36                | 4.34           | —                     |
| Fall River.....                   | 49,006                        | 28                       | 17                       | 39.27                             | 3.57           | 28.56                | 7.14           | 5.88                  |
| Lawrence.....                     | 39,178                        | 17                       | 6                        | 29.41                             | 5.88           | 11.76                | —              | —                     |
| Lynn.....                         | 38,284                        | 14                       | 3                        | 14.28                             | 7.14           | 7.14                 | —              | —                     |
| Springfield.....                  | 33,340                        | 14                       | 4                        | 42.84                             | —              | 14.28                | 14.28          | 7.14                  |
| Salem.....                        | 27,598                        | —                        | —                        | —                                 | —              | —                    | —              | —                     |
| New Bedford.....                  | 26,875                        | 13                       | 7                        | 30.76                             | —              | 30.76                | —              | —                     |
| Somerville.....                   | 24,985                        | 6                        | 2                        | 16.66                             | —              | 16.66                | —              | —                     |
| Holyoke.....                      | 21,851                        | 13                       | —                        | 53.89                             | —              | 30.76                | 15.38          | —                     |
| Chelsea.....                      | 21,785                        | 8                        | 5                        | 37.50                             | 12.50          | 25.00                | —              | 12.50                 |
| Taunton.....                      | 21,213                        | —                        | —                        | —                                 | —              | —                    | —              | —                     |
| Gloucester.....                   | 19,329                        | 4                        | 2                        | 50.00                             | —              | 25.00                | 25.00          | —                     |
| Haverhill.....                    | 18,475                        | 10                       | 5                        | 40.00                             | —              | 40.00                | —              | —                     |
| Newton.....                       | 16,995                        | —                        | —                        | —                                 | —              | —                    | —              | —                     |
| Brooklyn.....                     | 13,608                        | 7                        | 2                        | 14.28                             | —              | —                    | 14.28          | —                     |
| Newburyport.....                  | 13,537                        | 5                        | 4                        | 40.00                             | —              | 40.00                | —              | —                     |
| Fitchburg.....                    | 12,405                        | —                        | —                        | —                                 | —              | —                    | —              | —                     |
| Malden.....                       | 12,017                        | 3                        | 0                        | —                                 | —              | —                    | —              | —                     |
| Nineteen Massachusetts towns..... | 138,881                       | 58                       | 16                       | 17.24                             | 1.72           | 15.52                | 1.72           | —                     |

Deaths reported 2711 (no reports from St. Louis and District of Columbia); under five years of age 1236; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 775, consumption 328, lung diseases 145, diarrhoeal diseases 409, diphtheria and croup 131, typhoid fever 82, whooping-cough 46, scarlet fever 35, malarial fever 33, small-pox 17, cerebro-spinal meningitis 17, puerperal fever four, erysipelas two, measles one. From *whooping-cough*, New York 20, Buffalo six, Brooklyn, Chicago, and Pittsburg four each, Milwaukee and Charleston two each, Boston, Baltimore, and Springfield one each. From *scarlet fever*, New York nine, Cincinnati seven, Philadelphia and Brooklyn five each, Chicago and Baltimore two each, Nashville, Cambridge, and Lynn one each. From *malarial fevers*, New York 17, Brooklyn seven, Chicago four, Baltimore three, Providence two. From *small-pox*, Baltimore 15, Philadelphia and Nashville one each. From *cerebro-spinal meningitis*, Chicago four, New York three, Milwaukee and Lawrence two each, Philadelphia, Cincinnati, Pittsburg, Providence, Fall River, and Holyoke one each. From *puerperal fever*, New York, Brooklyn, Chicago, and Charleston one each. From *erysipelas*, Chicago and Cambridge one each. From *measles*, New York one.

Fifty-four cases of small-pox were reported in Baltimore, Cincinnati six, Buffalo one; typhoid fever 56, diphtheria 19, scarlet fever seven, in Boston; diphtheria four, and scarlet fever 24, in Milwaukee.

In 34 cities and towns of Massachusetts, with a population of 945,118 (population of the State 1,783,086), the total death rate for the week was 23.64 against 22.46 and 23.46, for the previous two weeks.

For the week ending September 24, in 169 German cities and towns, with an estimated population of 8,410,240, the death-rate was 24.1. Deaths reported 3895; under five years of age 2221; consumption 412, diarrhoeal diseases 352, lung diseases 245, diphtheria and croup 130, scarlet fever 167, whooping-cough 89, typhoid fever 67, measles and rubella 25, puerperal fever 12, small-pox (Königsberg and Breslau one each) two. The death-rates ranged from 14.2 in Erfurt to 34 in Königsberg; Breslau 32.1; Munich 24.7; Dresden 29.8; Berlin 25; Leipzig 18.7; Hamburg 21.1; Cologne 20.1; Frankfurt 20.4; Strasburg 25.8.

In the English towns, with an estimated population of 8,469,571, for the week ending September 9th, the death-rate was 19.9. Deaths reported 3222; acute diseases of the respiratory organs (London) 178, diarrhoea 379, scarlet fever 81, whooping-cough 69, fever 55, measles 54, diphtheria 27, small-pox (London nine) 12. The death-rates ranged from 13.6 in Leicester to 30.2 in Sunderland; London 17.7; Bristol 18.1; Brighton 19; Derby 20; Birmingham 23.1; Liverpool 26.2; Hull 28.3. In Edinburgh 14.6; Glasgow 22.8; Dublin 27.6.

For the week ending September 9th, in the Swiss towns, population 494,390, there were 31 deaths from diarrhoeal diseases, consumption 21, lung diseases 13, diphtheria and croup 11, typhoid fever four, whooping-cough two. The death-rates were, at Geneva 9.3; Zurich 18.3; Basle 15.5; Berne 21.8.

The meteorological record for the week ending September 23d in Boston, was as follows, according to observations furnished by Sergt. O. B. Cole, of the United States Signal Corps:—

| Date.            | Barom-eter. | Thermom-eter. |             |          | Relative Humidity. |            |            |             | Direction of Wind. |            |            | Velocity of Wind. |            |            | State of Weather. <sup>1</sup> |            |            | Rainfall.   |                       |                   |
|------------------|-------------|---------------|-------------|----------|--------------------|------------|------------|-------------|--------------------|------------|------------|-------------------|------------|------------|--------------------------------|------------|------------|-------------|-----------------------|-------------------|
|                  |             | Daily Mean.   | Daily Mean. | Maximum. | Minimum.           | 7.23 A. M. | 3.23 P. M. | 11.23 P. M. | Daily Mean.        | 7.23 A. M. | 3.23 P. M. | 11.23 P. M.       | 7.23 A. M. | 3.23 P. M. | 11.23 P. M.                    | 7.23 A. M. | 3.23 P. M. | 11.23 P. M. | Duration, Hrs. & Min. | Amount in inches. |
| September, 1882. |             |               |             |          |                    |            |            |             |                    |            |            |                   |            |            |                                |            |            |             |                       |                   |
| Sun., 17         | 29.975      | 60            | 71          | 49       | 52                 | 20         | 53         | 41          | W                  | W          | W          | 20                | 5          | 7          | F                              | F          | C          | —           | —                     |                   |
| Mon., 18         | 29.886      | 72            | 85          | 55       | 88                 | 49         | 78         | 72          | SW                 | W          | W          | 14                | 16         | 9          | O                              | C          | C          | —           | —                     |                   |
| Tues., 19        | 29.899      | 77            | 88          | 66       | 87                 | 52         | 76         | 72          | SW                 | SW         | SW         | 7                 | 9          | 10         | F                              | F          | C          | —           | —                     |                   |
| Wed., 20         | 30.044      | 71            | 87          | 64       | 87                 | 74         | 93         | 85          | SW                 | Calm       | NE         | 4                 | 0          | 16         | F                              | C          | R          | —           | —                     |                   |
| Thurs., 21       | 30.296      | 54            | 60          | 53       | 94                 | 94         | 100        | 96          | NE                 | NE         | NE         | 18                | 12         | 6          | O                              | O          | O          | —           | —                     |                   |
| Fri., 22         | 30.175      | 60            | 72          | 52       | 100                | 100        | 100        | 100         | NE                 | NE         | SE         | 8                 | 7          | 5          | G                              | O          | R          | —           | —                     |                   |
| Sat., 23         | 30.084      | 69            | 77          | 62       | 100                | 86         | 100        | 95          | S                  | SW         | SE         | 9                 | 12         | 5          | R                              | O          | O          | —           | —                     |                   |
| Means, the week. | 30.051      | 66            | 88          | 49       |                    |            |            | 80          |                    |            |            |                   |            |            |                                |            |            | 36.30       | 5.28                  |                   |

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; X., clearing.

# OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM SEPTEMBER 22, 1882, TO SEPTEMBER 29, 1882.

MIDDLETON, P., assistant surgeon. Granted leave of absence for one month, on surgeon's certificate of disability, with permission to go beyond limits of the Department. S. O. 103, Department of Texas, September 20, 1882.

CARTER, W. F., assistant surgeon. Relieved from duty at Fort Concho, Texas, to report to commanding officer, Fort Stockton, Texas, for temporary duty as post surgeon. S. O. 103, Department of Texas, September 20, 1882.

POWELL, J. L., assistant surgeon. To report at headquarters, Department of Texas, to temporarily relieve Assistant Surgeon P. Middleton as post surgeon and attending surgeon at department headquarters. S. O. 103, Department of Texas, September 20, 1882.

HOPKINS, J. E., assistant surgeon. Relieved from further duty at Camp Washington, Gaithersburg, Md., and will proceed to Fort Adams, R. I., and resume his duties at that post. S. O. 168, Department of the East, September 22, 1882.

HORTON, S. M., major and surgeon. Granted one month's leave on surgeon's certificate of disability. S. O. 96, Department of the Platte, September 11, 1882.

SMITH, ANDREW K., major and surgeon. Leave of absence on surgeon's certificate of disability granted in special orders No. 141, August 22, 1882, Department of Arizona, extended two months on surgeon's certificate of disability. S. O. 214, A. G. O., September 4, 1882.

SPENCER, WILLIAM G., captain and assistant surgeon. Granted leave of absence for four months on surgeon's certificate of disability. S. O. 219, A. G. O., September 20, 1882.

SHEFFIELD, ROBERT W., captain and assistant surgeon. Now awaiting orders, to report by letter to the commanding general, Department of the South, for assignment to duty. S. O. 209, A. G. O., September 8, 1882.

COLSON, JOSEPH K., captain and assistant surgeon. Granted two months' leave of absence. S. O. 219, A. G. O., September 9, 1882.

CONINGS, E. T., captain and assistant surgeon. Assigned to duty at Fort Supply, Indian Territory. S. O. 174, Department of the Missouri, August 20, 1882.

BUSHNELL, G. E., first lieutenant assistant surgeon. Granted leave of absence for one month. S. O. 147, Department of Dakota, September 7, 1882.

WAKEMAN, WILLIAM J., assistant surgeon. Assigned to duty at Fort Douglas, Utah. S. O. 91, Department of the Platte, September 4, 1882.

MAYBON, T. J. C., assistant surgeon. To proceed from Fort Clark, Texas, *via* San Antonio and Laredo, to Fort Brown, Texas, for duty. S. O. 96, Department of Texas, September 8, 1882.

TAYLOR, MORSE K., assistant surgeon, relieved from duty as attending surgeon at Detroit, Mich. S. O. 157, Department of the East, September 9, 1882.

BOOKS AND PAMPHLETS RECEIVED.—On Asthma: Its Pathology and Treatment. By Henry Hyde Salter, M. D., F. R. S., Fellow of the Royal College of Physicians, etc., etc.

First American from the last English Edition. New York: William Wood & Co. 1882.

Fat Embolism. By Robert Saunders, M. D., Edinburgh, and Gilbert Barling, M. B., London, F. R. C. S. (Reprint.)

Medical College of Virginia, Richmond. Announcement of the Session of 1882-1883, and Catalogue of Graduates.

Medical Register and Directory of the Practitioners of Medicine in the City and County of Philadelphia. Compiled by Samuel B. Hopkin, M. D. 1882.

Letters and Facts not heretofore published touching the Mental Condition of Charles J. Guiteau since 1865. Submitted to the President of the United States by John W. Guiteau.

Report on Ophthalmology, made to the Medical and Surgical Faculty of Maryland at the Eighty-Fourth Session, April, 1882, by Julian J. Chisolm, M. D. (Reprint.)

Rupture of the Eyeball in its Posterior Hemisphere from a Blow in the Face. By Julian J. Chisolm, M. D., Baltimore. (Reprint.)

A Treatise on the Science and Practice of Medicine, or the Pathology and Therapeutics of Internal Diseases. By Alonzo B. Palmer, M. D., LL. D., Professor of Pathology and Practice of Medicine, and of Clinical Medicine, in the University of Michigan, etc. Vol. II. New York: G. P. Putnam's Sons. 1882.

The International Encyclopædia of Surgery. A Systematic Treatise on the Theory and Practice of Surgery, by Authors of various Nations. Edited by John Ashhurst, Jr., M. D., Professor of Clinical Surgery in the University of Pennsylvania. In Six Volumes. Vol. II. New York: William Wood & Co. 1882.

A Case of Abscess of the Left Frontal Lobe of the Cerebrum, with Special Reference to Localization. By E. C. Seguin, M. D. (Reprint.)

Transactions of the State Medical Society of Arkansas at its Seventh Annual Session. 1882.

The Malignity of Syphilis, with an Analysis of Four Hundred and Fifty Cases. By L. Duncan Bulkley, M. D. (Reprint.)

A Second Year's Experience with Non-Restraint in the Treatment of the Insane. By J. C. Shaw, M. D. (Reprint.)

Woman's Medical College of the New York Infirmary. Fourteenth Annual Catalogue. 1882.

Some of the Simple Methods of Performing Hystero-tracheorrhaphy. By O. E. Herrick, M. D. (Reprint.)

Specialties in Medicine. By Rufus Baker, M. D. Connecticut.

Life of John M. Briggs, of Bowling Green, Ky. By W. K. Bowling, M. D. (Reprint.)

The Antiseptic Treatment of Wounds after Operations and Injuries. By W. T. Briggs, M. D. (Reprint.)

Transactions of the South Carolina Medical Association, Thirty-Second Annual Session. 1882.

Thomson's Operation: Laparo-Elytrotony. By F. E. Beckwith, M. D. New Haven. (Reprint.)

Transactions of the American Otolological Society. Fifteenth Annual Meeting. Vol. III. Part I. Boston: A. Williams & Co.

Neue Untersuchungen über den Respirations-gasunstausch im kranken Zustande des Menschen. Von Prof. Dr. Gustav Wertheim. Wien. 1882. (Reprint.)

## Original Articles.

ON THE HABITUAL USE OF POISONS.<sup>1</sup>

BY A. H. JOHNSON, M. D., SALEM.

IN consenting to present a paper to this Society on the Habitual Use of Poisons, I had little thought of the difficulties in the way of obtaining facts from which to derive any valuable conclusions. Otherwise I should have declined to attempt what must inevitably prove a work of little value.

The learned works of Taylor, Woodman and Tidy, Reese, and many other toxicologists, give brief space to the discussion of our subject, not because of its relative unimportance, but manifestly because of a lack of such knowledge as would justify them in more positive statements. The nature and magnitude of the questions involved give it an appalling intricateness and extent. These questions will probably never admit of more than an approximate solution, and such a solution is to be reached through years of laborious research and experiment. With no practical knowledge of toxicology or chemistry, beyond what is common to nearly every regularly educated general practitioner, it is not to be expected that I can contribute anything to elucidate a subject which such experts find themselves compelled to treat meagrely. Therefore in what follows you will find rather a statement of a subject for investigation than its discussion. Whatever of good may come from such a paper as the present must result indirectly from its exhibition of such ignorance that the feeling of dissatisfaction it creates may awaken a profitable spirit of inquiry.

The numerous definitions of the term poison illustrate Dr. Taylor's statement that "in legal medicine it is difficult to give such a definition of a poison as shall be entirely free from objection." In popular parlance a poison is a substance which, when taken into the human system *in small quantities*, will impair health or destroy life. But many poisons, like nitre or oxalic acid, prove fatal only when taken in doses of from one half an ounce to an ounce. All writers on toxicology that I have consulted, apparently agreeing with the statement of Woodman and Tidy, that "half an ounce can hardly be called a small quantity," avoid the exclusiveness of the popular idea by using in their definitions terms so general that they cease to define.

Webster declares a poison to be "any agent capable of producing a morbid, noxious, or dangerous effect upon anything endowed with life." Dr. George M. Beard, in his work on stimulants and narcotics, adopts this definition as his own, saying that "the qualification 'in comparatively small quantities' or 'in quantities not very bulky,' might be added, but it is not essential to the definition." According to this the term poison is made to include heat and cold, and the most harmless articles of food. For the most simple food, if used to excess, may prove "capable of producing a morbid, noxious, or even dangerous effect upon" the body. Thus Dr. Taylor tells us of a young woman who died in consequence of a peritonitis brought on by over-distention of the stomach, produced by eating a quantity of raw rice mixed with milk, yet neither rice nor milk nor the two combined are poisons. Reese, in his work on Toxicology, defines a poison to be "a

substance capable of producing noxious and even fatal effects upon the system, no matter by what avenue it be introduced, and this as an ordinary result in a healthy state of the body, and not by mechanical action." Chloride of sodium has proved a fatal poison in doses of from one half a pound to a pound, yet this is not an ordinary result of the use of common salt. It is one of the constituents of the body, and health cannot be long maintained when it is excluded from the daily food. The same objection also applies to this definition as to the one already quoted, namely, that some of the simplest articles of food are, when used to excess, "capable of producing noxious and even fatal results." Dr. Taylor gives the following comprehensive definition: "A poison is a substance which, when absorbed into the blood, is capable of seriously affecting the health or of destroying life." This also includes so much as to lack definiteness, for excessive use of food may seriously affect the health. Dr. Lethely's definition, adopted by Drs. Woodman and Tidy, is as follows: "A poison is anything which otherwise than by the agency of heat or electricity is capable of destroying life, either by chemical action on the tissues of the living body or by physiological action from absorption into the living system." This, the least objectionable of the definitions with which we are acquainted, is still too inclusive for the reason already frequently repeated.

There is a truth in the popular idea of the meaning of the word poison which a correct definition of the word will preserve. The truth, namely, that evil resulting from the physiological action of some substances is so frequently seen that it is their most conspicuous attribute. The idea of possible impairment of health or of death resulting from their use should always attend their administration, and lead one to carefully restrict the quantity and frequency of the doses employed, and to seek their earliest possible discontinuance. Their use for physiological purposes is warranted only in conditions where their power to exalt or depress special functions may be used to regulate functions already disturbed by morbid action.

I submit the following definition, which sufficiently limits, at the same time that it explains, the application of this word poison: A poison is a substance which, when in any way absorbed into the human system, has so dangerous a power to pervert or arrest the bodily functions that to avoid these evils its entrance into the system must be carefully restricted. This definition, while sufficiently elastic to include all substances properly treated in a work on toxicology, also excludes the innocuous articles of food which can become injurious only when used to gluttonous excess. It also keeps prominent the baneful action of certain substances which secures for them the name "poisons." It is this well-known characteristic which leads us to notice with astonishment and curiosity that some persons habitually use them.

By habitual use we mean a use which is continued at frequent intervals, through many months or years, in obedience to a constitutional or acquired craving, originally begotten by the action of the substance taken.

Conspicuous among the drugs thus used are opium and its derivatives, alcohol, absinthe, tobacco, chloral, and arsenic. It will be with special regard to the action of these articles that the statements of this paper will be made. It certainly would be a waste of time to take space to prove that each one of the above-

<sup>1</sup> Read before the Massachusetts Medico-Legal Society, February 1, 1882.

named drugs has been and is habitually used. Concerning the first four of them the fact is too patent and familiar, and abundantly attested by many medical writers. Concerning the remaining two, we have for one, namely, chloral, the recent thorough investigation of Dr. Kane, published in his book entitled *Drugs that Enslave*, and for the other the statements of Drs. Vogt and Von Tschudi, substantiated by Mr. Heisch and Dr. Von Vest, and confirmed beyond a peradventure by the investigations and statements of Dr. Roscoe, Dr. Knappe, of Styria, and Drs. Rutter and MacLagan, of London, in 1864. So that Dr. Taylor, who, in an earlier edition of his work on *Medical Jurisprudence*, styled the accounts concerning arsenic eating as absurd and exaggerated, in his last edition admits that they are founded on respectable authority. The testimony with reference to the existence of the arsenic habit is succinctly stated by Dr. Stillé in his work on *Materia Medica*.

Nor would it be in place here to enter upon a statistical investigation to show the extent to which these habits prevail. For in the first place such statistics have been already presented by recent writers, conspicuous among whom are Drs. Calkins and Kane, and in the second place it cannot be claimed for such statistics that they present the facts with more than a very rude approximation to accuracy, owing to the secrecy with which these habits are indulged, the untruthfulness of the parties addicted to them, and the reluctance of dealers to acknowledge the extent of their illicit traffic in these drugs; and third, because the practical result of such an investigation for this Society would simply be to prove, what needs no additional proof, namely, that many powerful narcotics and stimulants are by many persons habitually used. Moreover, the work of gathering such statistics belongs rather to the sanitarian, the philanthropist, and political economist, who seek to adapt corrective measures to the magnitude of the evils they seek to reform.

We propose simply to comment upon some of the questions to which the well established fact gives rise.

First, concerning questions relating to the physiological action of poisons. It is evident that this question cannot in all cases be answered by our present knowledge of chemical action. One of the most inexplicable marvels among physical and vital phenomena is the contrary effects which are produced by changes in the adjustments of the molecular constituents of elements. Carbon, hydrogen, oxygen, and nitrogen are each essential components of healthy living tissue, yet a minute quantity of hydrocyanic acid, composed of the apparently harmless elements, carbon, hydrogen, and nitrogen, proves a poison so instantly deadly as to allow no analysis of the method by which it arrests life. Atropine, morphia, strychnia, nicotine, nitroglycerine, alcohol, chloroform, etc., prove fatal in small quantities, although composed of carbon, hydrogen, nitrogen, and oxygen, elements which we must breathe, and eat, and drink in gross measure each day of our lives. Hence the fitness of any substance which is habitually used, to be esteemed valuable as an article of food, is not to be determined by the fact that chemical analysis shows that it is composed of the very elements which the body requires. Only the most careful and prolonged observation of the effects produced upon human tissues and functions by the use of a given substance can warrant us in declaring for or against its harmlessness, its usefulness, or its baneful character.

Nor can the fact that there is a general craving for certain articles correctly indicate that they are, aside from a medicinal use, promotive of health and longevity. One might think that it was superfluous to make this statement, yet we find writers appealing to this fact to prove that the widely extended use of certain narcotics and stimulants indicates that they meet a want which is instinctive, and hence whatever is used in obedience to an instinct is not only safely but needfully appropriated.

Anstie in his work on *Stimulants and Narcotics* says, "It is idle to urge that the subject of a carefully prepared experiment can be made to live in apparent health without the use of any of the substances vulgarly called narcotics, if the practical fact be that *nations cannot* and never have been able to do without them." If by this we are simply to understand that national laws have not availed to abolish the use of narcotics, we can receive it without objection, but at the same time fail to see that this fact indicates that nations *need* to use narcotics to maintain their physical or moral health. If on the other hand it is asserted that nations are, and always have been, unable to keep their people up to their largest measure of vigor without the habitual use of narcotics, the assertion is open to quite as much evidence against as in favor of its truthfulness. Nor is it quite in keeping with the experience of a multitude of intelligent observers, that those who use none of the so-called narcotics, are simply made to live in apparent health. For often the fresh vigor and endurance of one who strictly avoids all narcotics and stimulants contrasts most favorably with the physical powers of those who use them.

Among some statistics, Anstie quotes from Von Bibra the statement that all the known nations of the world are addicted to the use of tobacco. But it is scarcely three centuries since Sir Walter Raleigh and others at the court of England, by using the tobacco brought from Virginia by Sir Francis Drake, fairly introduced to Europe the custom of tobacco-smoking. Since then these nations cannot do without it, but none would think of claiming that tobacco has given modern nations any intellectual or physical superiority over the ancients. What one writer says of tobacco is probably true of all other narcotics, aside from their medicinal use, namely, "Moderation is always safe, and total abstinence can do no harm."

Moreover, there is a great error in concluding that an instinctive desire will always express itself in healthful customs. The pleasure associated with the gratification of the appetites, while it secures the use of the means for preserving and procreating life, is always a temptation to over-indulgence. Reason and virtuous resolve restrain many from an injurious stimulation of their nerves. But the tendency and practice of by far the larger number of men is to gratify their appetites with more regard to present pleasure than to possible results. Especially is this true if the evil of any practice has only an insidious and protracted approach, and in persons with exceptionally vigorous constitutions is unapparent.

Among some of the natives of tropical regions, there is a widely prevalent custom of eating certain varieties of earth or clay. Of the Otomacs on the Orinoco Humboldt says, "They undoubtedly consume large quantities of clay, without injuring their health." We have similar accounts of tribes in Western Africa, in Eastern Asia, and in northern parts of Sweden and Finland. This

practice, once formed, we are told, is tyrannical, so that in many cases no punishment is sufficient to restrain those addicted to it. It is referred to by Ribot as presenting a curious instance of morbid heredity. The children of these earth eaters, according to A. von Humboldt, have often to be locked up to prevent them from running out after recent rain and eating clay. "He saw an Indian child at the mission of San Barjoe, who would eat hardly anything but earth; the child in consequence looked like a skeleton." This custom illustrates, first, the fact that the instinct to gratify natural hunger may misdirect to the use of materials which chemical analysis shows have no properties essential to nutrition. And, farther, that inherited instinct may involve a passionate fondness for substances the eating of which begets emaciation and weakness. In the same way, the widely prevalent use of narcotics simply shows their fascinating effect upon the nervous system and the great power of the artificial appetites they create, qualities which would insure their extensive use, even were the evil effects much more conspicuous, prompt, and certain.

As already remarked, the useful or baneful effects of certain substances when absorbed into the system must be determined not merely by the fact of their chemical constitution, nor from the existence among many nations of cravings for the effects they produce, but from a study of their action upon the bodily functions and tissues.

The results of such a study of the poisons we have enumerated have been presented by many competent scholars and observers, and are accessible to each member of this Society in the many modern works on *materia medica* and toxicology. With the statements of these writers we assume your familiarity. We do not propose to recapitulate them in detail. By them we are made acquainted with two conspicuous facts. One that they all have power, and most of them in very small quantities, to pervert or even arrest the bodily functions. The other, that most of them have been and are, by some persons, habitually taken for years in doses ordinarily fatal to one unaccustomed to use them.

Are we therefore to conclude that these articles have two methods of action? or is the difference in these instances simply due to greater or less degree of action, and to greater or less constitutional power of resistance? To determine this point we must have regard to the facts by which we determine the action of poisons. These facts are of two characters; first, those which reveal a modification or disturbance of function; second, those which reveal actual changes in tissues. We find with reference to most of the poisons habitually used, that their special effects upon the tissues, in cases of acute poisoning, elude the eye even when aided by the microscope; and that in chronic poisoning from the same drugs, the post-mortem appearances are those due to a general perversion of nutrition. Even alcohol may destroy life, and leave no organic traces of the method by which it proved fatal, although in chronic alcoholism many structural changes due to its action are found. Even arsenic when fatal by no means always produces destructive changes of tissue to indicate how it destroyed life.

From these facts it is quite evident that as chemistry cannot instruct us as to the safety or danger of taking any substance, without regard to its previous trial upon the living subject, so neither can the microscope tell

us what the action of a poison has been without reference to the symptoms it has evoked. But inasmuch as in the grosser action of some poisons like alcohol and arsenic we find organic changes which underlie the symptoms exhibited, and in the action of opium and tobacco detect first, derangement of function, and later, wasting of muscular tissue, which express the direct and indirect action of these drugs; I think we are right in inferring that poisons, in whatever quantities used, powerfully pervert the normal cell life of the body.

In these days we all conceive of functional activity as due to vital changes in cells, to whose activity the different organs, tissues, and fluids of the body owe their special character. So that there is no change of thought, sensation, or motion, or of nutrition, or general condition, which the physiologist does not recognize as an expression of the vital changes in the myriads of cells of which the body is composed. Yet we cannot demonstrate to the eye the differences in the functional properties of cells. These we must learn from the special work of the organ to which they belong. This is peculiarly true with reference to the various nerve centres, whose intricacy and delicateness of structure and function not only remove them from exhaustive examination, but even if every cell of every nerve ganglion could be inspected, its normal or its pathological condition might prove as invisible as the magnetic or non-magnetic condition of the molecules of a granule of iron. So although we cannot demonstrate the physical changes produced by a poison in the cell life, which is essential to the performance of any function, we feel no less confident that these changes are present, and that they may often more seriously compromise healthy nutrition and function than some grosser forms of organic disease.

With these facts before us we regard the action of poisons as of the same nature under all circumstances; namely, as due to the molecular changes produced in the fluids and solids of the body, and in the cells which compose them. When these molecular changes reach a sufficiently high degree, they may reveal their existence by structural changes discoverable by the microscope or plain to the unaided eye. But long before this may occur life may cease to be possible.

The extent to which such agents do harm cannot be in every case demonstrated. But that they have in all cases the same power, through strictly physical action, to pervert or modify function, must be borne in mind.

Inasmuch as we must in most instances learn their action from the symptoms they evoke, rather than from visible structural changes, we should study the tendency of their effects upon those sensitive yet healthy constitutions which best reveal them,—as the electrician makes use of the galvanometer to detect the existence and character of the galvanic current. This class, comprising as it does nearly all the female sex, and nearly all who have not passed the period of adolescence, and a very large proportion, if not the majority, of the mature males, forming as it must so large a majority of the human family, should really be the standard by which we pronounce upon the safe and beneficial employment of narcotics and stimulants. When tested upon such constitutions we learn their alarming power to limit and derange healthy bodily life.

That in certain peculiarly robust constitutions, the evil of their working may be masked by an appearance of

great health and energy is by no means conclusive evidence that the narcotic or stimulant used has done no harm. The word often used concerning such cases expresses the truth. We say such an one tolerates a large quantity of his favorite narcotic. That is, the system sustains a burden imposed, and is not being supplied with that which best supports its energies. From the existence of physical evil, produced from the known action of a poison in thousands of persons who would be otherwise healthy, we rightly infer the power of the same agents to produce evil effects in all. The statement of Dr. Beech will express the truth; namely, "the tolerance of a poison indicates a permanent change in the activity of organs which at first resisted its administration."

We all know that it is possible for extensive impairment of important structures to occur without such failure of psychical or motor powers as to destroy clear thought or vigorous action. The degree to which such impairment of powers can be tolerated by any constitution depends upon its measure of reserve force. Compensations for injuries sustained, and readjustments of the relative activity of different organs, can occur very often in some persons, not only without arrest of life, but without great curtailment of its useful activity. But on the other hand, troubles long concealed may at last express themselves, as it were, explosively, when the limit of comfortable endurance is passed. This is illustrated by a remark of Mr. Travers when giving testimony as a witness, and quoted by Dr. Taylor, — to the effect that a man may have pursued an intemperate course for some time, and yet his appearance indicate the plenitude of health, even when he is liable to an immediate attack of delirium tremens. This fact is also illustrated by the period of incubation of specific diseases, during which we have no knowledge of the injurious working of the poison, which nevertheless goes on until its intensity is such as to give rise to disturbing symptoms. Even after apparent health is restored, the existence of an irreparable injury to his constitution may confront one in perversions of development in his children. In like manner the fact that the stimulant narcotics have done their evil work in any person's system may become first apparent in some disturbance of the nervous system in children's children, so that the remark is frequently quoted, "Gout is a disease which the fathers have all the fun of acquiring, and the children all the misery of suffering." And Ribot, after remarking that the passion known as dipsomania, or alcoholism, is so frequently transmitted that all are agreed in considering its heredity as the rule, quotes the instance of a man belonging to the educated classes, and charged with important functions, who succeeded in concealing his alcoholic habits from the eyes of the public, while his family were the only sufferers by it.

The medico legal importance of a correct knowledge of the action of poisons which are habitually used appears in their effects upon longevity.

Whether aside from a medicinal purpose they can be wisely used, and if so, to what degree, before the boundary of temperate use is passed, and health and length of life are imperiled, are questions to which men of different customs and opportunities for observation return different answers. But it is a very significant fact that sound life insurance companies require an answer from applicants to some form of the question, "Are you now and have you always been of

temperate habits of life?" A question which is understood to have special reference to the use of stimulants and narcotics.

If the medical expert is required to testify as to what constitutes a temperate use of these articles by a healthy person, he finds himself unable to give any precise reply. The degree of toleration of these powerful agents must be determined by the result of individual experiment and not by any precise rule.

The popular definition of intemperance exhibits the most ludicrous variations. To many it is simply a question of the quantities in which, and the frequency with which, a stimulant is consumed; to others, a question of ability to take large amounts of stimulants without apparently losing control of their faculties. Illustrations of absurd testimony as to the meaning of intemperance may be found in Dr. Taylor's work on Medical Jurisprudence.

But the expert very well knows that such is the power of these agents that to a very large proportion of human beings the smallest indulgence in their use, except as a medicine, is injurious, and therefore intemperate; and that what to a very large class of men appears to be moderate indulgence, is too great to remain without effect in seriously perverting nutrition.

The popular judgment seldom considers a man intemperate until he begins to show the evil results of the habitual use of some poison by his slavery to his appetite, and neglect of business duties or social proprieties. But this popular judgment is far too tardy. The injury to the nervous system, of which such injurious practices are the expression, is being slowly wrought for years before the popular verdict is pronounced.

Estimates of the effect of stimulants and narcotics upon longevity are generally based upon their excessive use. But this excess is a result of their peculiar power and special action. The symptom of excess is so frequent a product of their moderate use that it should itself affect our judgment as to the perils which any degree of moderate use may bring to health and length of life.

It is customary with some writers when discussing the effects of poisons that are habitually used, to adduce many instances in which, notwithstanding a liberal use of narcotics and stimulants, life with a large measure of vigor has been protracted to great age. But the weight of such evidence is impaired from the fact that we are not made acquainted with the family history of such persons. As Ribot tells us: "It is now generally understood that longevity depends far less on race, climate, profession, mode of life, or food than on hereditary transmission. We find centenarians among those who have led the hardest lives, as well as among those who have taken the greatest care of their health. A collier, in Scotland, prolonged his hard and dreary existence over one hundred and thirty-three years, and worked in the mines after he was eighty." Inherited longevity will assert itself above many influences generally fatal to a high average duration of life.

By application of this law of nature the number of those whose health and life have not been limited by the habitual use of poisons would probably be so reduced that the remaining number would have but small significance against the multitudes of sensitive constitutions which have been and are sure to be shattered by such habits.



Our conclusions, therefore, respecting the effects of the habitual use of poisons on longevity are more likely to be correct when based upon the known power of these agents to pervert nutrition, than when based upon appearances of undiminished health in some users of them. Whatever may be our doubts about the injurious effects of small quantities of narcotics and stimulants upon the system, we should have little hesitation in declaring that when they are long used, and in large doses, they must, in the vast majority of cases, impair health and shorten life, so that the life of any person addicted to such habits is exposed to such additional risk that it cannot be safely insured without great increase of the normal rates. And should an applicant for insurance, when required to state his habits with reference to stimulants and narcotics, conceal the fact that he is an habitual user of them, his executor may justly find, as several have *actually* found, payment of a policy so obtained, refused.

Medico-legal questions of grave importance are likely at any time to arise from the effects which the habitual use of poisons may have upon mental disposition and capacity, with special reference to management of trust property, legal responsibility, and testamentary capacity. Some of these questions were so recently clearly treated by an associate member of this Society that I limit myself to one phase of this prolific theme, namely, to the power of the habitual use of a poison like opium, or absinthe, or alcohol, to imperil public and private interests, long before either mental capacity or moral responsibility, according to the ordinary use of these terms, is extinguished. The psychical effects of these drugs exhibit protean forms. But underlying these expressions is the fact that by their physiological action they may control mental disposition and character more effectually than the weightiest moral precepts or social interests. While we cannot hold that all mental life is the product of physiological action, we are called daily to recognize the fact that physical agents, when taken into the system, suppress, or exaggerate, or distort the normal mental faculties. It is evident that they must do this by entering the circulation, and by quickening or retarding physical or nutritive changes in the nerve cells of the brain to which the blood is distributed.

It is a familiar fact that the automatic actions of the different cerebral centres, thus awakened or depressed, may, to a greater or less degree, exceed the power of the will to reasonably coördinate them. No previous perfection of mental poise, or reliability, or moral self-control, can give assurance that the *automatic* action of the brain under the influence of drugs will conform itself to the habits in which it has been trained. This action is mechanical, irresistible, often tumultuous. The centres of thought may be stimulated, or unevenly excited, or depressed, and this not in obedience to a volition based upon judgment, but by reason of a physical agent which may keep in dominant activity suggestions and inclinations ordinarily repressed. The result is to pervert mental and moral character by a twofold action; one direct, the other indirect. *Directly*, by the immediate influence of the poison on cerebral action, and the morbid craving for a repetition of its use which it creates; *indirectly* by the violence to the moral sense, which consciously or unconsciously occurs when once the controlling power of an appetite becomes apparent to its victim, and he realizes that he has educated a constitutional craving into strength, by which

it actually cajoles and dominates his will. When one perceives that the inclinations and deeds called forth by the effects of drugs are departures from the ideals of living which his conscience approves, yet still in obedience to habit incites their repetition, each successive fall brings the conviction of moral cowardice, and remorse, and loss of effort to maintain former standards of prudence or morality. Transformations of character thus produced may proceed until a man's disposition and conduct have undergone a complete reversal before either mental capacity or moral responsibility are extinguished. Especially does this change appear in his disregard of the wise public sentiment which condemns the surrender of his powers to the habit by which he is controlled, and in his indifference to, and sacrifice of, the domestic comfort and social interests of his family.

Suppose the case of one, who, by reason of an established character for business ability and probity, has been selected by a testator to manage, as trustee, a large property. Should this trustee subsequently, by the habitual use of some stimulant or narcotic, change from a watchful, prompt, enterprising business man, of equable character, into a slack, indifferent, negligent, moody, unreliable person, it is manifest that he is no longer the man selected for the trust he holds, although his capacity to transact business may be simply dormant or perverted, unexercised, not destroyed. The removal of such a trustee for a substitute whose characteristics should be like those of his predecessor when first appointed, may be properly prayed for, and the prayer sustained by the most positive medical testimony concerning the power of drugs, when habitually used, to *pervert* the use of the mental faculties, which is often worse than their abolition. Even when the perversions of character are transient, as happens more or less frequently during indulgence in the alcohol or opium habit, the perils from the acts of one under the influence of his favorite poison should insure his displacement from positions of trust.

The effects of the habitual use of poisons or a poison on testamentary capacity may frequently prove a subject for examination by the courts, and is likely to meet an unjust decision unless a more liberal construction of the term "capacity" be allowed than at present prevails.

We are told that a person is considered to be of a sane and disposing mind who knows the nature of the act which he is performing, and is fully aware of its consequences.<sup>1</sup> And again, as in a case decided by Sir H. Jenner, "a person has testamentary capacity who has conducted his affairs with great shrewdness and ability, who does not labor under imbecility, and who has been treated during life as a person of indisputable capacity by those with whom he had to deal."<sup>2</sup> In cases of habitual intoxication, testamentary capacity has been allowed provided the mind has not been sufficiently enfeebled to render the man incapable of exercising his judgment.<sup>3</sup>

A similar decision was given quite recently in a suit against the estate of John Hooper, of Marblehead, by Judge Choate, of the probate court of Essex County.

That gross injustice may occur from decisions based on these grounds is apparent from the fact that great estrangement of affection and perversions of natural

<sup>1</sup> Taylor, page 824.

<sup>2</sup> *Ibid.*, page 827.

<sup>3</sup> Taylor, page 829.

character may take place without imbecility or limitation of shrewdness. This may be shown to have resulted in some instances as the direct consequence of the alcohol or opium habit. It may be shown that slavery to some stimulant or narcotic has turned a devoted husband and exemplary father from a lovely wife and children to live with harlots. It may be shown also that the kind efforts of wife and children, continued with much long suffering and patience, to turn him from his habits, have only served to intensify feelings of hostility toward those who have the strongest natural claim to his love and help. If, then, as the result of such an estrangement from his family, he should will his property to comparative strangers and companions in vice, why should not the court decide that a mind not enfeebled but controlled by the perverting influence of a drug cannot hold the legal right to alienate the property interests of legal heirs without just cause. If a will may be set aside on the plea of undue mental influence, why not also, when the undue influence comes from a physical agent like opium or alcohol. If also during life it is lawful to protect the property of an inebriate's family, by putting him under guardianship, why shall not the law exercise the same judgment concerning the justice of his acts when, owing to the action of poison in his blood, he makes an unnatural will, although no mental imbecility, in the technical sense, can be proved.

In addition to the medico-legal questions which arise from the direct effects of some poisons, when habitually used, grave legal complications arise as an indirect result of such habits. First, the acquired toleration of a poison, like opium, or chloral, or arsenic, in doses greatly exceeding those ordinarily fatal, might cause the system to successfully resist a dose given with murderous intent. In such a case if it be shown that the preservation of the victim was due to an acquired habit, and that the drug administered would in the great majority of instances produce fatal sickness, the immunity of the person poisoned would not palliate the felony of the poisoner.

On the other hand, concealment of the opium or chloral habit may lead to the innocent administration of a fatal dose by some friend or physician who is unaware of the quantities already taken.

Questions of malpractice might easily arise from the peculiar susceptibility which the habitual use of one poison may beget to another. Thus one addicted to the chloral habit may become specially sensitive to the effects of alcohol or opiates, while the power of chloral and morphine to intensify each other's action may cause an otherwise innocuous dose of chloral to arrest life.

The degree to which one poison may limit the action of another may assume a very critical importance in cases where a poison has been habitually used. Thus, while the extreme limit of time before the special effects from a poisonous dose of arsenic should appear is sixteen hours, Dr. Taylor quotes a case reported by Mr. Clegg in the *Medical Times* for October, 1818, of a girl who showed no symptoms of violent irritation from arsenic until twenty-three hours after the dose was taken.

Those who are habitual users of some poisons are more liable than others to sudden death. This may be due to the so-called accumulative action of poisons, or to the exhaustion of the power of functional compensations, or to the acquirement of susceptibility to a

poison, or to the advanced destruction of tissue due to the habitual use of a poison which has been apparently well tolerated, or to a rash increase of the dose beyond the system's power of resistance.

In many such cases a suspicion of suicide or murder is likely to arise. The fact that the deceased was in the habit of freely using a poison in doses ordinarily fatal, may either divert suspicion from an actual murderer or unjustly fasten a suspicion of crime on an innocent person. If the habits of the deceased are known, the possession, use, and fatal effects are reasonably accounted for without necessarily criminating others who may nevertheless be guilty. On the other hand, if the deceased has concealed his habit, the presence of poison in his tissues after death, as when arsenic has been taken, and in the possession of one associated with him during his last illness, may lead to the arrest of an innocent person for murder. The general principles controlling such cases have received discriminating comment from Dr. Taylor, but each case will produce its interesting complications to be unraveled in the light of its special circumstances.

Our treatment of our theme thus far includes the following items:—

- (1.) A definition of poisons designed to make the danger from their use conspicuous.
- (2.) Recognition of the fact that they are largely habitually used.
- (3.) That their fitness for such use cannot be determined by chemical analysis.
- (4.) That a widely prevalent craving for them cannot indicate that they have value as food.
- To which we might have added that did they contain the constituents for nutrition, the quantities in which they are taken would give them trifling value in comparison with ordinary food.
- (5.) That as the physiological action of poisons cannot be determined by chemistry, so neither can it in all cases be determined by the microscope, but that
- (6.) Reasoning from the gross changes of tissue they often produce, and from physical analogies, we rightly infer their power to pervert or control the cell life of the body.
- (7.) That their real effects and power must be determined by the symptoms their physiological action evokes.

(8.) That our generalization from such symptoms should be made from their effects upon the more sensitive constitutions, which form the vast majority of the human family.

(9.) That tested thus, they reveal such evil power that we conclude they must have a similar influence upon all, and that in more robust constitutions the evil they work is masked by compensations made possible by a higher degree of vigorous life.

(10.) The medico-legal importance of our topic is noticed (a) in comments upon the method of examining the effects of an habitual use of poisons upon longevity, with special reference to life insurance; (b) in comments upon the effects of an habitual use of a poison upon mental disposition and capacity, with special reference to management of trusts and testamentary capacity.

(11.) As the indirect result of the habitual use of poisons we noticed:—

(a.) That acquired toleration of a poison in doses ordinarily fatal may cause the system to successfully resist a dose given with murderous intent.

(b.) That the concealment of a habit of using a poison may lead to the innocent administration of a fatal dose.

(c.) That the degree to which one poison may limit the action of another may have great importance in determining whether or not a poison has been feloniously used.

(d.) That in the case of the sudden death of an habitual consumer of poison, the habit, if known, may conceal an actual murder by poison, or, if unknown, may give rise to unjust suspicion.

With this fragmentary and very general treatment of our topic, which has exceeded the limits custom assigns to papers for these meetings of your Society, I leave it to receive more instructive elucidation at the hands of those who have better opportunity to give to it the thorough investigation it deserves.

### THE WORK OF THE BOSTON BOARD OF HEALTH.<sup>1</sup>

BY S. H. DURGIN, M. D.

The Board of Health as at present constituted was provided for by City Ordinance in December, 1872, was appointed in January, 1873, and has therefore been in existence little more than nine years.

It consists of three members, appointed by the Mayor for three years each, and confirmed by the City Council.

The establishment of this Board was to a large extent brought about by members of this Society, while the small-pox epidemic of 1872-73 furnished the immediate cause. It derives its authority from the statute laws and city ordinances, and under the former it is instructed to make such regulations as it judges necessary for the public health and safety respecting nuisances, sources of filth, and causes of sickness.

Its duties are to enforce the health laws and ordinances, and to make and enforce such regulations of its own as will secure the greatest comfort to the inhabitants and immunity from disease.

The office, in Pemberton Square, is open for the transaction of business from nine A. M. till five P. M. daily, except Sundays and holidays, when it is open from ten to twelve A. M.

The officers and employees of the Board are as follows: There are four clerks and a messenger in the office; a city physician and assistant; a port physician and assistant, with ten officers and employees in quarantine; a superintendent of health, with four hundred and seventy-six officers and employees; one medical and nine other inspectors; eight superintendents of burial grounds; five attendants for public bath-houses; a superintendent of the city morgue; one inspector of live animals and meat at the abattoir in the Brighton District, and a changeable number of nurses and attendants at the quarantine hospitals, at Gallop's Island, and the Small-pox Hospital in the city.

The duties of the City Physician and assistant are to render all necessary medical aid required at the Jail, the Court House, and Temporary Home in Chardon Street; to vaccinate and re-vaccinate all who apply for it at the office in Chardon Street from ten to twelve daily; to examine all applicants for appointment in the police and fire departments; to investigate and report

the cause of death of persons dying without a physician in attendance; to examine cases of reported small-pox before sending to hospital, and to perform such other duties as may from time to time be required by the Board of Health.

The Port Physician and assistant are stationed at Deer Island and have the immediate charge of quarantine, and have additional work in the institution hospitals at Deer Island.

The Superintendent of Health has charge of cleaning the streets, collecting offal, ashes, and house-dirt, and performs such other duties as may be required by the Board of Health.

The functions of the Board as prescribed by the laws and ordinances may be classed under two heads, special and general. Under the head of special we may mention that the Board provides and operates a quarantine for infected vessels in the harbor, hospitals for quarantinable diseases at Gallop's Island, and a hospital for small-pox in the city. It has the care and custody of all the public burial grounds in the city (fifteen in number), must keep them in good condition, free from nuisances and trespassers, and may point out the place, depth, width, and range of all graves therein.

It has the special care and regulation of the Brighton Abattoir, and provides an inspector to see that none but healthy animals are slaughtered, and that the regulations of the Board are strictly obeyed.

It has the oversight and regulation of lying-in hospitals, which are licensed only on the recommendation of the Board of Health, and of the baby-farms, and prosecutes those who attempt to maintain such institutions illegally. It has the care and maintenance of the public bath-houses (sixteen in number), and provides them with superintendents for the care of the bathers and the enforcement of its regulations.

It provides the public urinals and closets along the streets and in the public inclosures, and furnishes them with the supervision necessary for cleanliness and the convenience of the public. All licenses for collecting grease and bones, peddling fish and lobsters in the streets, removing stable manure, storing and curing hides and horns, and keeping cows, goats, swine, and fowls, are granted by the Board of Health, and conditions are imposed with each license in the interest of cleanliness. All contracts with the city for the removal of night-soil and cess-pool contents must be approved by the Board, and the execution of the work as well as the cleaning of the streets, collecting of ashes, offal, and house-dirt must be done to the satisfaction of the Board.

It must assign places for the exercising of offensive trades, and may prohibit the same in places not so assigned.

It must provide immediately for any person who falls ill with a disease dangerous to the public health, and may enforce the vaccination or revaccination of all such persons as cannot furnish satisfactory evidence of successful vaccination within five years.

It approves the certificates of the causes of death, and furnishes such certificates when they cannot be properly obtained elsewhere.

It reviews the acts of the Inspector of Provisions, who is appointed by the Mayor, and decides all cases of appeal from his acts.

Under the head of general duties, a very large number and variety of nuisances are comprehended by the

<sup>1</sup> Read before the Suffolk District Medical Society, May 10, 1882.

statute law, which reads as follows: "The Board shall examine into all nuisances, sources of filth, and causes of sickness within its town, or in any vessel within the harbor of such town, that may in its opinion be injurious to the health of the inhabitants, and the same shall destroy, remove, or prevent, as the case may require."

There is no form or ceremony necessary in lodging a complaint or request with the Board of Health. They are received from all sources, by all methods, and at nearly all hours of the day. The daily average number of complaints received is about forty, and the number has been as high as four hundred in one day.

It is the custom, except in most urgent cases, to give the new complaints of to-day to the inspectors to-morrow morning. A report upon the alleged nuisance will be made in writing by the inspector the following morning, when a notice will be sent from the office to the owner or occupant of the building or premises where the nuisance is found, pointing out the unsanitary condition, and suggesting that the necessary means of relief will undoubtedly be employed.

Another inspection is made in a few days, and if the remedy has been applied the officer so reports, and the complaint is marked off. Otherwise a second notice may be sent, a prosecution commenced, or the Board may make the repairs at owner's expense; or, if it is a dwelling, a majority of the Board may visit, order the tenants out, and in due time close up the building, which cannot thereafter be occupied without a written permit from the Board. The inspectors employed to do this work are men of average skill, and some of them are experts, and can do the best work.

The character of the complaints made at the office are something as follows: Bad odors in or about the house; house-drain defective; traps defective or wanting; cellar damp, wet, or filthy; water-closet defective or unclean; rain conductor delivering sewer-gas under the windows; sink or house-drain discharging on the surface of the ground; stagnant water or filth on vacant lot; defective, overflowing, or offensive vault or cess-pool; exposed manure or offensive stable; fowls, goats, swine, or cows improperly cared for; offensive mud flats; sewer outlet; chimney smoke; bone boiling; fat rendering; street sprinkling; green hides; fertilizers; offensive trades and employments of all kinds; noisy and early fowls; and fish vendors. In short, almost anything that offends the sense of smell, sight, or hearing, or is otherwise injurious to health or estate is likely to be complained of and require investigation; most complaints are well founded, some are frivolous, and all must be looked after.

The number of nuisances abated by the Board last year, where notices had to be served on the owner or occupant, was 7581. In addition there were nuisances of greater or less magnitude abated by the disinfecting corps. Of the 7581 nuisances, 2625 were on account of defective drains, and 1320 were from inefficient trapping.

The examination of house-drainage, plumbing, and trapping is the most difficult work the inspectors have to do, and requires the most skill and patience. It is gratifying to observe the decided change of opinion in the community within the last few years in regard to sanitary questions generally, but particularly with reference to house-drainage. The inspection of whole blocks of houses from year to year, selected in different parts of the city, without reference to any com-

plaint or known condition, has shown a large decline in the percentage of defective drains and inefficient trapping.

Ten years ago it was a day's hunt to find any house-drain ventilated; to-day it is the rule in building and repairing to extend the open soil-pipe through the roof, and the demand for such improvements is not only popular but increasing. A few years ago sanitary inspectors were forcibly driven from premises by angry landlords; to-day they are welcomed nearly everywhere and obstructed nowhere.

If we compare the present sanitary condition of Boston with that of ten years ago, we find a pleasing contrast in many things in favor of the present. The streets are well swept and kept clean; house offal, house dirt, and ashes are promptly removed in a neat manner; dead animals of all kinds are quickly removed from the city; slaughter-houses have been entirely abolished within the city limits except at the abattoir; bone-boiling and fat-rendering establishments, lime-kilns, phosphate works, and a variety of other offensive trades have been reduced in number, and those remaining have been so changed and regulated as to be comparatively unobjectionable. The storing and curing of green hides and horns have been regulated and deprived of the most objectionable features; the condition of stables and the method of removing manure from them have been greatly improved; the old and offensive method of removing night-soil by bucket and wagon has been superseded by a new and nearly odorless process, which may be used at noonday without any trouble whatever; our tenement houses, numbering nearly four thousand, have been much improved in respect to cleanliness, overcrowding, ventilation, and drainage; grease, bones, and other refuse material used in fat rendering are neatly gathered about the city in clean carts (which are licensed for a month only at a time and reviewed as often) and promptly removed; baby farms and lying-in hospitals have been regulated and placed under surveillance; dead bodies are no longer buried before the presentation of the death certificate and the registration laws complied with; public urinals are now found along the main thoroughfares of the city and in the public inclosures.

The old-time salt-and-snow freezing mixture on the sidewalks has been wholly prohibited, and some headway has been made in stopping the use of salt in the streets; thousands of cellars and basements have been condemned as dwelling places and converted into other uses; hundreds of acres of land, wet and spongy, have been drained. The great intercepting sewer, through much tribulation, has been nearly finished, and may be used within two years; the death-rate from all causes has been materially reduced, but particularly so with regard to the preventable causes; small-pox has been stopped, and the city kept almost from it for nine years; scarlet fever has been reduced from an endemic condition, with an average yearly mortality of 399 (1867 to 1876) to an average of 77 deaths yearly for the last five years; diphtheria has been more defiant to the moderate measures which the Board of Health has felt at liberty to adopt.

In cases of small-pox the Board immediately makes isolation complete, either in hospital or at home, and obliterates every trace of infection that can be reached about the premises, and protects by vaccination all other persons who may have been in any way exposed to the contagion.

Scarlet fever and diphtheria have been measurably kept from the public schools and isolated by the palliative measures and advice which have been used. This the writer does not deem sufficient, and believes the time has come when the Board of Health should be upheld in using the same decisive measures for isolation in hospital or elsewhere, and for disinfection, etc., in these two most destructive of the preventable diseases, as is now so effectually used in cases of small-pox; not, perhaps, with the expectation of accomplishing quite as much with them as with small-pox, but to do what reason and experience teach us will undoubtedly reduce the frequency of, if not eradicate, the diseases.

In the absence of Dr. Heath, the Port Physician, who was to have given you a brief paper on our quarantine service this evening, but who has been unable to leave other duties, I will in a few words give you an idea of what is done in that branch of the department.

This quarantine has been administered in the same way for the last sixteen years. There are two physicians stationed at Deer Island, who find employment during the year in the quarantine service and in the hospitals of the public institutions. The regulations require that during the summer months, from June to November, all vessels arriving from foreign ports and from American ports south of Virginia be examined by the Port Physician or his assistant, and passed by written permit, before coming up to the city.

If a case of contagious disease is found on board it is removed to one of the hospitals on Gallop's Island, and the vessel thoroughly fumigated by burning sulphur, one and a half pounds to each one thousand cubic feet of space. All immigrants are vaccinated or re-vaccinated on arrival here, when they are found not to be sufficiently protected.

Infected cargoes which cannot be otherwise properly treated are removed to Gallop's Island and there disinfected or retained until cold weather, as in case of infection by yellow fever.

A good steamer is provided and well officered. There are two good hospitals at Gallop's Island for different diseases, and a sufficient number of tents for any emergency in warm weather.

We have a few cases of typhus and yellow fevers each season, and occasionally cases of small-pox to be taken from vessels. From five hundred to six hundred vessels are examined each summer, and from ten to twenty of this number will require detention in quarantine from a few hours to two days. Winter regulations require only such vessels to stop as have sickness of a contagious character on board during passage or on arrival here.

### THE SMALL-POX EPIDEMIC IN BOSTON.

BY J. H. MCCOLLUM, M. D.

AFTER a comparative immunity, extending over a period of more than eight years, a few cases of variola, not, however, at any time sufficient in number to be worthy the name of an epidemic, appeared in Boston. A boy about twelve years of age living in an apartment hotel in Ward XIX. was the first victim; a few isolated cases had, however, previous to this time been reported. He communicated the disease to all the mem-

bers of this family of six except the mother, who had been vaccinated. The father and one brother, neither of them vaccinated, succumbed to the disease. Every one in the immediate vicinity was vaccinated, and also, as far as was possible, every one who had visited this family. A man living in Ward VII. in a large boarding house contracted the disease from this source; but as it was early recognized, promptly removed, and the people in the house all vaccinated, there were no new cases in this locality. In December two more cases were reported in Ward XIX. in a boarding house. A young man and a girl, brother and sister, contracted the disease from some unknown source. They were removed to the hospital, and the members of the family vaccinated. A third person in this same house came down with the disease a short time after the others were removed; but this case could not be traced to the previous ones. At about the same time a case appeared at the City Hospital, and although this patient was removed as early as it was possible to do so, she gave the disease to two persons who were near her in the ward; one a patient, the other a nurse. A short time after a case, which could not be traced, appeared in Ward XVI. and the patient was removed to the hospital, where, after a severe illness of eleven days, he died.

This was an extremely severe case, and although the patient stated that he had been vaccinated, and one imperfect scar was visible on his arm, I very much doubt if he ever had the true vaccine disease. The appearance of the eruption and its course were characteristic of unmodified small-pox rather than that of a fatal case of the modified disease. This patient, although he was taken sick in a hotel, did not communicate the disease to any one in the house. On the same day that the previous case was removed a case was reported on North Street. This man had not been vaccinated, and he died after he had been in the hospital twelve days. As this case occurred in a crowded boarding house, in a room occupied by four or five individuals, there was every reason to fear that the disease would spread; but fortunately, owing to the speedy removal, efficient vaccination, and thorough fumigation, no new cases appeared in this locality. The disease, in this instance, was contracted in New York. It would now be very interesting to compare a very mild case of modified small-pox with an equally mild case, as far as the eruption is concerned, of the unmodified disease. These two patients were of the same age, were taken sick at the same time, and had the same amount of eruption. It very rarely happens that one meets with two cases so nearly alike in regard to the extent of the eruption, and this renders them more valuable for comparison. In the unvaccinated the disease was of longer duration, the constitutional disturbance was greater, and the secondary fever was marked. The eruption passed through the regular stages of papule, vesicle, and pustule, giving rise to considerable pain and discomfort. The vaccinated person was not sick after the initial fever, which, although severe, lasted only two days. The eruption after coming to the vesicular stage in this case in many places shriveled up, and did not become pustular. The unvaccinated person was in the hospital thirty days, while the vaccinated was there only nineteen. Another case deserving attention was that of a young woman, who was vaccinated three days after exposure to small-pox on shipboard, and who had a very mild attack of the disease. In this case the vaccine vesicle went on to ma-

<sup>1</sup> Read before the Suffolk District Medical Society, May 27, 1882.

trinity, while the small-pox eruption aborted almost entirely. The eruption had nearly all disappeared from the body before the arm had healed. It is not an uncommon thing for the eruption to abort to a certain extent, but it is an unusual occurrence for so much of it to disappear without coming to maturity as in this case, even in the recently vaccinated, and never in the unvaccinated. Three other cases of a similar nature were observed at the hospital; two were adults who were vaccinated immediately on exposure, and had very mild attacks of the disease. The other case was that of a child three months old, who contracted the disease from its father, and was immediately vaccinated on exposure. This was a primary vaccination, and its effect on the disease was very marked. The eruption did not pass through the regular stages, but after becoming vesicular disappeared somewhat as varicella does. On the other hand, one case was observed which was vaccinated one week after exposure. At the time of the appearance of the small-pox eruption the vaccine vesicle was at its maturity; but it did not in any way modify the disease, which went on to a fatal issue. It is a well established principle that if the vaccine disease does not arrive at maturity before the appearance of the virulent eruption, the former does not in any way modify the latter. If a patient, therefore, is vaccinated one week after exposure to small-pox the vaccination will have no effect on the disease if contracted at that time.

There have been six cases of the hemorrhagic variety in this city since last September, all of which, with the exception of one, died. Five of these cases were treated at the hospital, and the remaining one at his home. The case that recovered was a very remarkable one, and deserves passing notice. The patient, a sailor, who contracted the disease in Philadelphia, came from Somerset on the second day of the eruption, and applied for treatment at the office of the United States Marine Hospital Service in the Custom House, where the disease was recognized, and the Board of Health notified. For eight days the man hovered between life and death; owing, however, to the heroic administration of alcoholic stimulants, small doses of opium, and large doses of quinine, at the end of this time he commenced to rally and finally recovered. Large blebs filled with bloody serum formed on the chest and legs; spots of ecchymosis appeared on the conjunctivæ; there was, however, no hemorrhage from the rectum as is usual in these cases. A very severe case of confluent small-pox in an unvaccinated person has just been discharged from the hospital. The man probably contracted the disease from rags. This case is of interest solely from its severity. The patient recovered with the loss, however, of one eye, most of his hair, and many of his nails. This case and most of the others were, with the exception of the hemorrhagic ones, treated by the administration of the sulpho-carbolic acid of sodium and stimulants. Milk has been the principal article of diet, and it has been given in as large quantities as the patient could be induced to take.

Since last May sixty-five cases have been reported to the Board of Health; thirty-six of these were males, twenty-nine were females; thirteen were children, and fifty two were adults. There were twelve unvaccinated persons among the number. Five were revaccinated at the time of exposure. In regard to the revaccination of the other cases, there was no evidence

that they had been successfully revaccinated at any time. Those who were vaccinated at the time of exposure had very mild attacks of the disease, and in many instances were not confined to their beds more than a day or two; there was no pitting in these cases. Nine out of the twelve unvaccinated persons died, while only four out of the vaccinated. Thus the proportion of deaths is seventy-five per cent. in the unvaccinated, and seven and one half per cent. in the vaccinated. This is a most powerful argument in favor of vaccination and revaccination, and would seem to be sufficient to convince the most skeptical. Another argument in favor of vaccination is the fact that out of thirteen children who were admitted only three had been vaccinated in infancy, and these recovered.

Vaccination, isolation, and fumigation are the *three* agents for the prevention of this disease, and when they are fully and carefully conducted no epidemic need visit a city. Revaccination, too, is as important as primary vaccination, but it is much more frequently neglected.

As we have seen that one case not reported, but allowed to run its course, gave rise to eleven cases, it is very clear that if these cases had not received attention the disease would have increased very rapidly. In only five instances did a second case follow the removal of the patient, and in all of these the persons attacked occupied the same room, and in some instances the same bed, with the patient.

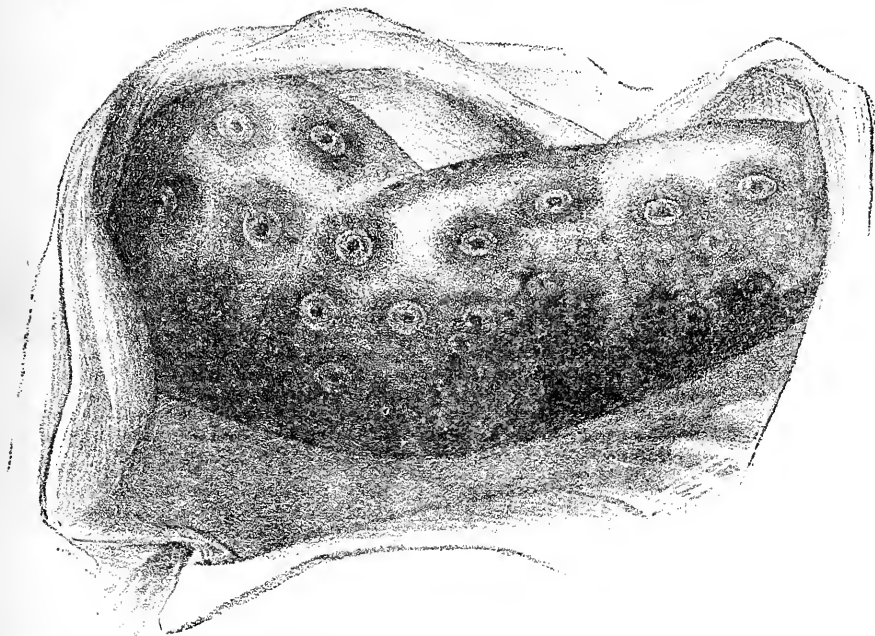
There is no doubt that the comparative freedom from small-pox in this city is due to the efficient measures of the Board of Health.

Before closing I wish to call the attention of the Society to one case of accidental vaccination. This occurred at the city stables in Roxbury. A cow purchased at Brighton was found to have an eruption on the udder and teats. The man who had charge of her, and who milked her, vaccinated himself on the right hand, near the base of the thumb. When this was seen it was a well-marked, perfectly characteristic vaccine vesicle. One very interesting fact in connection with this was a herpetic eruption about the edges of the old vaccination scars on the left arm. One case of variola equina, occurring in a man who had the care of sick horses, was observed. It was through the kindness of Dr. Hartnett that I was enabled to see this patient. The man was about forty years of age, and had the charge of three horses that had a discharge from the nose; they also had what is known as grease. This disease is described by some authorities as variola equina, while others make a distinction between grease, a local disease, and constitutional grease or variola equina. The man had inoculated himself from these horses. On the face the disease was confluent, therefore the characteristic appearances were not apparent, but on the side of the neck and on the forehead, well marked button-like, umbilicated spots with distinct areolæ were seen. There was no eruption on the arms, legs, or chest. The constitutional disturbance was comparatively slight, and the man finally recovered, although he was considerably pitted.

The case about to be reported is entirely unique; the record of a similar one I have been unable to find anywhere. Mrs. B., a healthy woman, the mother of two children, was vaccinated February 13th with bovine virus by her family physician, Dr. Harris, of Roxbury, through whose kindness I saw the case, and to whom I am indebted for the following notes: On

the fifth day after vaccination the patient complained of headache, was feverish, and, in fact, had the usual amount of discomfort that attends a successful revaccination. Mrs. B. was at this time nursing her infant, a child about six months old. The child had not been vaccinated on account of eczema from which it was suffering at that time. On March 1st, as nearly as the mother can remember, an eruption appeared on the head, thorax, and legs of the child, who had been feverish and irritable for two or three days previous. On some portions of the body the eruption was confluent, but on the arms and thighs it presented the characteristic appearance of cow-pox. It was not an instance of accidental inoculation, for there was no possible way by which the child could have introduced the virus at so many different points. The disease must have been contracted from the mother through

the medium of her milk. The child was not very sick, although there was considerable discomfort from the eruption. The drawing gives a remarkably good idea of its appearance. In order to test the matter more thoroughly, Dr. Cutler, of Chelsea, charged a few points with the lymph, and inoculated a cow on the vulva. On March 15th I received a note from him in which he says, "I send you points taken to-day from a perfect vesicle planted upon the vulva of an animal seven days ago. The vesicle has an elevated base, a smooth, regular, perfectly spherical margin, is not yet umbilicated, and has all the characteristics of a pustule resulting from a series of human transmissions. This puts beyond cavil the question of identity in the Roxbury case." The final proof of the accuracy of the diagnosis, the submitting a human being to vaccination with this virus, was not attempted.



## RECENT PROGRESS IN SURGERY OF JOINTS AND OF DEFORMITIES.

BY E. H. BRADFORD, M. D.

### OPERATIVE TREATMENT OF THE SEVERER FORMS OF CONTRACTURE AND ANCHYLOSIS AT THE HIP-JOINT.

ROSMANIT,<sup>1</sup> whose personal experience in the matter was during his service as assistant at Billroth's klinik, has collected a valuable number of cases of this distortion. The article refers entirely to cases requiring operative intervention, exclusive of those which can be benefited by means of apparatus and extension. He admits that it is almost impossible, if not quite so, to determine accurately the exact nature of a contracted hip-joint, whether bony ankylosis or simply fibrous adhesions are present or not.

In considering this the nature of the previous inflammation, the duration of the contraction, and the age of the patient have to be considered. The therapeutic measures which can be employed are: (1) in the mildest cases simple extension by weight and pulley; (2) *brisement forcé*, with one or more sittings, followed by fixation by weight and pulley and plaster of Paris; (3) tenotomy, myo- and fasciotomy as a prelude to *brisement forcé*. The skin, as Volkmann has shown, is not of much importance in maintaining the contraction of the hip-joint, but the fascia lata is, particularly the intermuscular ligament between the rectus and tensor vaginae femoris muscles.

Froriep has shown that in the contraction of the hip and knee the muscles are not as powerful in fixing the distortion as the connective tissue. Winwarter has

<sup>1</sup> Archiv f. klin. Chir., 1882, 28th Bd., 1, 1.

recently revived and Billroth performed the open incision of the soft tissues in contractions of this sort. A V-shaped incision is made from Poupart's ligament to the front of the thigh, the size depending upon the amount of contracted tissue. After the division of the skin and fascia attempts should be made to straighten the limb, which sometimes can be done without division of the muscles; this, however, can safely be done, even down to the capsule of the joint.

After the limb has been straightened it should be fixed either by plaster of Paris or by extension, with fixation of the pelvis, the choice depending upon the experience and preference of the surgeon. In cases of bony ankylosis or firm fibrous adhesions correction of the deformity can only be done by manual or instrumental osteoclasis or osteotomy. Manual osteoclasis is apt to cause a fracture, which, however, experience has shown not to be a disaster. The writer seems not to be familiar with the excellent osteoclast devised by C. F. Taylor, of New York, and described in the *New York Medical Record* a few years ago, and he rejects instrumental osteoclasis as of little practical use.

Osteotomy of the neck of the femur is an operation with a mortality of fifty per cent., according to Volkmann's experience. In the practice of others the mortality has been much less, — 11.43 per cent. In subtrochanteric osteotomy the mortality was 8.82 per cent., and in twenty-eight cases of wedge-shape excision of bone 7.14 per cent. Resection of the hip-joint has been advised and performed in the hopes of gaining a better result than after osteotomy. Out of thirty cases six deaths were recorded, a mortality of thirty per cent.

#### ANTISEPTIC RESECTION OF THE KNEE.

In France the operation of excision of the knee has never been popular. The writer (Boeckel<sup>3</sup>), however, reports his experience with thirteen cases done under strict antiseptic precautions. Primary union he considers the rule in this operation, and consolidation took place within fifty days. Of the thirteen two died of affections overlooked before operation, — endocarditis and pleural effusion; in a third subsequent amputation was necessary. The writer did not find that the antiseptic dressing delayed repair. The H incision is preferred. The patella and the quadriceps extensor synovial sac are removed, and great care should be taken that the saw ends fit accurately. All diseased parts should be thoroughly scraped away, and after the operation the limb should be elevated. Suture of the bones the author does not advise, but thorough drainage is necessary, not only on the sides of the incision, but also vertically in the centre, reaching down to the vessels; the drainage tubes should, however, be removed early, all being out by the third dressing. Lister dressing and a fixed appliance are essential. The writer advises an early operation.

#### RESECTION OF THE KNEE.

Hahn<sup>2</sup> has exhibited three patients on whom he performed resection for purulent inflammation of the knee, where primary union took place, and bony ankylosis in four weeks in two, and in a third eight weeks.

He considers removal of the synovial membrane, when diseased, important.

In partial resection motion may be hoped for in an ideal result, but this is not to be expected in complete

excision. The reporter has performed the operation twenty-three times since February, 1881. Of these, three died: one of diphtheria, one of septicæmia through imperfect antiseptics, in the opinion of the writer, and one of general tuberculosis. Of the remaining, in sixteen primary intention followed, and in four primary intention did not take place, but recovery apparently did; in two the result was not determined, as the operation had been recently performed. The method of operation was as follows: An Esmarch bandage was applied, and an incision made direct down to the bone, using an ordinary amputating knife, the incision being through the quadriceps extensor tendon just above the patella, and reaching from side to side. The knee is then strongly flexed, and the synovial membrane dissected out; the rest of the operation is done in the ordinary way.

The advantages of this incision over the anterior flap method or the H incision are as follows: There is greater probability of primary union and also better drainage; the patella is never pulled above the knee after cure. The bones should be fastened together, for which purpose a steel pin three millimetres thick and ten centimetres long is fastened to a trocar handle and driven through the skin and bone by a hammer; three pins are usually enough. The pins should be removed at the end of three weeks. The age of the patients was from five to fifty-five. In the majority of cases of the children it was only necessary to remove the bone above and below the lines of the epiphyses.

#### RESECTION OF THE KNEE AND RESECTION OF THE ASTRAGALUS.

Kraske<sup>4</sup> showed a successful case operated on four years before. The wound united by first intention, and the patella, which was sawn through, is united by bony union. The patella appeared to be movable, and not united to the ankylosed bones. He also reported three cases of resection of the astragalus, with the result of a normally useful foot in all cases.

#### HEREDITARY CONGENITAL LUXATION OF THE ANKLE

Kraske<sup>4</sup> exhibited a patient with this unusual deformity. The femur was smaller than normal and the tibia deformed, especially at the lower end. The feet had the appearance in general of exaggerated flat feet. The patient's son inherited the same deformity, and when thirteen years old was operated on by resection of both ankles. At the operation it was found that a luxation was actually present. Recovery followed, with an improvement in position of the feet.

A second child of the same parents suffered from the same deformity, but died when thirteen months old; the specimen was preserved, demonstrating the lesion.

#### ANTISEPTIC RESECTION OF THE HIP.

Boeckel<sup>5</sup> advises resection in suppurative hip disease in cases where the patient is failing, and in the non-suppurative cases where crepitation is marked. If the external surroundings of the patient are good in suppurative cases he advises incision, emptying of the pus, and drainage. The indication is the same in acute osteomyelitis and osteitis juxta epiphysaria. He favors subtrochanteric incision, and removal, as far as possible, of the fungous synovial membrane and clearing

<sup>1</sup> Bull. et Mem. de la Soc. de Chir. de Paris, t. vii., p. 571.

<sup>2</sup> Congress of German Surgeons.

<sup>3</sup> Congress of German Surgeons.

<sup>4</sup> Congress of German Surgeons.

<sup>5</sup> Gaz. med. de Strasbourg, 1882, No. 1.



the acetabulum. The external incision is not sewed. Extension is to be applied for several weeks. At the end of four to six weeks the patient is allowed to get up, extension being applied at night, crutches and a raised shoe on the well foot being used in the daytime. In from three to four months the limb can be used. The author reports a small number of cases, but with good result.

#### STATISTICS OF RESECTION OF THE HIP-JOINT UNDER ANTISEPTIC PRECAUTIONS.

Grosch<sup>1</sup> has collected one hundred and sixty-six cases of this operation, done under strict antiseptic precautions. In presenting the cases he has grouped them under heads corresponding to the condition of the joint at the time of the operation. The first stage he classifies as that where the pathological change is slight, and where the suppuration, slight in amount, has not worked to the outside. In the second stage fall those cases with extensive suppuration and established fistulae. The third class comprises those patients who have become much reduced by prolonged and extensive disease. Out of one hundred and twenty cases watched to the end, forty-four died, a mortality of 36.7 per cent., a percentage which corresponds with that of Guy's Hospital, Volkmann's klinik, or the Copenhagen clinique, and is lower than Culbertson's tables taken from cases not all treated antiseptically, and is much lower than Leisrink's mortality before the introduction of the antiseptic method, 64 per cent. Furthermore, dividing the cases into two groups, those occurring between 1870 and 1875, during the apprenticeship of the antiseptic technique, the percentage of mortality was 9 per cent. higher than since that time. The mortality in the first stage of the disease among children was 0 per cent., in the second stage 24.1 per cent., and in the third 67.5 per cent. Antiseptic dressings do not seem to have effected any change as to the usefulness of the cured limb as compared to that before the method was introduced. This is a matter which is not yet definitely settled, but a number of cases were established where an almost normal usefulness of the limb had remained unimpaired many years after the operation.

Where, during the operation, perforation of the acetabulum occurred, the percentage of mortality increased twenty per cent.

The writer farther found that the duration needed for recovery was not influenced by the antiseptic method of dressing, but it gave a greater immunity against wound complications.

#### CONSERVATIVE TREATMENT OF SEVERE HIP-JOINT DISEASE.

In contrast to the above the excellent paper of Dr. Judson<sup>2</sup> is of value. The patients were all unfavorable as regards prognosis, but excellent results, much better than could have been obtained by excision, were gained by a careful treatment, after from two to three years' treatment. The treatment was according to the mechanical plan. Dr. Judson justly says, "As hip disease derives its desperate character (its quasi malignity) from the difficulty experienced in securing rest, and not from the nature of the disease, which is sufficiently amenable to treatment when occurring in other parts of the body, it follows that the rate of mortality is

diminished by providing efficient rest, and avoiding the risks of operation."

#### RICKETY DEFORMITY OF THE NECK OF THE FEMUR.

Fiorani<sup>3</sup> has observed in fifteen cases a deformity which caused a limp in gait, suggesting hip disease. Motion, however, at the hip-joint was perfect. The head of the femur was in place in the acetabulum, as is not the case in congenital dislocation, but the trochanter was thickened, and nearer the crest of the ilium than normal. This the writer explains as a rickety curvature of the neck of the femur on the supposition that instead of the usual obliquity of the neck downwards from head to shaft, a reverse obliquity exists upwards from head to shaft. The shortening in some of these cases was quite marked. No autopsies demonstrated this hitherto undescribed deformity.

#### CONTRACTION OF TOES.<sup>4</sup>

Beside the distortion known as hallux valgus, dorsal and plantar contractions are not unfrequently to be met.

Dorsal contraction may follow cicatrices from loss of substance, and frequently the small toe will be found extended at the metatarsophalangeal articulation, and lying obliquely upon the other toes. The writer is of the opinion that this may in certain cases result from other causes than the pressure of shoes; sometimes this follows a contraction of the tendon secondary to inflammation of the metatarsophalangeal joint. In one of these cases Nicaladoni divided all the extensor tendons, and fixed the toes in an exaggerated flexed position for several weeks. The patient was then furnished a shoe with an inner sole reaching only to the head of the metatarsal bones, and an upper pressing the toes downwards.

Plantar contraction is less common. One case is reported following a wound in the ball of the great toe. Cure followed division of the tendon of the flexor longus pollicis and proper fixing apparatus. A flexed contraction of the second toe alone is not so very uncommon, usually from narrow shoes, as has been described by Paget and Hueter. Cases of congenital distortion of this sort have also been described.

#### MECHANICS OF STANDING.

Beely,<sup>5</sup> in opposition to the usual opinion, believes, basing his opinion on plaster casts taken from the sole of the foot when standing, that the points of the foot which bear the weight in a standing position are, when both feet are in use, the heads of the second and third metatarsal bones and the os calcis. When one foot alone is used to stand upon, the tuberosity of the fifth metatarsal shares with the other bones, as above mentioned, the weight of the body.

#### RESECTION OF HALF OF A VERTEBRAL BODY.

Israel<sup>6</sup> in opening an abscess in the lumbar region of a patient thirty-four years old with scoliosis persisting since boyhood, and suddenly accompanied by paralysis, found extensive disease of the bone. He resected a diseased portion of the twelfth rib, and scraped out the carious portion of the diseased vertebral body, penetrating into the vertebral canal, from which a quantity of pus discharged. The patient did well for five

<sup>1</sup> Centralblatt f. Chir., No. 14, 1882, p. 229.

<sup>2</sup> History of Three Cases of Hip Disease in the Third Stage. New York.

<sup>3</sup> Centralblatt f. Chir., No. 16, p. 264, 1882.

<sup>4</sup> Nicaladoni, Centralblatt f. Chir., 1882, No. 16, p. 266.

<sup>5</sup> Arch. f. klin. Chir., 1882, Bd. xxvii., Heft 2.

<sup>6</sup> Berliner klin. Woch., 1882, No. 10.

weeks, when an empyema resulted and death followed. The operative interference had no effect upon the paralysis.

#### OLD FRACTURES OF THE VERTEBRÆ.

Küster<sup>1</sup> reported at the last Congress of German Surgeons two cases of complete and permanent recovery from fracture of the spine mentioned by him a year before. In one paralysis of all the extremities had been present.

#### REDUCTION OF A DISLOCATION OF THE THIRD CERVICAL VERTEBRA FOUR MONTHS OLD.<sup>2</sup>

The patient was fifteen years old, and the distortion followed an accident in the gymnasium. The symptoms, which had remained thirteen weeks after the accident, were a slight paresis of the bladder, lameness in the left leg, and loss of power in the left arm and forearm. A prominence of the spinous process of the third cervical vertebra existed, the head was held sideways, and a depression could be felt in the pharynx, and there was difficulty in swallowing. Four months after the accident the patient was etherized, and the head twisted and pulled straight. The deformity recurred in a few weeks, and was again corrected, the reduction taking place the second time with a snap. All symptoms disappeared immediately, and the patient remained well.

#### SYPHILITIC AFFECTIONS OF THE JOINTS.

Schüller<sup>3</sup> classifies these affections as, first, those following acquired syphilis. (*a.*) Acute, with serous effusion accompanying an eruption of the skin. (*b.*) Acute, subacute, or chronic, with serous effusion accompanying the later stages of tertiary, characterized by a papillary growth on the synovial membrane, and sometimes by ulcerations and cicatrices of the cartilage. (*c.*) Arthritis secondary to gummata of the joints. (*d.*) Arthritis secondary to or accompanying periostitis, osteitis, or osteomyelitis.

Second. In hereditary syphilis. (*a.*) Subacute serous inflammation of the joint with swelling of the capsule without change in the bone, but with some change in cartilage. (*b.*) Arthritis following gummata. (*c.*) Arthritis following periostitis, osteitis, etc. (*d.*) Arthritis secondary to syphilitic inflammation of the epiphysis. A specimen was shown taken from a woman forty-nine years old, with characteristic syphilitic lesions. A small quantity of cloudy, reddish fluid was found in the knee-joint, and papillary growths on the synovial membrane. Oval superficial ulcerations were found in the cartilages, some of them cicatrized.

#### TOTAL EXTIRPATION OF THE SINGLE BONES OF THE FOOT.

Dumont<sup>4</sup> has collected twenty-one cases, namely: nine excisions of the astragalus, four calcaneum, two navicular bone, two cuboid, one cuneiform, one metatarsus. In none of these was a secondary amputation needed.

Fourteen of these were for inflammatory disease, and of these, one died seven years after the operation of some accidental disease, the foot being perfectly

useful, two others died of phthisis within a year of the operation. The other eleven recovered with useful feet. The cases were watched for one to five years after the operation.

#### TREATMENT OF GENU VALGUM.

Schede<sup>5</sup> reported the result of an extended experience at the Congress of German Surgeons, as follows: In place of the tedious treatment of the deformity in young children by apparatus, osteoclasis should be used. The objections to the old method are, first, that correction can only be made by stretching the ligaments on the outer side of the joint, and that before recovery takes place the shortened condyle must grow to a normal length, otherwise a relapse will occur. In rickety children the process of growth of bone is frequently delayed, and therefore a long amount of time is needed before cure. In pauper practice it is difficult to command the patience on the part of the relatives necessary to complete a cure.

Treatment according to Hueter's method of permanent flexion of the affected limb is also uncertain and tedious. In children even between five and six years of age it is possible by the power of the hand to break the femur or the tibia at the point where osteotomy is indicated. An assistant should hold the central portion of the bone to be broken, the operator the peripheral, keeping the hand close to the part where fracture is desirable. Care should be used not to rupture the outer ligaments, and therefore the force should be applied gradually. In fracturing the femur the whole leg should not be used as a lever. Schüller has not found that there is a lack of precision in the site of the fracture. Cure is always easily obtained. A plaster of Paris bandage is applied immediately, and usually in eight days the children are allowed to begin to move about with the gypsum bandage applied. In from four to six weeks the consolidation is complete, and the cure is finished unless before the operation there had been a marked relaxation of the ligaments of the knee. In that case apparatus should be applied and worn.

Schede has operated in all twelve times in double genu valgum, of which two required additional fracture of the tibia. Single operations were also done so that in all thirty-three osteoclasis of the femur were performed, and thirteen of the tibia. No complication interrupted perfect recovery in these cases. In older children Schede advises avoiding osteotomy if possible, but he has had excellent results following MacEwen's operation in eleven cases.

Little,<sup>6</sup> whose experience has been mainly in the mechanical treatment of the deformity, suspects that violent measures are sometimes attempted unnecessarily. His practice with the thorough use of apparatus leads him to be confident that a majority of such deformities can be cured without operative interference. When appliances fail he prefers MacEwen's operation. His preference, however, seems based on theoretical grounds rather than personal experience. He subdivides the deformity into several different classes according to the aetiology, regarding the rickety as much the less common, and uses the term atonic to cover a class of cases where rachitis is not well marked.

MacEwen<sup>7</sup> states that he has never operated for the

<sup>1</sup> Centralblatt f. Chir., 1882, 29, 34.

<sup>2</sup> Gray, Annals of Anat. and Surgery, 1882, Vol. v., No. 2.

<sup>3</sup> Congress of German Surgeons v. Centralblatt, f. Chir., 1882, p. 32.

<sup>4</sup> Deutsche Lertsche, f. Chir., 1882, 17th Bd. 1 and 2, p. 1.

<sup>5</sup> Centralblatt f. Chir., 1882, 2, p. 878.

<sup>6</sup> In Knee. London, Longmans, Green & Co.

<sup>7</sup> Trans. Internal Congress, 1882, vol. iv., p. 190.

relief of genu valgum on a patient under eight years of age, and has refused to operate on older patients who bore traces of acute or recent attack of rickets, and whose bones were still soft. In children as young as two or three years the operation is to be deprecated, partly because the deformity frequently disappears in the growth of the child and partly because it may recur after that age even if thoroughly corrected. He has found that the femora grow after osteotomy as if no operation had been performed. Up to April, 1881, he had performed eleven hundred and forty-nine osteotomies, with three deaths from accidental causes (pneumonia, diptheria, tubercular meningitis).

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## Reports of Societies.

## SUFFOLK DISTRICT MEDICAL SOCIETY.

## SECTION FOR CLINICAL MEDICINE AND PATHOLOGY.

ALBERT N. BLODGETT, M. D., SECRETARY.

MAY 27, 1882. Meeting called to order by Dr. GEO. B. SHATTUCK, chairman.

The announcement was made that, owing to circumstances beyond his control, Dr. A. B. Heath would not be able to present the paper he had prepared upon The Work at Quarantine.

MR. ERNEST W. BOWDITCH read a very interesting paper entitled

THE SANITARY ASPECT OF NANTU, MASS.<sup>1</sup>

DR. H. I. BOWDITCH asked the source of contamination of the meadow, and the cause of sickness among the men employed in draining it.

MR. BOWDITCH replied that the meadow contained a large amount of half decomposed vegetable matter, and in addition to this, much sewage collected there. The men were not affected until the upper end of the meadow had been reached, when the entire force of employees was made sick by the emanations from the soil. The meadow is the natural catch-basin of a large area of the typhoid district, and much sewage has

<sup>1</sup> Medical and Surgical Journal, vol. cvii., p. 97.

accumulated. This entire area has been drained, and tide-gates are erected so that the meadow is now dry and no odor can be detected. At present no sewage is allowed to flow on the surface.

DR. J. P. REYNOLDS remarked that the epidemic of typhoid fever which visited Nahant was very interesting from a medical point of view. It was mild in character, as has been occasionally observed in other localized epidemics. The origin and connection of individual cases cannot always be established, but a direct sequence of cases undoubtedly exists. Of the cases treated at Nahant all recovered. Four cases were, for various reasons, removed from Nahant to Boston or elsewhere early in the disease, and these all died.

DR. C. P. PUTNAM asked if these cases were removed on account of the severity of the disease, to which DR. REYNOLDS replied that they were not at first more severe than the other cases, but were removed early in the disease on account of lack of accommodations. They were all servants, and were conveyed either to the hospital or to their homes.

DR. R. M. HODGES stated that he was familiar with the circumstances attending this epidemic, and looked for much good from the searching investigation into its causes and relations. It is safe to say that similar outbreaks will occur in other summer resorts. The total absence of running streams and factories are notable features in this epidemic, as well as the independent water supply to each estate or family. Less favored localities will be likely to suffer more than Nahant has done in a similar outbreak.

DR. WALCOTT spoke in commendation of the plan of drainage which has been adopted by the town, but considers that something more than sewers and drainage is necessary. Lynn, under far less favorable sanitary conditions, escaped, while Nahant was stricken.

DR. CHADWICK asked why the attack occurred last year and not in other years when the conditions were the same. It seemed quite extraordinary that an outbreak of this kind should be confined to one certain time rather than another. The origin might possibly be found in the supply of milk, water, or ice.

MR. BOWDITCH replied that for two years past the ice has been of better quality than formerly. The milk cannot be considered the source of the disease, but the water supply may well be looked upon as a dangerous causative agent.

DR. CHADWICK asked if conditions of drought or rainfall could be supposed to have anything to do with the fever.

MR. BOWDITCH replied that much influence is to be attributed to the weather. The water supply gradually becomes worse until the outbreak occurs.

DR. REYNOLDS remarked that it is now believed that typhoid fever never occurs except from direct contagion. The origin of the first case would be very interesting. The germs of disease from the intestine in the first case might perhaps be supposed to infect drinking water in the immediate vicinity of the patient's dwelling, but this was not supposable in all the cases. The men working in the meadow were near the sewage from some of the fever locations. This is a circumstance in the chain of facts which may explain some obscure points in this epidemic. Another circumstance which must not be forgotten is the fact that the mild cases of typhoid are the most dangerous fac-

tors in its dissemination in a community. They are usually not confined to bed, sometimes not long to the house, and fail to appreciate the gravity of the disease or to take necessary precautions against its spread. One case at Nahant was of this type. The patient was a servant, who was thought only indisposed, and was not confined to bed, but who, from lack of care, suffered a relapse, and was removed to Boston. Two severe cases followed in the same house. The dejections from the first case were thrown into the common vault, and thus communicated the disease to other members of the family.

DR. BOWDITCH advised disinfection of alvine discharges by carbolic acid.

DR. REYNOLDS advised digging a trench in the earth, in which the disinfected dejections should be at once covered with dry earth, and the trench afterward filled up.

In reply to a question, MR. BOWDITCH stated that the contamination of drinking water had been traced through the soil from a source seventy feet away. In one case in Newport the pollution was so decided at a distance of sixty-five feet through the soil that the water was colored by the contamination.

At the site of the old hotel in Nahant an artesian well has been driven to the depth of seventy feet, sixty feet below low water, from which good drinking water is obtained.

DR. G. B. SHATTUCK remarked that the hotel keeper had formerly taken his supply of ice from a filthy slough near the hotel site, which was the place where the workmen were made sick by the foul odors arising from the soil. Typhoid fever is now thought never to originate *de novo*, but always from previously existing cases. The fact that we cannot always trace a chain of cases of this disease does not disprove the theory.

The younger men in the profession consider the disinfection of the discharges a very important feature in the treatment of this disease, as its communicability from the alvine evacuations is now everywhere recognized.

The fact that certain people who used the polluted water of Nahant did not take typhoid fever is no proof that this water might not cause the disease in others. Many circumstances might prevent the occurrence of the disease in individual cases, such as infancy, or old age, the previous occurrence of typhoid in the individual, or some other circumstances.

DR. C. P. PUTNAM asked if the residents of Nahant were in the habit of bringing water from any of the native springs, as was done to a considerable extent in Boston last year.

MR. BOWDITCH replied that this was done in certain instances, but in those families where spring water was used the fever occurred as well as in others, probably from the fact that the spring water was not used exclusively, but as a luxury.

DR. G. B. SHATTUCK asked if any arrangement existed for flushing the drains and sewers as at present constructed.

MR. BOWDITCH explained that all the sewers are laid in right lines and intersect at right angles, so that from the man-holes at the intersection of streets it is possible to see through the canal of the sewer in each direction. Salt water is used for flushing, and they are to be flooded once a week or oftener if necessary.

DR. S. H. DURGIN presented a paper entitled

THE WORK OF THE CITY BOARD OF HEALTH, which is published on page 343.

MR. BOWDITCH asked if the Board of Health compile any facts in relation to the *health* rate of the city as well as to the *death* rate.

DR. DURGIN replied that no such record is kept. The Board demands reports only in cases of small-pox, scarlet fever, diphtheria, and typhoid fever. The Board of Health has not received that degree of support and encouragement from physicians which would make it seem expedient to require more detailed reports in regard to other diseases.

Some years ago the Board consulted the physicians of Boston in regard to scarlet fever, but derived very little comfort from them in its efforts. Not without opposition were children coming from houses in which were patients sick with scarlet fever debarred from attending the public schools, and the suggestions of the Board in regard to public funerals in such cases have been entirely ignored. Prior to 1877 scarlet fever caused an average of 399 deaths each year. During this year the deaths were 104. In 1878 the rate fell to 47. In 1879 there was an increase to 140 deaths from the disease, but in 1880 the rate again fell to 43, and in 1881 to 34 fatal cases. How much of the diminished mortality is due to the action of the Board of Health is of course unknown, but there is no doubt that the public schools are the most dangerous points of dissemination of this disease. It is a matter of regret that more energetic measures cannot be adopted for the suppression of scarlet fever and diphtheria. The Board of Health has long desired to institute more stringent regulations in the case of patients sick with the disease as well as in the disposition of the remains after death. Cases often occur in tenement houses in which the disease spreads rapidly and cannot always be followed. It is also a fact which is becoming more thoroughly established every day that diphtheria is always associated with defective drainage. On an average seventy-five or eighty per cent. of the houses in which scarlet fever or diphtheria occur present defective sanitary arrangements. In many houses containing sanitary defects no disease exists though the conditions are favorable for its appearance at any time.

DR. C. P. PUTNAM thought cases of scarlet fever must be milder in severity than in previous years, and asked the opinion of those present.

DR. C. M. JONES stated that in the first two years of his dispensary practice scarlet fever was mild and usually followed by recovery. In the later years, however, the disease has been of a severer type, and frequently resulted fatally.

DR. E. A. W. HARLOW reported four severe cases in one family, of which one resulted fatally. The disease seemed to him to be more severe this year than formerly.

DR. DURGIN remarked that the truant officers afford the Board of Health much assistance by taking a list of cases of scarlet fever and preventing other children from the same houses attending school. Under the precautions which have been adopted by the Board there has been a great and permanent diminution in the number of cases of scarlet fever, and a corresponding lesser mortality from its ravages since 1877.

DR. G. B. SHATTUCK asked the opinion of the reader upon the appointment of a health officer in the public schools.

DR. DURGIN replied that such an officer is much

needed to look after the proper heating and ventilation of the school buildings. The officer would be a special sanitary expert, and would no doubt materially increase the healthfulness of our schools.

DR. H. I. BOWDITCH said that he believed the profession at large would encourage and sustain the Board of Health in the enforcement of any measures calculated to counteract so grave diseases as scarlet fever and diphtheria. Physicians would gladly accept any means of modifying their severity and thus lessening mortality.

DR. SHATTUCK fully coincided with the last speaker, and felt sure that physicians would agree with the Board upon any measures to be adopted in the treatment of epidemic diseases.

DR. SHATTUCK alluded to the recent experiments of the National Board of Health at the Mechanics' Fair Building in relation to the siphoning of water-traps in soil and other pipes.

MR. BOWDITCH has been making some investigations upon this subject, but is not able to give the results of his researches at present. The facts which have been ascertained are interesting, and are different from what would be expected. The experiments were performed by means of traps with glass sections, so that the effect upon the contained water might be observed. These experiments may soon be made public.<sup>1</sup>

DR. J. H. MCCOLLOM read a paper upon

#### THE SMALL-POX EPIDEMIC IN BOSTON,

published upon page 345.

Owing to the lateness of the hour there was no further discussion upon the many important facts presented by the three papers.

DR. SHATTUCK extended the thanks of the Section to the readers of the evening for the interesting and instructive papers which they had presented.

Adjourned at 11.05 o'clock.

—A case of fatal poisoning by toadstools is reported from France. A Rev. Mr. Dodds, who was living in the country with his family, found, while walking in the woods with his children, what he supposed to be mushrooms. They took home an armful, which the cook prepared. The children did not partake of them, but the two adults and the servant did so. They were speedily so much prostrated as to be unable to go for help; the nearest village was eight miles away. By chance a neighbor visited the house after about eight hours. Medical aid and nurses were summoned from Paris, and after a few days all three persons were supposed to be out of danger, but the husband had a relapse, which took the form of peritonitis, and he died.

—The *Medical Record* quotes from the *Deutsch Med. Wochenschrift* a letter which gives a "fling" at the nerve stretchers. The writer speaks of ureter stretching for granular kidney. He has also stretched the hepatic duct for cirrhosis, and intends to stretch not only the pneumogastric nerves, but also the bronchi for chronic contraction of the lung. He also asks, "Might not general paralysis of the insane be cured by simple extraction of the teeth and stretching of the respective twigs of the dental nerves?"

<sup>1</sup> Sanitary Engineer, August 31, 1882.

# Medical and Surgical Journal.

THURSDAY, OCTOBER 12, 1882.

A Journal of Medicine, Surgery, and Allied Sciences, published weekly by HOUGHTON, MIFFLIN AND COMPANY, Boston. Price, 15 cents a number; \$5.00 a year, including postage.

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## THE MEDICAL STUDENT.

HE has come to town in his usual exuberance of numbers and spirits. Somebody (we believe it is Charles Reade) makes one of his female characters speak of a young man who has disgraced himself by "consorting with medical students and other like abominations." It must be confessed that this lady has only given utterance to what is quite a general sentiment regarding this unfortunate being. He is not apt to be an ornamental member of society. His dissecting-room experiences constitute a large portion of his conversational stock in trade, and he has the bad taste to introduce them on all sorts of occasions; and the chances are that he horrifies the neighborhood by leaving a parcel of bones on the roof, to be found by an enterprising policeman, and to furnish a brief draught of scandal for the thirsty reporters.

All this, and perhaps more, must be admitted regarding the medical student, yet, notwithstanding, he is a good fellow. He is an honest, hard worker, and he feels the satisfaction (unknown to many a less uncouth young man) of mental growth. He is no *dilettante*. He runs about all day to lectures, and hospitals, and dispensaries, and then generally gives a solid evening to his books. He gets much satisfaction out of very vile tobacco, and is usually contented with the amount of alcohol to be found in beer. Even on the few occasions when he does take recreation, he is apt to patronize that form of the drama which gives him the best opportunity to review his anatomy. He has no very high notions of art, but he does attend pretty faithfully to what he is here for. He is noisy, but good-natured, and will lend a dollar (if he has it) to his companion to-day, with a cheerful alacrity, second only to that with which he will borrow the same amount of somebody else to-morrow.

Such is the medical student, or, rather, such he has been, for the process of evolution has brought him out from some of the disadvantages under which he labored. Within the last decade he has become less of a social pariah.

About fifty-five per cent. of the students at the Harvard School are now furnished by the cities; while probably an additional twenty per cent. are from the suburbs and the large towns. Yet, what is more important in becoming a cosmopolitan, the medical student is not losing his former habits of industry. On the contrary, his work is rendered more effective by the fact that yearly he brings to it a greater degree of

previous intellectual discipline. We have thought it worth while to bring before our readers a few facts gleaned from the later catalogues of the University, showing the proportion of college-bred men in the medical school in the last five years and comparing them with those in the other professional schools. Fifty years ago the proportion of baccalaurei among medical graduates was rather more than half, but it fell during the subsequent increase in the attendance at the school to sixteen and two thirds per cent. (seven out of forty-two) in 1860; twenty per cent. (fourteen out of sixty-nine) in 1865; and the same in 1870. Since the reorganization of the school was fairly established it has again been on the rise, as will be shown by the following table, where "baccalaurei" means the possessors of the degree of A. B., S. B., or their equivalent.

TABLE SHOWING THE PROPORTION OF COLLEGE-BRED MEN IN THE PROFESSIONAL SCHOOLS OF HARVARD UNIVERSITY FOR THE LAST FIVE YEARS.

| Years.  | Medicine.    |                 |                 | Law.         |                 |                 | Divinity.    |                 |                 |
|---------|--------------|-----------------|-----------------|--------------|-----------------|-----------------|--------------|-----------------|-----------------|
|         | Baccalaurei. | Total Students. | Ratio per cent. | Baccalaurei. | Total Students. | Ratio per cent. | Baccalaurei. | Total Students. | Ratio per cent. |
| 1877-78 | 88           | 205             | 42.94           | 108          | 176             | 61.4            | 13           | 21              | 61.9            |
| 1878-79 | 95           | 227             | 41.85           | 106          | 153             | 69.3            | 17           | 23              | 74              |
| 1879-80 | 116          | 246             | 47.15           | 114          | 165             | 69              | 15           | 23              | 65              |
| 1880-81 | 113          | 234             | 48.37           | 108          | 156             | 69              | 13           | 23              | 56              |
| 1881-82 | 118          | 233             | 50.65           | 97           | 151             | 64              | 10           | 25              | 40              |

This gives an average per cent. in the last five years of Baccalaurei in the Medical School of forty-six and one fifth; in the Divinity School of fifty-nine and one fifth; and in the Law School of sixty-four and two fifths. Resident graduates have been omitted from the totals in all cases, as of course they possess a degree. If they were admitted it would raise the proportion of the Medical School more than of either of the others, there having been during the five years thirty-eight resident graduates in the Medical, twenty in the Law, and four in the Divinity, School. While the physicians are still at a disadvantage regarding previous liberal education compared with the legal profession, this improvement of nearly nine per cent. in five years is encouraging.

An esteemed contemporary in an editorial article, some months since, called attention to this point with reference to the comparative ratio of college-bred physicians in different parts of the country. It says: "In the Harvard Medical School it is nearly fifty per cent. In the Kentucky Schools it is zero. Among Missouri's seven hundred graduates two had received a classical education. New York's per cent. is about seventeen; that of Illinois sixteen; that of Pennsylvania eight, and that of Ohio six, these being only approximate figures."

Dr. Tyson has recently written a letter to show that these figures, so far as Pennsylvania and New York are concerned, are fallacious, for the reason that some of the medical schools had declined to make return of the previous education of their students, and had therefore in the totals been wrongly credited with no baccalaurei at all. He quotes as among these recusants Bellevue Hospital, and all the institutions in his own State except the University of Pennsylvania. It is to be feared, however, that these schools which made no return upon this point did not have a record to be proud of. Dr. Tyson says that the ratio of baccalaurei in the University of Pennsylvania was twenty-two per cent.

The figures of the entering class at Harvard are not at hand, but it is safe to say that the medical student of the future is coming to his work with a better antecedent mental furnishing than some of his predecessors have had. In these days of high requirements and sharp competition he certainly needs it.

#### IMMIGRANT INSPECTION SERVICE.

THE reports of the immigrant inspection service in the Illinois district during the summer months show at once the carelessness prevailing upon many of the trans-Atlantic steamships in regard to vaccination, the necessity for the support of such a service, and some of the good results actually realized from its establishment. The State Board of Health proposes to carry on the work which the National Board was compelled to relinquish.

During the months of June and July the Supervising Inspector, Dr. Rauch, reports that aggregates of 27,000 and 21,000 immigrants were inspected by the assistant inspectors, who found about sixteen per cent. of these unprotected, liable to contract small-pox and to propagate the disease. During August 16,014 inspections were made, and 3125 vaccinations performed upon immigrants found to be imperfectly or not at all protected by previous vaccination or attack of small-pox, a ratio of twenty per cent. instead of sixteen as during the two previous months. Notwithstanding this increase in the ratio of vaccinations to inspections a continued marked improvement is reported as observable in the character of the protective work done on shipboard, a much larger proportion of recent vaccinations being met with as the result of the greater care and vigilance on the part of steamship surgeons generally. The previous neglect seems to have been most marked on the part of surgeons of steamships arriving at the port of Baltimore, although abundant negligence is reported concerning the vaccination of immigrants arriving by steamer at other ports. The increased proportion of vaccinations is accounted for by the increased facility with which inspections are made as the result of increased familiarity with the work, and the smaller number of arrivals, by which inspectors have been enabled to devote more time to each individual.

The inspector's observations during the months of

June, July, and August show that of the arrivals in the Illinois district during that time —

“ Fifty-four out of every one hundred immigrants were protected against small-pox before landing in this country, in one of the three following methods : —

“ Three out of every one hundred by a previous attack of small-pox.

“ Forty-three out of every one hundred by a mature successful vaccination.

“ Eight out of every one hundred by a recent successful vaccination or revaccination performed on ship-board.

“ Taking the whole season throughout only twenty-two out of every one hundred steerage passengers have been vaccinated on shipboard, but this number is nearly doubled for the latter part of August, when it rose to forty-one in every one hundred. Of the vaccinations by the steamship surgeons, 36.7 per cent. are now successful, but there are still nearly two thirds failures in the aggregate.

“ Less than four per cent of the arrivals in Chicago are found to have been vaccinated at all eastern points, exclusive of Port Huron; at this latter station nearly thirty-six per cent. of those destined for Illinois and westward are vaccinated.”

The report gives the following figures, showing a rapid decline in the number of reported cases of small-pox in Chicago since the establishment of the inspection service : —

| Month.    | Cases Reported | Deaths. | Remarks.  |
|-----------|----------------|---------|---|
| April ... | 321            | 95      | Inspection began June 1st.                                |
| May ....  | 281            | 65      | Average decline before inspection, twelve per cent.       |
| June .... | 154            | 29      |   |
| July .... | 44             | 11      | Average decline since inspection, seventy-eight per cent. |
| August .. | 24             | 5       |   |

Exactly what relative part the inspection played in accentuating a diminution of a disease usually less active during warm weather it might be difficult to determine, but it is certain that this must have been considerable, and that local vigilance and thoroughness in vaccination avail but little whilst fresh poison and fresh unprotected material for its action are constantly imported from without.

#### THE BOSTON MEDICAL BENEVOLENT SOCIETY.

TWENTY-FIVE years ago a number of medical men, who had for some time been associated together in a literary club, conceived the idea of forming a Society for the purpose of extending aid to the widows and children of members of the profession whose death or permanent invalidism has left their families without means of support. It was not intended that this organization should be formed for the purpose of mutual aid, but simply to dispense its charities in any part of this Commonwealth where there might be need of it.

The fund which was at that time started has been steadily augmented by gifts and bequests of the more prosperous members of the profession, so that it now exceeds the sum of twenty-five thousand dollars, and a considerable number of families are the recipients of pecuniary aid from the Society. The good work has been carried on so quietly that we fear in many portions of the State physicians are not aware of the existence of a body which should arouse their interest and sympathy. It is proposed, on the 27th of this month, to celebrate the anniversary of the Society by a dinner, to which prominent citizens, including members of the profession from different portions of the State, will be invited. The occasion will furnish an opportunity to the public to become acquainted with the good work done by the Society during the last quarter of a century. The story of the man of hard work and no pay will be told again, and, we doubt not, illustrated by many pathetic instances, but it will be a satisfaction to feel that in these cases at least the cloud has had its silver lining.

We commend the labors of this Society to the members of our profession, and trust that they will give it in the future substantial support, for none appreciate as fully as they the suffering and hardships which men of our calling are exposed to.

#### MEDICAL NOTES.

—The death is announced of the oldest physician on Staten Island, Dr. William C. Anderson, of Kingston. He was formerly Quarantine Commissioner, and for twenty years was editor and proprietor of the *Richmond County Gazette*.

—The American Public Health Association meets in Indianapolis October 17th to 20th inclusive.

—Dr. William Pierson, of Orange, New Jersey, died on the 1st of October, in the eighty-seventh year of his age. He was a descendant of the Rev. Abraham Pierson, who came from Braintree, Conn., to settle in Newark in 1666, and his father was a member of Congress during the administrations of John Quincy Adams and General Jackson. For thirty years he was secretary of the New Jersey State Medical Society, and in 1869 was elected its president. He also held many public positions of trust and honor during his long and active career.

—The daily papers report the death of a workman in New York, in the employ of the Brush Electric Light Company, from a shock received while he was adjusting a line. He was at work at the top of a pole making a new connection for the wire. When he received the shock he did not fall, but hung, his foot being caught in the wire. He was taken down, but died shortly after being carried to the station house. The skin on the palms of both hands was hanging in strips, as though it had been seared off with a hot iron, and the man's face in death bore a look of intense agony.

NEW YORK.

—The regular winter course of lectures began on Monday evening, October 2d, at the College of Physi-

cians and Surgeons and at the University Medical College. At the former Dr. T. Mitchell Prudden, director of the physiological and pathological laboratory of the Alumni Association, made an address on Cell Life and Animal Life, and Prof. John G. Curtis, secretary of the faculty, gave a history of the origin and progress of the school. At the University the introductory address was delivered by Prof. Wm. H. Thomson. The session commenced at Bellevue Hospital Medical College on the 20th of September, and the reading and recitation term at the Long Island College Hospital, Brooklyn, on September 27th. The regular term at the latter institution does not begin until the 24th of January.

—A juror who was summoned at the Superior Court lately was very promptly excused from duty when he announced to the judge that he was sick with small-pox. He said he came himself because the summons required that he should appear in person.

—The first meeting of the County Medical Society since the summer recess was held on the 25th of September, when Dr. W. F. Mittendorf read a paper on Myopia and the Necessity of its Correction by Glasses. The nomination of officers, including delegates to the State Medical Society to serve for four years, also took place at this meeting. At the first meeting of the Medico-Legal Society, which was held September 27th, there was, unfortunately, some disagreement arising out of the alleged illegal election of the president, as well as certain other unpleasant matters, but it is to be hoped that all differences will soon be arranged in such a manner that the regular work of the Society need no longer be interrupted.

—The recent sad accident in the Harlem tunnel has attracted much attention to the bad sanitary condition of that work, as well as many other abuses that have hitherto existed in connection with it, and Mr. T. D. Martin, a passenger on one of the trains wrecked in the tunnel, has made a formal complaint to the Board of Health against the New York Central and Hudson River Railroad Company for maintaining a public nuisance, namely, "the two side tunnels of the depressed portion of their line between Fifty-Ninth and Ninety-Eighth Streets." In it he speaks of the utter helplessness of passengers on trains running through these tunnels in case of an accident, and the impossibility of outside help reaching them in time to be of benefit, especially in winter, when red-hot stoves are in the cars. No less than two hundred and sixteen trains pass through this underground section every week day, and in case of a blockade in the middle tunnel, all trains have to pass through these side tunnels, which are pervaded by midnight darkness throughout their entire length. He then continues as follows: "In addition to this, riding through these side tunnels is positively unhealthy from the fact that there is practically no ventilation whatever in them, and as the locomotives of the Harlem road burn a cheap bituminous coal, if the windows of the cars are open one gets a dose of coal gas, smoke, and cinders that is suffocating, while if the windows are shut he smothered from lack of air. In many persons



the breathing of the gas and smoke produces a violent cough, and I cannot believe that for one to ride through this veritable 'Black Hole of Calcutta' twice a day for nearly every day in the year (as hundreds of business and working men and women have to do) is anything less than seriously detrimental to health. It is true that the ride through occupies but about six minutes, as a rule, but it is six minutes of torture, and there are not infrequently delays which prolong it to a greater period." In addition it should be stated that there is a muddy and slimy gutter on each side of these close and narrow tunnels.

### Dissection.

#### A CASE OF PHOSPHORUS-POISONING WHICH COULD NOT BE DIAGNOSTICATED EITHER IN THE LIVING BODY OR FROM THE MACROSCOPIC AUTOPSY.

In the *Philadelphia Medical Times* there is an interesting case of the above nature, described by Dr. Hans Hebra, of Vienna. The patient was a shoemaker's apprentice, nineteen years of age, well nourished, powerfully built, of good previous health, and living in good surroundings. For six days before coming under observation, he had noticed isolated red spots on various parts of the body, soon becoming bluish and increasing in number. These were easily recognized as hemorrhages, and affected all parts of the body, including the conjunctive and mucous membranes. The urine also contained blood. The gums were slightly swollen.

The resemblance of the case to one of purpura hemorrhagica was of course recognized, but, under the circumstances of the patient, no hypothesis could be formed of its causation. In two days a slight right facial paralysis began to be noticed, together with difficulty in pronouncing certain letters, but the mind remained clear, and locomotion and the special senses were unimpaired. The paralytic symptoms, however, rapidly increased; that night there was uneasiness, vomiting, complete aphasia, coma, and death at six A. M. of the following day.

The autopsy simply confirmed the ante-mortem diagnosis of hemorrhages, including one in the middle of the left thalamus opticus, and towards the surface of the left parietal lobe. Besides this the capillary hemorrhages were numerous throughout all the tissues of the body, bronchi, pericardium, myocardium, and all the mucous and serous surfaces, as well as in the muscles of the extremities. Still, no cause for the condition was discovered.

A microscopic examination, however, showed the pathological changes characteristic of phosphorus-poisoning. In the apoplectic region of the brain, granules of fat, and other evidences of extensive fatty metamorphoses and infiltration, were found. The same condition obtained in other parts of the brain in different degrees. The adventitia of the small arteries of the brain and the capillaries exhibited the same change. Fatty degeneration was found to obtain in the most distant portions of the body. Deposits of fat granules were found in the cells of the liver as well as in the epithelium of the urethra. In all the muscles, cut

obliquely, as well in voluntary as in involuntary muscular fibre, deposits of fat granules were found.

Suicide and murder were equally improbable in the case, but investigation through the physician to the corporation of shoemakers in Vienna showed that it was the custom among the shoemakers' apprentices to put the heads of matches into the bread and beer of their fellow-workmen, in order to enjoy the grimaces of the teased ones whenever they tasted the beer or bread so disgustingly prepared. Direct inquiry at the shoemakers' showed that the patient, particularly, was in the habit of practicing the joke, and that he enjoyed exceedingly the grimaces of his comrades. Whether one of his comrades had taken revenge, or whether he himself had taken the beverage prepared for another, is impossible to say. Of course such information has for us no special interest, after the fact that such was his habit has been fully established.

The conclusion of Dr. Hebra is that the pathological, anatomical, and microscopic character of the tissues could not have been due to any other cause, and that it is almost certain that the case was one of phosphorus-poisoning, of which the history of the patient's habits leaves no doubt. The writer hopes that hereafter there may be more distinct observations of the symptoms of purpura patients, and that in every case an analysis of any vomited matter will be made.

### LETTER FROM BANGOR.

BANGOR, September 30, 1882.

MR. EDITOR, — My attention has been called to an article in the *JOURNAL* from your Portland correspondent of the 17th ult., attributing "the widespread impression that the last meeting of the Maine Medical Association was not a success to the fact that for some years past certain members have persistently endeavored to drag their personal quarrels into the public meetings of the Association, and have succeeded in wasting a great deal of valuable time of the Society. This year an effort to stir up strife met with a cold reception."

I cannot agree with your correspondent. The constitution was amended in 1873, when plenary power was invested in a board of five censors, three of whom constituted a quorum, to sit as a board of trial and to arraign, try, and expel members for any breach of the eleven articles and fifty sections of the general code of medical ethics. There was no direct appeal from their decisions to the Association. This amendment was made under the plea that the Association could not afford to waste its valuable time in correcting the faults and complaints of its members.

The new system has been tried and failed, as more complaints have been made to the society, more strife stirred up, more bitterness engendered, and more time wasted in undoing and overriding the autocratic acts of the censors during the past nine years than since the incorporation of the Association in 1855.

Besides the disciplinary and expelling power the censors have arrogated the right to judge of the fitness and qualifications of candidates for admission, and claimed that confidential communications upon the character and reputation of candidates were privileged, in utter violation of the provisions of the charter. The Association is kept in ignorance of the details of

the trials and investigations, the results only being reported to it, thereby completely subverting the social and democratic principles of the original constitution, which made a two-thirds vote requisite for admission and expulsion.

To correct these evils an amendment was introduced at the last annual meeting to subject the acts of the censors to the scrutiny and approval of the Association. When this amendment comes up in regular order at our next annual meeting we shall see whether it "receives a cold reception."

No attempt was made to drag in personal quarrels. It was shown that the Maine General Hospital and the Medical School of Maine had been fostered upon the Association, and the prevailing impression existed in the profession that its material prosperity had suffered from the undue exertion and inordinate ambition of the staff and faculty of these institutions to draw the paying business away from its legitimate centres. Fair competition is proper and healthy; but when State and private contributions are used to gain experience and attract paying patients to charitable institutions, which in turn, through their representatives on the board of censors of the State Association, attempt to repress manly exposure and resistance to such tendencies, it becomes time "to stir up strife."

The general hospital was built by private donations. Many members of the Association who lived too far from Portland to enjoy its benefits contributed liberally. The State is called upon for an annual stipend of five thousand dollars to defray the current expenses of *treating the poor in hospital*. The physicians and surgeons of other parts of the State can't look on with indifference and see, through hospital prestige, printed circulars, and reports, their paying cases drawn off to Portland, and the poor left on their hands, while members, whose skill and reputation happen to attract public attention and notice in the papers, are liable to be summoned before the censors at Portland to be tried for "permitting their cases and operations to be published in the daily prints." Better by far that the State should distribute the five thousand dollars among the needy sick and their medical attendants than to have it used to treat those who are amply able to be treated at home, by which the local surgeons are robbed of the fruits of their study and experience, and subjected to indignities.

The Medical School of Maine accepted a grant of timber land from the State in 1858 or 1859, upon the condition "that said institution will receive and graduate all students who pass the required examinations, without reference to where such students may have studied previously to asking admission, or what mode of practice such students intend to pursue," etc. This was accepted in utter violation of the constitution and ethics of the Maine Medical Association, and yet members of this faculty act with our board of censors in rejecting candidates and arraigning members on the most fanciful breach of medical ethics, or condone the faults of the contributors to the cabinets and museum of the Medical School, which indiscriminately competes for the surgery of the State *free of charge* during lecture season to supply clinical material, so scarce in small villages.

This growing discontent is no fancy sketch, and calls for a restoration of the Association to the avowed objects of the constitution, that of "mutual professional improvement, the cultivation of friendly intercourse,

and the promotion of medical science," as a voluntary association of a learned profession will not tolerate the restraint of military or ecclesiastical discipline, or have the rules of professional etiquette made compulsory.

Very truly yours, EUGENE F. SANGER.

#### SUSCEPTIBILITY TO ALCOHOL AS MODIFIED BY INFECTION.

M. MOLLIÈRE, of the Hôtel Dieu at Lyons, is quoted from the *Gazette des Hôpitaux* in the *Journal de Médecine de Paris* regarding the therapeutic effects of alcohol pushed to the extent of intoxication in persons suffering from septic conditions of the blood. The clinical case upon which the remarks are based is that of a man who fell from a height, sustaining a comminuted fracture of the lower extremity, with projection of the fragments and opening of the tibio-tarsal articulation. The wound was at first treated with charpie and without antiseptics, but the next day was washed out with carbolic, put up under the spray with Lister dressings, and placed on a plaster splint. The temperature, however, went up to 104.4° F., and there was great swelling of the limb, with livid spots about the seat of fracture, a wine-colored tinge about the edges of the wound, and a gangrenous spot on the foot. Notwithstanding that no emphysema could be detected the surgeon was in doubt whether he had to do with an emphysematous gangrene due to the extensive crushing, or with the milder sloughing caused by inflammatory engorgement. The treatment, apart from the vigorous local use of permanganate of potash and the actual cautery, was alcohol administered to the extent of causing inebriety. Four hundred cc. of rum and five hundred cc. of Spanish wine produced complete intoxication, which was followed by a fall of temperature and subsequent amelioration of symptoms. The writer believes this to be not only a therapeutic but a diagnostic and prognostic point, inasmuch as the septic blood conditions, with the apparent exception of pyæmia, exempt patients from the intoxicating effects of alcohol. In this case, finding the patient drunk at night, the surgeon said that he had not emphysematous gangrene, and would undoubtedly recover. He concludes by saying that apart from this condition he has noticed the same immunity from the cerebral effects of alcohol in malignant pustule, in acute glanders, and in children with blood-poisoning from diphtheria.

#### THE ACTION OF SALT ON TRICHINÆ.

THE *Sanitary Record* reports the result of experiments of M. Fourment, presented to the French Academy, respecting the action of salt on trichinæ. It had been claimed by other chemists that the process of salting through which the ham was passed effectually destroyed these parasites, but these last experiments show conclusively that the salting of meats cannot be regarded as a safeguard against trichinosis. M. Fourment took a piece of meat on the 19th of April, 1881, from some American salted meats examined at the Havre docks and found infested. This meat was placed in a flask, and embedded in fine salt. It was then hermetically sealed, and not opened till the 1st of April, 1882. By this time the meat had undergone a

year's salting carried to the highest degree, and if we add the time that must have elapsed since it was first put in salt in America (which could not be put at less than three months), the meat may be said to have been in salt for at least fifteen months. The meat was then cut up into small pieces, and these were placed in water, which was frequently changed to remove the salt, and remained for several hours in a temperature of 71.6° F. On the 4th, 5th, and 6th of April this was fed to a mouse, which died on the 7th, after presenting symptoms of diarrhea. The intestine was evidently inflamed, and contained sexually developed trichinae. A second and a third mouse were fed with more of the meat, and with exactly similar results in each case.

The discrepancy between the results of M. Fourment's experiments and those of other observers is to be accounted for by a recollection of the natural history

of the trichinae. When these parasites penetrate the muscles they are perfectly free, and have no covering whatever to protect them, and a month or more elapses before they accept the situation and coil themselves up, to quietly await their chance of being eaten up by some other animal, which must occur before they can possibly develop into the perfect adult condition. But it is only at the end of three months that a fibrous cyst begins to form around them, and it is, perhaps, a year before the covering is sufficiently dense and impermeable to entirely protect it from the action of salt. Thus it is seen that at one stage in the life of the trichinae salt may effectually destroy them, while at another stage it would be almost powerless to act.

It seems certain that the only protection against these parasites is in thorough cooking, or possibly freezing, the meat. If the latter means is relied upon a very low temperature, 40° C., must be secured.

# REPORTED MORTALITY FOR THE WEEK ENDING SEPTEMBER 30, 1882.

| Cities.                          | Population by Census of 1880. | Reported Deaths in each. | Deaths under Five Years. | Percentage of Deaths from         |                |                     |                |                       |
|----------------------------------|-------------------------------|--------------------------|--------------------------|-----------------------------------|----------------|---------------------|----------------|-----------------------|
|                                  |                               |                          |                          | The Principal "Zymotic" Diseases. | Lung Diseases. | Diarrheal Diseases. | Typhoid Fever. | Diphtheria and Croup. |
| New York.....                    | 1,206,590                     | 547                      | 228                      | 26.21                             | 9.65           | 13.84               | 2.37           | 4.00                  |
| Philadelphia.....                | 846,948                       | 384                      | 128                      | 16.07                             | 2.01           | —                   | 4.02           | 11.19                 |
| Brooklyn.....                    | 566,689                       | —                        | —                        | —                                 | —              | —                   | —              | —                     |
| Chicago.....                     | 503,304                       | 234                      | 130                      | 38.43                             | 7.69           | 19.22               | 8.11           | 7.69                  |
| Boston.....                      | 362,535                       | 180                      | 81                       | 29.44                             | 7.22           | 18.33               | 6.11           | 4.44                  |
| St. Louis.....                   | 350,522                       | —                        | —                        | —                                 | —              | —                   | —              | —                     |
| Baltimore.....                   | 332,190                       | 158                      | 65                       | 36.00                             | 3.17           | 6.33                | 3.17           | 15.82                 |
| Cincinnati.....                  | 255,708                       | 90                       | 38                       | 20.00                             | 3.33           | 7.77                | —              | 1.11                  |
| New Orleans.....                 | 216,140                       | —                        | —                        | —                                 | —              | —                   | —              | —                     |
| District of Columbia.....        | 177,638                       | —                        | —                        | —                                 | —              | —                   | —              | —                     |
| Pittsburg.....                   | 156,381                       | 67                       | 30                       | 28.06                             | 5.81           | 5.81                | 8.86           | 8.86                  |
| Buffalo.....                     | 155,137                       | 100                      | 53                       | 48.00                             | 1.00           | 18.00               | 2.00           | 7.00                  |
| Milwaukee.....                   | 115,578                       | 62                       | 41                       | 33.87                             | 8.65           | 19.35               | —              | 11.29                 |
| Providence.....                  | 104,857                       | 38                       | 14                       | 39.45                             | 2.63           | 26.31               | 10.52          | 2.63                  |
| New Haven.....                   | 62,882                        | 28                       | 7                        | 17.85                             | 7.14           | 7.14                | 3.57           | 3.57                  |
| Charleston.....                  | 49,999                        | 37                       | 18                       | 5.41                              | 8.12           | 5.41                | —              | —                     |
| Nashville.....                   | 43,461                        | 14                       | 7                        | 28.56                             | 7.14           | 21.42               | —              | —                     |
| Lowell.....                      | 39,485                        | —                        | —                        | —                                 | —              | —                   | —              | —                     |
| Worcester.....                   | 58,295                        | 16                       | 6                        | 18.75                             | —              | 6.25                | —              | 6.25                  |
| Cambridge.....                   | 52,740                        | 21                       | 9                        | 33.33                             | 4.76           | 19.04               | —              | 9.52                  |
| Fall River.....                  | 49,006                        | 27                       | 13                       | 40.73                             | —              | 24.92               | —              | —                     |
| Lawrence.....                    | 39,178                        | 20                       | 8                        | 10.00                             | —              | —                   | —              | 10.00                 |
| Lynn.....                        | 38,284                        | 8                        | 2                        | 12.50                             | 12.50          | —                   | 12.50          | —                     |
| Springfield.....                 | 33,340                        | 9                        | 2                        | 44.44                             | —              | 11.11               | 11.11          | 11.11                 |
| Salem.....                       | 27,598                        | 7                        | 1                        | —                                 | —              | —                   | —              | —                     |
| New Bedford.....                 | 26,875                        | 18                       | 6                        | 16.66                             | —              | 11.11               | 5.55           | —                     |
| Somerville.....                  | 24,985                        | 7                        | 2                        | 42.84                             | —              | —                   | 14.28          | 14.28                 |
| Holyoke.....                     | 21,851                        | 14                       | —                        | 42.85                             | —              | 21.42               | 7.14           | 14.28                 |
| Chelsea.....                     | 21,785                        | 6                        | 1                        | 16.66                             | —              | —                   | —              | 16.66                 |
| Taunton.....                     | 21,213                        | 9                        | 1                        | 22.22                             | 11.11          | —                   | 22.22          | —                     |
| Gloucester.....                  | 19,329                        | 10                       | 3                        | —                                 | —              | —                   | —              | —                     |
| Haverhill.....                   | 18,475                        | 6                        | 0                        | 33.33                             | —              | 16.66               | 16.66          | —                     |
| Newton.....                      | 16,995                        | —                        | —                        | —                                 | —              | —                   | —              | —                     |
| Brockton.....                    | 13,608                        | 8                        | 6                        | 25.00                             | —              | 25.00               | —              | —                     |
| Newburyport.....                 | 13,537                        | 6                        | 0                        | 33.33                             | —              | 33.33               | —              | —                     |
| Fitchburg.....                   | 12,405                        | 5                        | 0                        | —                                 | —              | —                   | —              | —                     |
| Malden.....                      | 12,017                        | 4                        | 3                        | 25.00                             | —              | —                   | 25.00          | —                     |
| Fifteen Massachusetts towns..... | 114,307                       | 30                       | 13                       | 33.33                             | —              | 20.00               | 3.33           | 3.33                  |

Deaths reported 2134 (no reports from Brooklyn, St. Louis, New Orleans, and District of Columbia): under five years of age 916; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and fevers) 592, consumption 293, lung diseases 119, diarrheal diseases 251, diphtheria and croup 146, typhoid fever 84, scarlet fever 25, cerebro-spinal meningitis 22, whooping-cough 22, malarial fever 19, small-pox 13, puerperal fever five, erysipelas four, typhus fever one. From scarlet fever, Buffa-

lo 12, Cincinnati seven, New York two, Baltimore, Pittsburg, New Haven, and Worcester one each. From cerebro-spinal meningitis, New York eight, Buffalo four, Fall River three, Chicago, Baltimore, Pittsburg, Milwaukee, Nashville, Somerville, and Woburn one each. From whooping-cough, New York eight, Chicago and Buffalo four each, Philadelphia, Baltimore, Cincinnati, Pittsburg, Milwaukee and Springfield one each. From malarial fevers, New York 12, Baltimore four, Chicago, Boston, and Buffalo one each. From small-pox, Baltimore 10, Philadel-

phia, Chicago, and Cincinnati one each. From *puerperal fever*, Chicago, Cambridge, Fall River, Springfield, and Brookline one each. From *erysipelas*, New York two, Philadelphia and Cincinnati one each. From *typhus fever*, New York one.

Sixty-two cases of small-pox were reported in Baltimore, Cincinnati three, Buffalo and Lawrence one each; typhoid fever 67, diphtheria 18, scarlet fever six, in Boston; scarlet fever 13, and diphtheria nine, in Milwaukee.

In 34 cities and towns of Massachusetts, with a population of 981,363 (population of the State 1,783,086), the total death-rate for the week was 21.17 against 23.64 and 22.46, for the previous two weeks.

For the week ending September 9th, in 167 German cities and towns, with an estimated population of 8,354,764, the death-rate was 24. Deaths reported 3854: under five years of age 2082; consumption 433, diarrhoeal diseases 304, lung diseases 242, diphtheria and croup 148, scarlet fever 93, whooping-cough 68, typhoid fever 59, puerperal fever 27, measles and röteln 19, small-pox (Breslau and Koblenz one each) two, typhus fever (Breslau one) one. The death-rates ranged from 13.9 in Bremen to 42.6 in Posen; Königsberg 35.1; Breslau 32.1; Munich

25.8; Dresden 23.8; Berlin 24; Leipzig 22; Hamburg 20; Cologne 25.9; Frankfurt a. M. 19.3; Metz 25.5.

In the 28 English towns, with an estimated population of 8,469,571, for the week ending September 16th, the death-rate was 20. Deaths reported 3249: acute diseases of the respiratory organs (London) 193, diarrhoea 323, whooping-cough 93, scarlet fever 70, fevers 67, measles 45, diphtheria 30, small-pox (London three) six. The death-rates ranged from 12.7 in Birkenhead to 38.1 in Sunderland; Brighton 16.7; London 17; Birmingham 18.8; Bradford 19.3; Newcastle-on-Tyne, 21.9; Leeds 24.9; Manchester 25.2; Liverpool 26.9; Hull 28.6. In Edinburgh 18; Glasgow 22.9; Dublin 25.8.

For the week ending September 16th, in the Swiss towns, population 494,390, there were 36 deaths from consumption, diarrhoeal diseases 32, lung diseases 12, diphtheria and croup three, typhoid fever three, scarlet fever two, puerperal fever one. The death-rates were, at Geneva 8.3; Zurich 18.3; Basle 20.3; Berne 14.9.

The meteorological record for the week ending September 30th in Boston, was as follows, according to observations furnished by Sergt. O. B. Cole, of the U. S. Signal Corps:—

| Date.            | Barometer.  |    | Thermometer. |          | Relative Humidity. |            |            | Direction of Wind. |             |    | Velocity of Wind. |            |             | State of Weather. <sup>1</sup> |            |             | Rainfall.             |                   |
|------------------|-------------|----|--------------|----------|--------------------|------------|------------|--------------------|-------------|----|-------------------|------------|-------------|--------------------------------|------------|-------------|-----------------------|-------------------|
|                  | Daily Mean. |    | Daily Mean.  | Maximum. | Minimum.           | 7.23 A. M. | 9.23 P. M. | 11.23 P. M.        | Daily Mean. |    | 7.23 A. M.        | 9.23 P. M. | 11.23 P. M. | 7.23 A. M.                     | 9.23 P. M. | 11.23 P. M. | Duration, Hrs. & Min. | Amount in inches. |
| Sept., 1882.     |             |    |              |          |                    |            |            |                    |             |    |                   |            |             |                                |            |             |                       |                   |
| Sun., 24         | 30.151      | 64 | 71           | 60       | 100                | 78         | 87         | 88                 | W           | NW | NE                | 8          | 9           | 5                              | R          | O           | O                     | —                 |
| Mon., 25         | 30.256      | 58 | 61           | 56       | 81                 | 70         | 86         | 79                 | N           | NE | N                 | 8          | 10          | 9                              | O          | O           | T                     | —                 |
| Tues., 26        | 30.199      | 58 | 62           | 55       | 88                 | 57         | 65         | 70                 | NW          | NE | NE                | 12         | 21          | 14                             | O          | O           | F                     | —                 |
| Wed., 27         | 30.251      | 53 | 57           | 49       | 81                 | 57         | 80         | 73                 | NE          | NE | N                 | 13         | 20          | 6                              | F          | F           | C                     | —                 |
| Thurs., 28       | 30.226      | 51 | 55           | 47       | 93                 | 81         | 80         | 85                 | NE          | NE | NE                | 9          | 14          | 21                             | O          | O           | O                     | —                 |
| Fri., 29         | 30.176      | 53 | 58           | 49       | 100                | 81         | 69         | 83                 | NE          | NE | N                 | 9          | 15          | 13                             | R          | O           | R                     | —                 |
| Sat., 30         | 30.170      | 60 | 64           | 54       | 69                 | 66         | 84         | 70                 | N           | NE | NW                | 14         | 7           | 10                             | O          | O           | O                     | —                 |
| Means, the week. | 30.204      | 57 | 71           | 47       |                    |            |            | 78                 |             |    |                   |            |             |                                |            |             | 28.25                 | .87               |

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; X., clearing.

# OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM SEPTEMBER 29, 1882, TO OCTOBER 6, 1882.

WILLIAMS, JOHN W., major and surgeon. Now on leave of absence, to proceed to San Francisco, Cal., and report in person to the commanding general, Military Division of the Pacific, for duty in Department of the Columbia. S. O. 228, A. G. O., September 30, 1882.

WATKINS, WILLIAM E., major and surgeon. To report in person to the commanding general, Department of the East, for assignment to duty. S. O. 228, A. G. O., September 30, 1882.

TEXTY, B. J. D., major and surgeon. On being relieved as attending surgeon, headquarters Military Division of the Missouri, to proceed to Whipple Barracks, Arizona, and report in person for duty as medical director, headquarters Department of Arizona. S. O. 228, A. G. O., September 30, 1882.

FORWOOD, WILLIAM H., major and surgeon. Relieved from duty in Department of the Platte, and to report in person to the commanding general, Military Division of the Missouri, for duty as attending surgeon at those headquarters. S. O. 228, A. G. O., September 30, 1882.

SMITH, ANDREW K., major and surgeon. Relieved from duty in Department of Arizona, and on expiration of present sick leave to report by letter to the Surgeon-General. S. O. 228, A. G. O., September 30, 1882.

BURTON, H. G., captain and assistant surgeon. Granted leave of absence for four months. S. O. 229, A. G. O., October 2, 1882.

LODGE, LEONARD Y., captain and assistant surgeon. To be relieved from duty in the Department of the Missouri, to report in person to the commanding general, Department of the East, for assignment to duty. S. O. 228, A. G. O., September 30, 1882.

TEBBELL, HENRY S., captain and assistant surgeon. To be

relieved from duty in Department of the East, and to report in person to the commanding general, Department of the Platte, for assignment to duty. S. O. 228, A. G. O., September 30, 1882.

MOSELEY, E. B., captain and assistant surgeon. To report in person to the commanding general, Department of the East, for assignment to duty. S. O. 228, A. G. O., September 30, 1882.

SKINNER, JOHN O., captain and assistant surgeon. To be relieved from duty in Department of Arizona, and to report in person to the Surgeon-General. S. O. 228, A. G. O., September 30, 1882.

SUFCLEDT, R. W., captain and assistant surgeon. To proceed to Jackson Barracks, New Orleans, La., and report to the commanding officer thereof for duty. S. O. 93, Department of the South, September 26, 1882.

CARTER, W. F., assistant surgeon. Relieved from duty at Fort Concho, Texas, and to report to the commanding officer, Fort Stockton, Texas, for temporary duty as post surgeon. S. O. 103, Department of Texas, September 29, 1882.

POWELL, J. L., assistant surgeon. Relieved from duty at Fort Stockton, Texas, and to report at headquarters, Department of Texas, for temporary duty as post surgeon, San Antonio, Texas, and attending surgeon at department headquarters. S. O. 103, Department of Texas, September 26, 1882.

OWEN, WILLIAM O., Jr., first lieutenant and assistant surgeon. To proceed to Fort Townsend, W. T., and report to the commanding officer for temporary duty at that post. S. O. 138, Department of the Columbia, September 22, 1882.

BOSTON SOCIETY FOR MEDICAL OBSERVATION.—A regular meeting of the Society will be held at the Medical Library, 19 Boylston Place, on Monday, October 16, 1882, at eight o'clock p. m. Reader, Dr. J. J. Putnam. Subject, Painful Periarthritis of the Shoulder. Dr. E. H. Bradford and Dr. S. G. Webber will open the discussion. C. M. JONES, Secretary.

## Lectures.

### CLINICAL LECTURE.<sup>1</sup>

DELIVERED AT BELLEVUE HOSPITAL, NEW YORK.

BY AUSTIN FLINT, M. D.,

*Professor of the Principles and Practice of Medicine, and Clinical Medicine in Bellevue Hospital Medical College.*

**BRIGHT'S DISEASE, WITH HYPERTROPHY OF THE HEART, LEAD POISONING, GOUT, AND INTERCOSTAL NEURALGIA IN THE SAME SUBJECT.**

GENTLEMEN,—The first patient whom I shall have the pleasure of presenting to you to-day may be said to be a walking pathological collection, on account of the number of different affections which are associated in his case. In the first place there are distinct evidences of chronic renal disease, the urine containing albumen and hyaline and granular casts; and from the small amount of oedema, the large quantity of urine, and the symptoms of uræmia that have been observed, we are justified in inferring that he has the granular contracted kidney.

In the second place we find that this man has hypertrophy of the heart, and as there does not seem to be any valvular disease whatever there can be but little doubt that it is connected with the affection of the kidneys.

In the next place we find that the patient is suffering from lead poisoning, and as he is a painter by occupation there is no difficulty in tracing the source of the trouble. He has, as you notice, the characteristic form of lead paralysis which is ordinarily known as wrist-drop, and with which many of you are doubtless familiar. In lead palsy there is a more or less complete paralysis of the extensor muscles of the forearm, while the flexors generally retain their normal power. Some years ago I reported a remarkable case, observed in this hospital, in which immense strength was exhibited by the wrists of a patient suffering from this affection. In confirmation of the diagnosis of lead poisoning the history of our present patient shows that he has had attacks of lead colic. The question may, perhaps, now arise, Is there any connection between the lead poisoning and the disease of the kidneys? I do not think there is any reason to suppose that there is a direct connection between the two, but it is certainly possible that there may be an indirect connection, as we shall see.

In further investigating this case we find that, in addition to his other troubles, the patient has gout. It is not very often that we have cases of this affection in the hospital; but from time to time they are met with, and those suffering from it are more apt to be addicted to the use of malt liquors rather than any others. Sometimes, however, we find it here in individuals who, as far as can be ascertained, are strictly temperate. In the present instance the seat of trouble is now the ankle, and not the great toe, where we naturally look first for the evidence of gout. It is not always easy, I would remind you, to make a diagnosis between gout and rheumatism. Of course, if the disease is well marked in its manifestations, there is no difficulty, but this is by no means always the case. Some physicians, when they are hard pushed about

the matter, take refuge in the statement that the patient has "a little touch of both." It is no doubt in this way that the term "rheumatic gout" has arisen; but this is a complete misnomer, because the variety of disease which is thus sometimes characterized is an entirely distinct affection.

In this case, although the ankle is the present seat of trouble, and several of the other larger joints have been implicated, the history shows that the great toe has also been affected; and this is a point in favor of gout. In addition, we have here a certain diagnostic sign of the disease in the presence of some little white spots in the helix of the ear, which a microscopic examination has shown to consist of concretions of urate of soda. We are, therefore, fully warranted in saying that this man has gout. But notwithstanding the fact that the patient has had and is still suffering from so many troubles, it is astonishing how comparatively well he looks, and how good his condition really is. Yet he has still another affection, of which I have not spoken, but which is mentioned in the history of the case, which I will now read you.

The history is as follows: John S., a native of Germany, thirty-two years of age, and a painter by occupation. He says he has followed this trade for nearly twenty years. He was admitted to the hospital about a fortnight ago. There has been no gout in his family, and the family history is otherwise negative. He drinks a good deal of ale, but not much spirits. When asked as to the quantity of ale which he has been accustomed to drinking, he tells me three or four glasses of new ale a day. Four years ago he had a severe attack of lead colic, and nine months later a similar one, but has had none since. Some time after that he was suddenly attacked with lead palsy. He recovered from this, but the affection afterwards returned. After he recovered from the second attack he was free from the trouble until quite recently. Three years ago the left ankle became swollen and inflamed, and one year ago was similarly affected. About the same time he also had an attack of typhus fever. He has not suffered much with headache, but has had dizziness and spots before the eyes. He has also been somewhat troubled lately with dyspnoea, but this may possibly be due to the condition of the heart. When he was admitted he complained of pains in several of the joints, and especially the right great toe. The urine was of a specific gravity of 1017, and contained albumen as well as large and small hyaline and granular casts. Some days he has passed as much as one hundred and fifty ounces of urine in the twenty-four hours. Four days ago he began to be troubled with intercostal neuralgia, and this is the fifth and last affection from which he has been suffering. He is being treated mainly with tonics, with the application of electricity to the wrists, and I believe he is improving.

Now as to the possible connection between the lead poisoning and the disease of the kidneys, Garrod, who is the classic authority on gout, has shown that lead can produce this affection; and it is well known that the granular contracted kidney has a special connection with gout. To such an extent is this the case that the late Dr. Parr distinguished the contracted kidney with the title of gouty kidney. It is a fact, however, that in a large number of gouty patients there is no such disease of the kidneys, while many cases of contracted kidney occur in those in whom there is no evidence of gout.

<sup>1</sup> Specially reported for the JOURNAL.

## ANEURISM OF THE THORACIC AORTA.

Our next patient was to have been presented to you on the day when I was speaking of organic murmurs of the heart; but the opportunity did not occur. I found at that time that she had an aortic double murmur, and as I listened to her heart I was particularly struck with one fact, namely, that the aortic sound was unusually intense. A more careful examination then revealed the existence of a pathological condition which had been up to that time unsuspected, and that was a dilatation of the aorta. There were two facts that militated against the probability of such a thing, the sex of the patient, female, and her age, twenty; but the physical signs were such as to leave no reasonable doubt about the matter. Aortic aneurism is much more apt to occur in the male than in the female, and is also generally found in those past middle life. In such a patient as this we would never under ordinary circumstances think of suspecting the presence of an aneurism; and this leads me to say that we shall very often overlook this affection entirely unless we are very careful in making examinations of the chests of our patients. About a year ago a gentleman consulted me on account of being a little run down and "out of sorts," and as there did not seem to be much the matter with him it did not occur to me to make any examination of his chest. I gave him a tonic, and he improved; but quite recently he came back to me, and then I concluded that it might be advisable to examine his chest. When I did so what was my surprise to find unmistakable evidences of an aortic aneurism, seated at the spot where thoracic aneurisms are most likely to be located, the junction of the ascending and transverse portions of the aorta. If I had only made the examination a year ago I should no doubt have found the same evidences at that time.

Let us next see what are the signs of aneurism in the present instance. At a certain point on the surface of the chest, along the tract of the aorta, an impulse can be readily seen, and if the hand is placed over this spot the impulse can be clearly felt. In addition, the presence of a thrill at the same point can often be distinctly made out. Pursuing our investigations further, we find that there is in one portion of the chest a circumscribed area of well-marked dullness, and that the situation of this corresponds with that of the junction of the ascending and transverse aorta. Again, on auscultation, we find that there is great intensity of the aortic sound of the heart and a well-marked double aortic murmur. Experience proves, however, that murmurs are not always present. In the case which I have just related to you there were none, and in another instance, where the other signs of aneurism were plain, the physician in consultation with whom I saw the patient expressed some doubt as to the diagnosis because no murmurs could be detected. It is well to bear this point in mind, therefore, that an aneurism can exist perfectly well without any murmur, although in the vast majority of instances this sign is present.

In the case now before us some of the concomitant signs of thoracic aneurism are lacking. Thus, we do not get any evidence that the aneurismal tumor is pressing upon a primary bronchus, the respiratory murmur being entirely normal on both sides of the chest. There is also no evidence of pressure upon the œsophagus, nor of obstruction of the superior vena cava. Neither have we any reason for supposing that it presses upon

the recurrent laryngeal nerve, the sympathetic nerve, the subclavian artery on the right side, or the trachea. Such diagnostic points are, then, entirely wanting in this case, but in spite of this the direct physical signs are plain and conclusive.

While upon the subject of diagnosis it may be well for me to mention one caution, and that is in regard to mistaking a collection of pus (in empyema) situated in the tract of the aorta for an aneurism. Such a collection, in addition to many of the other signs of aneurism, will sometimes seem to present a distinct pulsation.

As soon as the presence of the aneurism was discovered the patient was placed upon the use of the iodide of potassium, which is a remedy of considerable reputation in this affection. She has now been taking it for some time, however, but without any special success up to the present time, so far as we are able to determine. Yet in several instances I have seen the most marked results from its use, not only in giving relief from troublesome symptoms, but in actually diminishing the size of the aneurismal tumor.

After taking it for some time one patient that I knew, who had previously suffered a great deal from dyspnea, declared that he was well. He afterwards became imprudent, however, and it was found after death that a second aneurism had been formed near the seat of the original one, and that it pressed upon the trachea. In the present case the iodide is well borne, and I should recommend that it be given in increased quantity up to as high a point as the system will tolerate.

Aside from her sex the fact that this patient is only twenty years old, and yet has aneurism, is a very striking one. As soon as I ascertained that she was the subject of aneurism I said to myself that she must have had syphilis, as it is exceedingly rare to find the affection at this age except in those who have had syphilitic trouble. The patient herself denies, however, that she has ever been affected with syphilis, and there is at present very little, if any, evidence about her person of such having been the case. Still, in such a case, it seems to me to be almost positively certain that the patient has had syphilis, that if this were not the fact it would be exceedingly exceptional and remarkable. It is always well to remember that in that disease people are apt to acquire a facility in lying that is really extraordinary. Then, again, this young woman may have had syphilis, and yet not have known it. Such a thing is by no means impossible, I assure you. Some years ago I was called to see a young married lady, in the absence of her regular medical attendant, who told me that she suffered greatly from rheumatism, the pains in her limbs being especially severe at night. In making an examination I discovered what I could scarcely doubt was a syphilitic node. It would, of course, have been the height of indiscretion to charge her with having had syphilis, or to make direct inquiries into the matter, and so I asked her if she had ever suffered from female troubles, when she replied that she had had severe ulcerations about the genitals, for which she had been treated by a gynecologist. Under the circumstances I thought it advisable to prescribe the iodide of potassium in pretty full doses, and the next time I called to see her she told me that I had given her a most remarkable remedy, which had cured her rheumatism at once, and that she had been recommending it to all her friends in the hotel where

she resided. Still I could hardly venture to acquaint either her or her husband with the true state of affairs, and presently I was placed in a very embarrassing dilemma, as she was about to go abroad, and asked me for letters to some of the English physicians describing the nature of her case. It was a very delicate matter, I assure you, to convey the intelligence of the specific trouble to the medical men to whom I addressed my letters, and yet conceal it from her, as she would naturally expect to peruse them, but I did the best that I could under the circumstances. I was gratified to learn afterwards, however, that she concluded not to go abroad, and I believe she still has the letters in her possession.

#### PHTHISIS, BRIGHT'S DISEASE, AND THROMBOSIS OF THE FEMORAL OR ILIAC VEINS.

In regard to our last patient to-day, as was the case in the first, I may say that he presents an interesting field for pathological study on account of the variety of the affections from which he is, unfortunately, suffering. In the first place, he has considerable pulmonary trouble, there being present the physical signs of excavation and solidification in the lung. Next there is distinct evidence of renal disease. The urine has a specific gravity of 1031, and contains albumen in pretty large quantity, as well as abundant granular casts. Then he has still another affection, and it is to the latter that I wish especially to call attention. When the lower extremities are uncovered you perceive that the right limb is very much swollen as compared with the left. He has, indeed, a condition which used to be designated as phlegmasia dolens, or milk leg, from the fact that it was supposed to be connected with the function of lactation in the puerperal woman. On a further examination we find that the limb is not only greatly enlarged, but is also markedly œdematous, and there can be no doubt that we have here a case of œdema of the lower extremity, due to thrombosis of the femoral or iliac vein. The vein becomes filled with coagula, and there is great danger of fragments of larger or smaller size becoming separated and carried into the circulation. When thus transported they pass into the right cavities of the heart, and may thence be driven into the pulmonary artery, giving rise to obstruction of this vessel or its branches.

Here let me pause to say, lest I should forget it later, that in all such cases the first requisite is to keep the patient absolutely quiet, so as to avoid as far as possible the danger of disintegration of the clots, which may result in sudden death from a plugging of the pulmonary artery by a mass of fibrin. The following is a case in point. A gentleman received a severe injury about the hip from being thrown under the wheels of a cart, and this resulted in thrombosis of the femoral vein. The most absolute rest was enjoined, and the danger liable to result from movements was fully explained to him. He was self-willed, however, and insisted on having an apparatus in the bed, by which he might raise himself, against the protest of his medical attendant. The consequence was that in some of his exertions a portion of the thrombi became dislodged, and a sufficiently large mass to obstruct it was forced into the pulmonary artery, producing instant death. The enforcement of perfect quiet is, then, a very practical point in this affection. Restoration is accomplished by the gradual enlargement of the neighboring veins, by which the circulation of the part is

rendered normal once more, but sometimes this does not take place, and the œdema remains indefinitely.

The history of the case is briefly as follows: George K., nineteen years of age, a native of the United States, and admitted to the hospital one month ago. He has had a slight cough for several years, but last December this became considerably worse. About the same time he noticed that his urine was often scanty and high colored, and that it sometimes occasioned a burning sensation in its passage. The right leg first became swollen, and later he had considerable general dropsy. On admission the physical signs of cavity in the right lung were found, with cough and expectoration. The heart was normal. There was general anasarca of the body, and the urine was found to contain granular casts and seventy-five per cent. of albumen. Within three weeks after his admission the œdema of the face and of the left lower extremity had almost disappeared, but the condition of the right limb has not varied much from that which you now observe.

In regard to the treatment of the latter, all that we can do is to use anodyne applications and gentle friction. The friction must be made with care, especially near the affected vein, as any rough handling of the part might cause dislodgment of some of the thrombi. It should also be applied from below upward, so as to facilitate the emptying of the veins. So far as the renal disease is concerned, it is only necessary at present that the condition of the urine should be carefully watched to see that a proper amount of urea is being excreted. As to the disease in the lungs, that requires the same treatment which would be necessary were the case simply one of phthisis without complications.

### Original Articles.

#### INDUCTION OF PREMATURE LABOR; MANUAL DILATATION; FATAL RESULT TO BOTH CHILD AND MOTHER.<sup>1</sup>

BY J. P. REYNOLDS, M. D.

Mrs. Q., aged thirty-four, mother of four children. There had been two miscarriages in the early months. Nine years ago a boy of large size was born dead after a very difficult instrumental delivery. Eight years ago a male child was born with the aid of forceps, and it lived four years. Her accoucheur, a well-known and able practitioner, thought that this child owed its escape to the fact that it was born a month before term, and he advised induction of labor in the event of a subsequent pregnancy.

After the death of this boy the mother had a severe attack of diphtheria. During the years following she became an opium eater, reaching at last the dose of four grains of morphia daily. When she returned to the United States in the autumn of 1881, this habit was abandoned under the use of what is known as "Dr. Collins's" antidote. Severe local disease of the genital organs had also existed. Her general health was much impaired.

Menstruation had been very irregular for the past three years. At one time during this period amenorrhœa continued for eight months.

The dates which she was able to supply in regard to the present pregnancy were unreliable. Her hus-

<sup>1</sup> Read before the Obstetrical Society of Boston, February 11, 1882.

band followed her to this country in the latter part of October, 1880. She believed that her last menstruation occurred a little later, in the early days of November, and that she first perceived movement on on the fifth of April, 1881. From these data it was conjectured that her confinement would take place in the early days of August.

On the 30th of April careful measurements of the pelvis, external and internal, were made by Dr. W. L. Richardson and by myself, independently, and our results were afterward compared. Much difficulty was experienced in measuring the pelvis from the amount of fat and from the very large size of the patient. No discrepancy was found in the two results as to any important diameter. The pelvis was normal, except at the antero-posterior diameter of the inlet, where we believed it to measure three and a half inches. The transverse diameter of the bony outlet was 11 centimetres = 4 1/2 inches, according to Dr. Richardson's estimate; 9.5 centimetres = 3 7/8 inches, as I made it. The antero-posterior diameter of the outlet was not satisfactorily ascertained, but it was admitted by both observers to be ample.

Neither Dr. Richardson nor I were confident as to the entire accuracy of our estimate of the true conjugate. We were both inclined to admit that the history of the patient pointed to a somewhat larger antero-posterior diameter.

I recommended an attempt to induce labor when the pregnancy should have nearly reached eight months. I spoke with great confidence of the ease and certainty of the operation; but I warned the relatives that, with the unfortunate medical history of the patient, nothing could be certainly promised as to her subsequent convalescence; though I stated that her chance of recovery would be much improved if her pregnancy were not permitted to go on to term.

The 6th of July, at which date it was inferred that eight months would be nearly completed, was appointed for the operation. The record of that day says: That the results of palpation practiced in the hope of obtaining additional evidence as to the probable age of the child were very unsatisfactory on account of the mother's size, fatness, and the laxity of the abdominal walls. The child appeared small. The development of the uterus was between seven months and eight. The fetal heart was heard, rather slow, in the mother's left flank. The fetal movements were distinct. I decided to delay the operation.

Subsequent examinations during the ten days following left me still in much doubt as to the exact age of the child. The patient grew anxious; she declared that she was daily becoming much larger, and at last, on the 16th of July, I undertook the induction of labor, Dr. C. M. Green and Dr. Henry Colman, of Swampscott, being present and kindly assisting me.

The patient having been profoundly etherized, I began the introduction of my hand into the vagina at twenty minutes after eleven, but I was unable at the end of an hour in spite of persevering efforts to introduce more than one finger into the os. Dr. Green took my place, at my request, without better result. At his suggestion I then had recourse to Barnes' bags, using successively the smallest size and the next larger. At half past one the os still only admitted one finger; but soon after manual efforts were successfully renewed, and fifty minutes later, at twenty minutes past two, a living, though feeble, female child was delivered with

little or no resistance. The placenta soon followed. The perineum, which had been restored after laceration, escaped injury.

The flabby, anemic appearance of the patient had suggested to all those who saw her the probability of hemorrhage after delivery. Everything had been made ready for that emergency. As surgical anesthesia had been maintained for an unexpectedly long period, I was especially glad to administer, soon after the uterus was empty, a teaspoonful of the fluid extract of ergot. No hemorrhage whatever took place.

On coming out of the ether Mrs. Q. was very restless and excitable, and made bitter complaint of after-pain. On account of her past history it was thought best to withhold opium from her for a considerable period. Brandy was given by the mouth. It was repeatedly injected subcutaneously. She had Hoffman's anodyne. At length a dose of the antidote to which she had been so long accustomed was given; and at last a subcutaneous injection of morphia. She, however, continued to lose strength rapidly. Once under the aid of ether inhalation, for which she begged eagerly, she rallied, but before long fell off again, and at five o'clock in the afternoon, nearly three hours after the birth of the child, died. The uterus remained throughout this period firmly contracted. The pulse during these latter hours was counted at times at 132, and it rarely fell below 112.

The child, which had the size and general appearance of a seven and half months' fetus, moaned constantly; deep purple stains persisted over extensive regions of its body; it died at half past ten in the evening.

We have learned to associate only the happiest results with the induction of premature labor. That operation finds its place among the most merciful procedures of our art, and is justly regarded as promising in the highest degree safety for both mother and child. Members of the Society know the record of remarkable success which has attended manual dilatation for this purpose at the hands of several of our colleagues during the past eight years, and they remember the strong conviction of the superiority of this method of inducing labor in comparison with all other plans which has been here expressed. I much regret that a method of operating so full of promise should have been necessarily tried under conditions so unfavorable to success.

In this instance the death of the mother was undoubtedly due to the constitutional effect of severe labor upon her nervous system, to what is technically known in obstetrics as "shock." How far the previous habits of the mother rendered such a result inevitable must be matter of question. When, as a last resort, it was decided to give her an injection of morphia, it was pitiable to hear her despairing cry: "Morphia, nothing but a poisonous dose will do any good to me."

The important inquiry remains: Was the danger in this case or any part of it fairly chargeable to the method adopted? While I believe that all due gentleness and patience was used, I cannot deny that the length of the process and its apparent character, as a violent interference with nature, must have made it seem to lay witnesses responsible for the untoward and alarming result. I am glad to lessen the pain of this recital by reporting at the same time another instance of this operation to be added to the many already familiar to



the Society, in which the success of the attempt was most conspicuous.

I was called last spring to see in consultation the wife of a physician in the neighborhood of Boston, attacked with eclampsia in her first pregnancy. Her husband's careful watching had not detected any previous threatening of danger. The urine had been abundant in quantity. There had been no preceding albuminuria. She had slept well. The pregnancy was eight months advanced.

The first convulsion had occurred at six in the morning. When I saw her at seven in the evening there had been nine convulsions, the latest at half past four o'clock. Under excellent consulting advice the patient had been bled to sixteen ounces. Ether, which had first been employed, had been laid aside, and chloroform substituted; the induction of labor was strongly disapproved. Subsequently chloral, ninety grains in all, with bromide of potassa, had been given by rectum. No evidence of labor was present. The os was wholly closed. The child was in right position; its head at inlet of pelvis. The fetal heart was heard in the right flank; the placental souffle on the left side. The urine, under heat, was two thirds coagulated. Since the second convulsion there had been no return of intelligence. The bowels had been freely emptied by enema. But very little urine was found in the bladder on introducing the catheter.

Chloroform was suspended, and after a moderate interval ether was given to complete anesthesia. The introduction of the whole hand into the vagina required twenty minutes. At twenty minutes of eight I began to dilate the os. At eight o'clock a living female child was extracted. The placenta followed promptly. There was a moderate perineal tear, for which two deep stitches were taken.

I directed that ether be continued without intermission for many hours under medical supervision; that it be pushed to full anesthesia on the slightest threatening of convulsive movement.

No convulsion came. Ether was given till twenty minutes of eight in the evening following. Half an hour after that time the patient recognized her husband. Mother and child did well.

## ON THE COLLECTION OF DATA AT AUTOPSIES.<sup>1</sup>

BY HENRY F. BOWDITCH, M. D.

THE committee appointed to consider a plan for securing uniformity in the data of autopsies respectfully present the following blank form to be filled by the examiner making the autopsy, together with detailed instructions for making the required measurements.

As the object of collecting data of this sort is to determine the normal standard of size for the various organs at different ages, as well as the variations from this standard which are associated with different diseases or tendencies to disease, it is important to neglect no opportunity of securing a complete set of measurements, whatever may be the age, sex, or manner of death of the individual.

As an example of the kind of problems to be solved

by investigations of this sort, attention is called to the results of Professor Beneke's observations, to which allusion has already been made in volume I., page 140, of the Transactions of this Society. These conclusions are here reproduced in a corrected and modified form in accordance with the request of Professor Beneke, expressed in a letter to one of the committee.

(1.) Before the period of puberty the aorta is *smaller* than the pulmonary artery, after this period the relation begins to be reversed, and in advanced life the aorta is always *larger* than the pulmonary artery.

(2.) The aorta and pulmonary artery are absolutely smaller in the female than in the male, but relatively to the length of the body there is scarcely any difference between the circumference of the arteries in the two sexes, while the heart in females is absolutely as well as relatively a little smaller than in males.

(3.) In adult males the volume of the lungs is greater than that of the liver; in adult females the reverse seems to be true.

(4.) In men the volume of the two kidneys is nearly equal to that of the heart; in children it is greater.

(5.) Children have a relatively larger intestinal canal than adults.

(6.) A sudden increase in the size of the heart occurs at the period of puberty.

(7.) The iliac arteries diminish in size during the first three months of life.

(8.) The cancerous diathesis is, in the majority of cases, associated with a large and powerful heart and capacious arteries, but a relatively small pulmonary artery, small lungs, well-developed bones and muscles, and tolerably abundant adipose tissue.

(9.) Pulmonary tuberculosis is often associated with an unusually small heart.

(10.) In constitutional rachitis the heart is generally large and well developed; the arteries are also large.

The data to be collected by this Society will be of great use in confirming or correcting these and similar conclusions.

H. F. BOWDITCH.  
F. A. HARRIS.

### RECORD OF AUTOPSY.

- |  |  |
|--|--|
| (1) Age ..... years..... months.                   | (2) Sex.....                                     |
| (3) Cause of death.....                            | (5) Weight of body ..... lbs.                    |
| (4) Height of body ..... cm.                       | (6) Heart, weight ..... grammes; volume .....    |
| (7) Lungs, weight ..... grammes; volume .....      | (8) Liver, weight ..... grammes; volume .....    |
| (9) Spleen, weight ..... grammes; volume .....     | (10) Kidneys, weight ..... grammes; volume ..... |
| (11) Testicles, weight ..... grammes; volume ..... | (12) Uterus, weight ..... grammes; volume .....  |
| (13) Ovaries, weight ..... grammes; volume .....   | (14) Brain, weight ..... grammes; volume .....   |
| (15) Stomach, weight ..... grammes.                | (16) Small intestine, length..... cm             |
| (17) Large intestine, length..... cm               | (18) Circumference of ascending aorta ..... mm.  |
| (19) Circumference of pulmonary artery ..... mm.   | (20) Circumference of thoracic aorta ..... mm.   |
| (21) Circumference of abdominal aorta ..... mm.    | (22) Time between death and autopsy ..... hours. |
| (23) Rigor mortis.....                             |  |

A description of the organs, if in any way abnormal, should be given on the opposite side of this sheet, the paragraphs of the description being numbered to correspond to the record.

Signature of Examiner .....

### INSTRUCTIONS FOR MAKING MEASUREMENTS.

The measurements required in this record call for special explanation only so far as they relate to the determination of the volume of organs and the circumference of arteries.

The volume of an organ is most simply determined by immersing it in a vessel previously filled to the brim with water, and measuring the amount of water

<sup>1</sup> A report presented to the Massachusetts Medico-Legal Society, February 1, 1882.

which is thus caused to flow over the edge. The sort of vessel most convenient for this purpose will vary with the size of the organ under investigation. For large organs like the liver a large stone jar or a water pail set in a large basin or tin pan will be found convenient. For smaller organs, such as the testicles, a cup and saucer may be used. It is desirable to use a vessel which has one point of its brim lower than the rest, so that the overflow may always take place from that point. If such a vessel cannot be conveniently procured, the same result may be accomplished by placing the vessel in a slightly inclined position. Vessels made for the purpose may be obtained from C. Gerhardt, in Bonn. The volume of the water displaced by the organ can be measured by pouring it from the vessel into which it overflows into a graduated cylinder. Such cylinders, from ten to one thousand centimetres' capacity, may be obtained from the Metric Bureau, at prices varying from fifty cents to three dollars.

In the case of organs which float in water (for example, the lungs) a weight must be attached to effect their complete immersion, and the proper allowance made for the volume of the weight.

The circumference of arteries is measured by opening them along one side, spreading them out flat, and applying a millimetre scale to their inner surface.

The following precautions are to be observed in taking the measurements and in making up the record of the autopsy. The numbers correspond to those of the record.

(1.) The age should be recorded in years and months in the case of children less than two years old. For older children and for adults it is sufficient to record the age at the last birthday. When the age is estimated, and not accurately known, the fact should be stated in the record.

(4.) The height of the body is best measured by placing boxes or other square-cornered objects against the head and feet of the body as it rests horizontally upon the floor or table, marking the position of the boxes upon the surface on which they rest, and measuring the distance between the marks thus obtained.

(5.) The weight of the body of an adult may be readily determined on small grocer's scales by placing it upon a board laid across the platform. The weight of the board must of course be deducted.

(6.) The heart is prepared for measurement by opening all its cavities and removing the clots, by cutting off the aorta and pulmonary artery on a line with the upper border of the semilunar valves, by cutting off the veins at their junction with the auricles, and by removing adherent portions of pericardium. In measuring the volume of the heart by immersing it in water, care should be taken to prevent air bubbles from being entangled by the valves and trabeculae. If an unusual amount of fat is adherent to the muscular substance of the heart the fact should be stated in the record.

(7.) The lungs are prepared by removing the bronchial glands and adherent portions of pleural membrane, and by cutting off the blood-vessels and bronchial tubes as near as possible to the hilus. A weight of 0.5 to 1 kilogramme to insure the immersion of the lungs may be best attached by means of a large, sharp hook, on which the lungs can be impaled. It is particularly important in the case of the lungs to give a full account of any pathological changes that may be

noticed, such as œdema, engorgement, etc., otherwise the determination of the volume and weight has little value.

(8.) The liver is prepared by removing adherent portions of the diaphragm and vena cava, as well as the ligaments and the gall bladder. The vessels are to be cut off close to the hilus.

(9.) The spleen is prepared by removing from the hilus the fat, connective tissue, and blood-vessels.

(10.) The kidneys are prepared by removing the capsules, and freeing the hilus as far as possible from fat, connective tissue, and vessels.

(11.) The testicles are prepared by cutting off the cord on a level with the head of the epididymis.

(12.) The uterus is prepared by cutting off the ligaments as close as possible to the body of the organ, and removing adherent portions of the vaginal walls.

(13.) The ovaries are prepared by removing adherent portions of the peritoneum.

(14.) The brain is to be removed in the usual manner, the medulla being divided at the point of the calamus scriptorius.

(15.) The stomach is prepared by separating from the œsophagus and the intestines at the cardiac and pyloric orifices respectively, and by removing adherent portions of peritoneum and fat. The organ is to be opened along its lesser curvature, and the contents entirely removed.

(16.) The length of the small intestine is measured from the pylorus to the ileo-cæcal valve. The organ is prepared by removing the mesentery as completely as possible, and forcing a stream of water through it to remove the intestinal contents. It is then to be spread out upon a table, and its length determined. In consequence of the elasticity of the intestine an error of two per cent. is hardly to be avoided.

(17.) The length of the large intestine is measured from the origin of the appendix vermiformis to the anus. The organ is prepared in the same way as the small intestine.

The circumference of the arteries to be determined, as above described, is measured at the following points:—

(18.) Ascending aorta, one centimetre above the border of the semilunar valves.

(19.) Pulmonary artery, same as ascending aorta.

(20.) Thoracic aorta, at a point one third of the distance from the origin of the left subclavian artery to the bifurcation of the abdominal aorta.

(21.) Abdominal aorta, two centimetres above its bifurcation.

(23.) State, if possible, the duration and intensity of the rigor mortis, and whether it had entirely disappeared at the time of the autopsy.

— Dr. Frank P. Foster, of New York, has discovered that by a combination of iodoform and eucalyptus the characteristic odor of the former drug is destroyed. The mixture, which is recommended editorially in the *New York Medical Journal*, is as follows:—

|                              |         |
|------------------------------|---------|
| R. Pulv. iodoformi . . . . . | ss.     |
| Ol. eucalypti . . . . .      | fss.    |
| Vaselin. . . . .             | ss. iv. |
| M. Ft. unguentum.            |         |

The ointment has an odor, but it is not that of iodoform.

## Hospital Practice and Clinical Memoranda.

### ALCOHOLIC STIMULANTS IN THE FORMING STAGES OF DIPHThERIA.

BY SUMNER PUTNAM, M. D., MONTPELIER, VT.

A VERY interesting article in the JOURNAL of August 3d, inst., by Dr. Keating, leads me to offer at this time the following fragmentary and immature observations with the hope of adding to, or illustrating any important points in the treatment of zymotic diseases therein discussed.

April 25, 1881. Called to Frank C., aged seventeen years. Was in a highly febrile state. Pulse 120. Severe pain in head, limbs, and back; somewhat delirious; tonsils swollen, already showing a deposit of diphtheritic membrane; fauces dark red, and tongue thickly furred. The young man appeared to be very ill with diphtheria, and, as a severe epidemic of that disease had been prevailing in the place for several months, I prescribed the usual medicines, a diaphoretic followed by sulphate of quinine, chloride of iron, etc., with little expectation of controlling the attack.

The father of the boy before I left asked me if he might give his son whiskey freely, and told me about the use of large quantities of spirit in diphtheria in his father's family in 1863. At that time a younger brother and sister died of diphtheria; the sister, he said, craved more stimulants than they dared give her at the time.

After her death himself and a brother older regretted that they had not given her what she wanted, and agreed if they were taken with the disease that they would see that each should have what liquors he wanted.

The brother, nineteen years of age, was soon taken with chills, headache, and sore throat, and being at a neighboring village purchased a pint of liquor and drank four times of it before reaching home without feeling any effect from it. The doctor saw him that night, and considered his case severe and likely to terminate fatally, but the man continued to drink often, because he felt little or no effect from it, claiming if he had got to die he wanted to become intoxicated, so as not to realize his sufferings. His mother protested against this course, but he continued to drink about eighteen hours, or until he had taken five pints, in part alcohol reduced by adding an equal quantity of water to it. At this time he began to feel comfortably stimulated, sweating profusely, the severity of the symptoms began to abate, and soon he made a good recovery, the disease being apparently broken up or aborted.

I had long been a believer in the use of stimulants in diphtheria, but had not used them much in the febrile stage. I now made up my mind after hearing the father's story to do so, and ordered the patient to have two tablespoonfuls of whiskey every hour if it did not intoxicate. At six P. M. the patient had taken three gills of good whiskey with little apparent effect, except that he perspired, complained less, and was more inclined to sleep. Morning of the 26th he appeared better, but the pulse, though less frequent, was weak and irregular, and the whiskey was continued at the rate of one ounce per hour, the patient frequently calling for it as he said it made him feel stronger and better.

The throat speedily cleared, the force and progress of the disease being at once broken, but the tongue remained furred, and feeble and irregular cardiac action continued, requiring the use of stimulants and tonics for two or three weeks.

May 10th, two o'clock P. M. Called to T. C., aged fifteen years, brother of Frank C. Throat inflamed and much filled up; tonsils swollen and showing deposit, especially the right. Pulse 120; heat sharp; respiration frequent, labored, and noisy; the patient lying in a stupid, delirious state except when aroused. Prescribed one ounce of whiskey every hour, to be given with milk every second hour, and to be increased if necessary.

At nine o'clock P. M. patient seemed to have constantly grown worse, was more stupid, labored more for breath, lying with the mouth open, and tongue protruding. Pulse 130; could not be made to gargle the throat, but would swallow the whiskey on being aroused, which was now ordered to be given in ounce doses every half hour. On the 11th, twenty-six hours after beginning the whiskey, he had taken three pints and two ounces, and appeared much improved, looking up intelligently on my entrance. Respiration relieved; pulse 100 per minute. The watchers stated that the patient began to sweat profusely and improve about two o'clock A. M., and at that time there came from his body an insupportable odor which obliged them to open the doors on opposite sides of the room, and allow the air to pass through from an outside door, in order to enable them to remain near him. Is now to take one ounce of whiskey per hour, and gargle with alcohol as strong as can be borne. At evening more comfortable. Pulse 94; temperature 102° F. Whiskey continued, and sulphate of quinine and iron ordered. Strange as it may seem the patient did not show that he was at all under the influence of alcohol. It could not even be smelled about him.

May 12th. Continues to improve. Pulse 86; temperature 101° F. Membrane in thick flakes is becoming detached in places, while a good deal remains, and below the angle of jaw, upon right side, swelling and tenderness exist. Does not swallow solids. To gargle throat often with proof spirit, sol. sulphite soda, etc.

May 13th, the third day of the disease, is better in every respect. Throat cleared, less swelling and soreness. Whiskey once in two hours. May 14th. Found the patient up eating a bowl of broth and crackers.

Let me give briefly one more case to exemplify same results, which have been uniform and prompt recovery of every case treated since May, 1881, by the immediate and free use of alcohol during the first forty-eight hours of the attack of genuine diphtheria. At this early stage stimulants have uniformly been well borne and curative; while in cases of tonsillitis and catarrhal sore throats they have caused dizziness, intoxication, nausea, etc.

March 5, 1882. Called to Mrs. P., aged twenty. Face flushed, frequent pulse, pain in head, back, and limbs. Tonsils and fauces inflamed; large patch of membrane upon left tonsil; less upon right. A definite, inflamed, raised border has already advanced to the hard palate, and the patient seems seriously attacked.

Ordered one ounce of whiskey every hour, and to gargle every quarter hour for a while with alcohol as

strong as can be borne. May 6th. Patient had used two pints of whiskey nearly, and the alcoholic gargle frequently; was more comfortable; sweating freely; the inflammation in fauces, and over hard palate, had apparently ceased, the surfaces having a shriveled look — the change being as evident as where a burning surface has been quenched by dashing water upon it. Pulse less frequent, and patient encouraged; has faithfully carried out the treatment, and presents no indications of overstimulation. The treatment was continued, and during the day quite large masses of membrane were thrown off, more than what were visible by an ordinary examination of the fauces, leaving the woman to recover speedily from a condition which, under former treatment, I had been accustomed to see result fatally, or in severe and protracted illness. Since 1858 I have met and treated more or less frequently cases of diphtheria, but have never before seen cases of the character here described *abort*, and the patient become convalescent in forty-eight hours. If the large, even toxic, quantities of alcohol used in these cases were not spent in counteracting or neutralizing the morbid action set up, why did it not continue a longer time, and why did not the alcohol manifest its physiological effects?

In the article referred to above whiskey was thought to check the progress of malignant measles as it checks the development of micrococci in culture solutions, and the malignancy of the cases described was shown to correspond with the development of micrococci in the blood of those affected. May not this explain the effects of whiskey observed in the cases here reported? I can find no writer who has brought out the point here made on the free, primary, and sole use of stimulants in the forming stage of malignant diphtheria, except E. N. Chapman, formerly Professor of Obstetrics at Long Island College Hospital, who in 1877 wrote a pamphlet on diphtheria, in which he says: "The one indication alone obtains, to wit, the introduction as promptly as practicable of a sufficient quantity of alcohol into the circulation to counteract the effects of the poison and prevent morbid changes in the blood, its full efficacy being shown at the outset of the disease when fever is high and inflammation active. The more speedily the resort to the antidote the more speedily the cure, a day or two being often sufficient to restore the patient to his health; but if the alcohol has been held in reserve until the fever is allayed, and the system prepared for stimulants, it will be shorn of its potency."

These words I now feel to be true and full of meaning, but not until the father of the boys above mentioned gave his account of the use of alcohol in diphtheria, and not until my faith in the treatment heretofore used had all but vanished, did I feel sufficient confidence to adopt a practice so unused. Now, however, I have more confidence in the free and immediate administration of alcohol for the cure of severe attacks of diphtheria than in any other means, it having been thus far successful in every case; though of course a larger number of trials must develop failures, yet I am very anxious to see the treatment thoroughly tried, believing it will oftener prove efficacious than any other, whether bacteria be a cause or a consequence of the disease.

Hold, Beale, and others have found equally large quantities of stimulants curative in other diseases where alcohol could not be supposed to act simply as an antidote for bacterial sepsis. Dr. Beale mentions

cases of pneumonia and acute rheumatism, with pericarditis, apparently hopeless, in which one and a half to two ounces of brandy were given with benefit every hour, and then as much as thirty ounces a day without the slightest intoxication, vomiting, or headache, and followed by good recovery, the inflammatory products being absorbed. Here the theory of bacterial blood poisoning is not assumed, and alcohol may be supposed to act as a vascular, capillary, and nerve stimulant.

#### CASE OF PROTRACTED GESTATION COMPLICATED BY DEFORMED PELVIS AND ANTEPARTUM HOUR-GLASS CONSTRICTION OF THE UTERUS. DELIVERY BY VERSION.

BY ROBERT B. DIXON, M. D.

Mrs. T., music teacher, twenty-six years old, intelligent and healthy primipara, menstruated regularly October 15th, being unwell four days, which was her usual time. She had always been regular every four weeks. November 13th she was again unwell, but for one day only. August 18th, two hundred and seventy-nine days from the date she last had any flow, she had strong uterine pains, lasting seven hours, which, however, had no apparent effect on the os. She was given a rectal injection at the beginning of the pains, and had a large defecation, but the force of the pains was not diminished in the least till several hours thereafter. She went on all right from this time till the evening of September 15th, just twenty-eight days from the day the pains formerly came on, and three hundred and seven days from the last menstrual flow. I saw the woman at eleven P. M. She said she had had no pains whatever, but one hour previously a rush of water came away, sufficient in amount to wet through the bed linen, and that a small amount had continued to dribble away since.

Upon examination I found the cervix very high posteriorly, all taken up and soft, and admitting the tip of one finger. At two A. M. pains began, four hours after the membranes ruptured, and continued regularly and forcibly, but with very little effect on the cervix. At nine A. M. sixty grains of chloral were given, and repeated again at one P. M., at which time the os was about the size of a half dollar. At four P. M., the os not having increased much more in size, ether was administered, and the woman kept deeply under its effects for ten minutes. Half past six P. M., os was about two thirds dilated. Nine P. M., os nearly dilated, pains strong, woman in good condition, but the presenting part refused to descend. The woman was then etherized, and a thorough examination made. The promontory of the sacrum was found to be very large, projecting well forward, and diminishing the conjugate diameter at the brim, about one half of an inch. The position of the child was brow anteriorly to the right side. Forceps were applied, but failed to start the head. Dr. W. L. Richardson saw the case at this time. As there was a failure from the previous attempt at using the forceps, it was considered advisable to try version. Upon introducing the hand into the uterus a strong, firm constriction at or about the internal os was found, through which the hand was slowly passed, but with considerable difficulty. The constriction was plainly visible externally through the abdomen, about one inch above the pubes, there being

a depression sufficiently large and deep to admit one's hand edgewise. The principal difficulty was to get the head to ascend, which was finally successfully accomplished, and after prolonged traction the child turned out. It showed very few signs of life, but was partially resuscitated by alternate hot and cold water applications, used thoroughly for half an hour; it could, however, be made to cry out but feebly, and lived only four hours. The child was larger than the average, but not as large as many children that are born without difficulty, and I see no reason why there should have been any trouble if the complications of deformed pelvis, constricted uterus, and too early rupture of the membranes had not been present.

Its length was twenty-two and a half inches and weight nine and three fourths pounds, being from two to three inches longer and three pounds heavier than the average.

The diameters of the skull were all slightly increased, as follows: Occipito-frontal, four and three fourths inches, occipito-mental, five and three fourths, and bi-temporal, four and one fourth inches.

The case is interesting from its many complications. That the woman was ten months along there is very little doubt. The very perfect and accurate history of menstrual periods in a very intelligent primipara, always before regular regarding her menses, also the pains coming on, on the two hundred and seventy-ninth day and lasting seven hours, and labor itself coming on just twenty-eight days from that time, as well as the increased size of the child, all indicate that it was a case of prolonged gestation.

The deformity of the pelvis probably acted to some extent as a cause for the uterine constriction, as did also the early rupture of the membranes; and the fluid wedge being thereby destroyed the slow dilatation of the os is partially accounted for.

The convalescence of the woman has been perfectly normal.

## Reports of Societies.

### THE NEW YORK ACADEMY OF MEDICINE.

The first meeting of the Academy after the summer recess was held on the evening of Thursday, October 5th, with the president, Dr. Fordyce Barker, in the chair. Julius Althaus, M. R. C. P., of London, was elected a corresponding Fellow of the Academy. The paper of the evening was by Dr. E. G. JANEWAY, professor of diseases of the nervous system and clinical medicine in Bellevue Hospital Medical College, and was entitled

#### CASES BEARING ON DIAGNOSIS AND LOCALIZATION OF CEREBRAL DISEASES AND THEIR DIFFICULTIES.

The first part of the paper was devoted to pointing out the danger, under certain circumstances, of mistaking various general diseases, especially the fevers, for affections of the brain, and a number of interesting cases were cited in illustration. The head and front of diseases thus simulating brain troubles, Dr. Janeway said, was typhus fever, on account of the very marked cerebral symptoms which were apt to occur in connection with it, yet in every case where there was the slightest reason to apprehend the presence of typhus it was of the utmost importance to arrive at a correct

diagnosis as soon as possible on account of the danger of the spread of contagion. He mentioned a case in which typhus was mistaken for both acute cerebritis and alcoholism, and showed how these affections, on the other hand, might easily be taken for typhus. The delirium, stupor, stiffness at the back of the neck, and irregularity and slowing of the pulse often met with in the latter were equally characteristic of cerebral disease, and in a boy who was admitted to Bellevue Hospital, suffering with these symptoms, the stiffness at the back of the neck being particularly well marked, he could only arrive at a correct conclusion by investigating the antecedent history and surroundings of the patient. He then ascertained that there had been and still were cases of typhus in the house from which the boy had been removed, and this, of course, settled the question at once. In this way only was it possible to form a correct diagnosis in certain cases of typhus. This disease was also liable to be confounded with cerebro-spinal meningitis and with acute suppurative endocarditis, giving rise to embolism and the petechia, closely resembling those of typhus, which are apt to result therefrom. When there was definite paralysis or aphasia there was not much room for doubt, but if these were both absent, and there was beside no heart murmur, the diagnosis was often very difficult to decide upon. A case illustrating these points was then given. Typhoid fever, he said, rarely appeared under the guise of cerebral disease, as the tympanites, diarrhoea, and characteristic eruption were generally sufficiently marked to render the diagnosis comparatively easy; yet in certain cases where these symptoms were absent there was danger of confounding it with meningitis, and if in addition there was the complication of bronchopneumonia, not infrequently met with, it might, perhaps, be supposed that there was tubercular trouble both in the lungs and the meninges.

Malarial diseases were not often taken for cerebral, but the latter were not infrequently confounded with the former. In abscess and tumor of the brain, for instance, there was apt to be hectic characterized by marked periodicity and striking elevations of temperature which closely resembled intermittent. The most severe cases of malarial trouble came from the tropics, and sometimes organic cerebral disease was found co-existent with this. Such a case he had seen in the hospital. When admitted the patient was semi-unconscious, was suffering from well-marked stiffness at the back of the neck, and had a temperature of 104° F. The next morning the latter had gone down to 99° F., but by the end of twenty-four hours it had again run up to 104° F. In three or four days the patient died, and the autopsy showed that there were present both basilar meningitis and the distinct lesions of malarial disease.

Pneumonia and pleurisy, he continued, were in numerous instances mistaken for meningitis and other cerebral disease. This was much more apt to be the case with the former, in which marked muscular soreness and stiffness at the back of the neck were sometimes met with, than with the latter. In children especially the true nature of the disease was likely to be disguised, on account of the pneumonia commencing in the centre of the lung or high up in the axillary regions. In order to prevent the mistaking of meningitis for malaria the history and order of symptoms should be taken carefully into account.

In Bright's disease, and more particularly the vari-

ety characterized by the granular contracted kidney, there was constant liability to confound the trouble with cerebral disease. A female was admitted to the hospital in an almost unconscious state, with a temperature of 104° F. Remitting convulsions followed, and later she became entirely comatose. The urine was scanty, and contained albumen and tube casts. The autopsy showed the lesions of meningitis, with evidences of chronic diffused nephritis in the kidneys. Dr. Janeway then went on to say that of all the varied cases that he had met with in practice, none had more profoundly interested him than that of a young man of sixteen, who was sent to an insane asylum on account of an attack of violent delirium, which was characterized by great profanity of language. He complained of severe pain in the muscles, and there was marked rigidity, but no evidence of paralysis. The patient died, and at the autopsy it was found that the spinal cord was normal, with the exception of a slight bloody tinge in the serum of the meninges, and that there was a clot of considerable size in the lateral ventricle of the brain, on the left side. The hemorrhage had evidently come from a small miliary aneurism, which was found to be present. The heart showed left ventricular hypertrophy, and the kidneys were contracted. During life the diagnosis of basilar or spinal meningitis would have been warranted, yet the meninges were found to be unaffected, and instead of any such trouble here was a ventricular hemorrhage occurring in a lad of only sixteen. When more particular inquiry was made in regard to the previous history of the patient, it was ascertained that before the attack of violent delirium mentioned he had had a convulsion. As most of the cases described had resulted fatally, he would now speak of one in which no opportunity, much to his surprise, was given for an autopsy. The patient was a male, aged twenty-two, and the first symptom of which he complained was impaired vision. A careful ophthalmoscopic examination by an oculist indicated the presence of Bright's disease, but thirty examinations of the urine failed to detect any evidence of albumen, casts, or an abnormal specific gravity. Later the sight improved, and he was able to study for and pass a difficult examination. It then grew rapidly worse, but subsequently improved again, so that he was able to pass a second difficult examination. Later he began to suffer from violent headache in the parietal region, as well as nausea. The headache was worse after sleep, and he sometimes awoke delirious. Under the remedial measures adopted the headache was relieved, but afterwards returned, and was of a very severe paroxysmal type for several weeks. There was no mental impairment until one year and nine months after the first symptoms, when he came under Dr. Janeway's observation. He was then listless and weak, could scarcely walk without support, and still complained of headache. There was no paralysis, however, and in walking he had no vertigo. An ophthalmoscopic examination showed choked disk. At the end of two months more his mind had evidently become much weaker, and the prognosis given was most unfavorable. Then, strange to say, he began to improve again. For a considerable time a tottering gait remained, but he finally recovered, with complete loss of sight, and at the end of three years was able to make his living as a telegraph operator.

Dr. Janeway next proceeded to the second part of his subject, the localization of cerebral diseases, and,

after some preliminary remarks, described a case which he said was one of the best for the purpose which he had ever met with. The patient was a German, and the only words that he could say were "ja" and "nein." There was no paralysis whatever, simply aphasia and agraphia. On the left side of the head, in the parietal region, there was a deep, triangular depression, which injury he indicated by gestures was received from the premature explosion of a blast. There was no evidence of any other trouble except the aphasia and agraphia, and the seat of the injury on the cranium corresponded with the position of the posterior part of the third frontal convolution of the brain. The man was under observation for about two years, and during that period there was no improvement in his condition. Another interesting case was that of a man, forty-seven years of age, who received a blow from a billiard cue. He was knocked senseless, and when he recovered consciousness he found that he could not speak, and that when he attempted to swallow water it flowed out through his lips. When admitted to the hospital he was seen to be suffering from facial paresis of cerebral type, as well as from aphasia and agraphia. The treatment ordered consisted of quiet, blisters, laxatives, and iodide of potassium. At the end of eight days he could say almost any word that he wished, and he was discharged cured in about six weeks.

A boy was struck in the head with a stone, and not long afterwards had two falls, in each striking his head. After a time it was noticed that both the upper and lower extremities of the left side were slightly weak, and later he began to suffer from headache, vomiting, and involuntary jerking of the muscles. In about four weeks his sight became impaired, and by the end of six weeks he was almost blind. Six months after the commencement of the trouble he came under Dr. Janeway's care, and an ophthalmoscopic examination showed double optic neuritis, with choked disk. At that time he was entirely blind in one eye, and almost so in the other, while he suffered intense pain in the right eye. There was well-marked left hemiplegia, and three days before he died the boy had severe convulsions. At the autopsy a tumor was found in the motor tract, the growth occupying the site of the ascending central convolution. As an offset to this case, however, Dr. Janeway mentioned one of a woman who had a tumor of the temporo-sphenoidal lobe, yet never suffered from paralysis. The tumor was a spindle-celled sarcoma. Another case was that of a patient of twenty, who was struck in the head, and afterwards suffered from left hemiplegia in consequence. He also suffered from convulsions, more marked on one side of the body than the other, and very severe pain in one side. At the point of injury trephining was resorted to by Dr. Mott. There was seen to be pachymeningitis, but the needle of the aspirator failed to show the presence of an abscess. Under Dr. Janeway's advice, no further trephining was practiced in the attempt to find a deep-seated abscess, as the character of the convulsions seemed to show that the source of irritation was probably on the surface of the brain. The autopsy revealed extensive suppurative pachymeningitis, and a small accumulation of pus in a sac at one point. The last two cases mentioned had a bearing on the question of diagnosis when the sixth pair of nerves was affected in connection with pachymeningitis.

The paper being now open for discussion, Dr. E. C. SEGUIN said that he was especially interested in the first part of it, because it was a subject with which, as a specialist in nervous disease, he was less familiar than the latter part, and he could not but recognize the great difficulties in diagnosis which one was liable to meet with in various affections simulating cerebral disease in many of their symptoms. This was particularly true in regard to renal disease, and when this was accompanied with military aneurism and extravasation, he thought a double diagnosis must be granted. Of late years much had been done to throw light upon the relations between the kidneys, heart, arteries, and brain, and since Charcot's discoveries the former idea, which had always been so universally accepted, that atheroma of the arteries must always precede cerebral hemorrhage, had been disproved. On the contrary, cerebral hemorrhage was very frequently due, not to atheroma, but to what might be described as a mere organic change in the arteries, and it was liable to occur in the young as well as in the old, as was illustrated in Dr. Janeway's case of the boy sixteen years old. Another class of interesting and often perplexing cases was met with in connection with disorders in the digestive function, accompanied by severe headache, vertigo, or even loss of mental power, which were attributed erroneously to so-called cerebral hyperæmia. He said, in conclusion, that he was glad to see that Dr. Janeway recognized so fully the new physiology of the brain, and stated that every day new facts were accumulating to establish the correctness of the accepted theories of localization. There could no longer be any doubt in regard to the anterior motor tracts, and the posterior sensory tracts were now becoming almost equally well recognized.

Dr. JOHN C. DALTON thought that such papers as those of Dr. Janeway, which told us of the difficulties to be encountered in making out localizations, were more needed at the present day than the recital of cases which showed a plain and direct connection between lesions of special portions of the brain and certain definite results following in the way of paralysis, etc. Such cases were extremely interesting and satisfactory as far as they went, but it was as yet too soon to consider the matter finally settled, and the very difficulties presented in many of the cases related by Dr. Janeway would eventually be found to establish some of the points upon which at present they appeared to throw doubt. At one time it seemed that a grand new era had already been completely established in the scientific world, and that all that we had to do was to map out the brain in the same way that the phrenologist had mapped out the various regions of the cranium. Then difficulties began to show themselves, but though many investigators had become discouraged, enough facts had been now established to show that this new era had in reality been inaugurated. There were already many remarkable corroborations of the experiments of the physiologist by the clinical observations of the pathologist. Still, the experiments on dogs showed that while distinct paralysis was produced by destruction of the so-called motor tract in the brain, yet in a fortnight it was found that this paralysis had passed away. This might possibly be explained on the theory that there were other cells of similar character in the gray matter in the vicinity, which were capable of performing the same function, but never having as yet been called upon to do so, it

was necessary that they should go through a preliminary course of training, as it were, before they could take the place of those removed. This was not altogether satisfactory, but was, perhaps, as much so as any explanation that could be offered. It was true, however, that when the brain was injured in animals locomotion was recovered much more quickly in those of an inferior grade than those of a higher grade, like the dog and horse, and Charcot had positively asserted that whenever in man there was destruction of the gray matter of the cerebral convolutions, the paraplegia was permanent. In the course of his remarks Professor Dalton spoke at some length in regard to the experiments of Goltz on dogs. He operated principally by destruction of parts, and by much practice succeeded in keeping animals alive for a long time under the process. His method was to remove a small portion of the cerebral cortex at a time, and then he would repeat the operation again and again until a large portion of the convexity on both sides of the brain had been destroyed. There was one dog in particular who had more than three quarters of the convexity of both hemispheres removed, and yet lived for more than a year. The results of his experiments went to show that it was impossible to permanently paralyze a single muscle of the body by destruction of the cortical substance, and hence he did not hesitate to assert that the assumption that particular portions of the cortex presided over special functions was altogether untenable. Goltz's views, however, had not been accepted by the best authorities of the present day.

After some remarks by Dr. Birdsall, Dr. H. KNAPP stated that in his experience the appearance of choked disk or optic neuritis could not be used to any satisfactory extent for cerebral localization, and Dr. Janeway brought the discussion to a conclusion.

#### PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. W. SWAN, M. D., SECRETARY.

#### INDUCTION OF PREMATURE LABOR BY MANUAL DILATATION, WITH FATAL RESULT.

FEBRUARY 11, 1882. DR. REYNOLDS read the case, which is published in full on page 363, and also a successful case of manual dilatation in eclampsia.

Dr. SINCLAIR expressed anew his faith in the process of manual dilatation, and remarked that he had been four hours in trying to dilate the cervix, confident that in time it would yield, and feeling secure of the matter in hand. He referred to a case where manual dilatation succeeded after three hours' effort, after failure with Molesworthy's dilators.

Dr. J. STEEDMAN reported the case of a patient with placenta prævia. At the seventh month he found her flowing profusely, the placenta presenting. After manual dilatation for about an hour, the child was turned, the placenta being pushed aside, and delivery was successfully accomplished. In another case of placenta prævia the placenta was presenting without much hæmorrhage. Pressure had hardly been begun with Barnes's dilators when the patient was seized with convulsions. Manual dilatation was substituted, the child was turned and delivered, and both child and mother

recovered, except that the latter had unilateral paralysis for some time afterwards, which yielded to appropriate treatment.

PELVIC EFFUSIONS AND THE IMPORTANCE OF THEIR  
EARLY RECOGNITION, WITH REFERENCE TO TREATMENT, WITH A REPORT OF ELEVEN CASES.

DR. LYMAN read the paper.<sup>1</sup> Dr. Lyman, in answer to remarks by Dr. Reynolds, replied that what he meant to say was that periperal cellulitis was much more likely to terminate in suppuration than pelvic peritonitis. The induration remaining from an old effusion being recognized, it should be considered as a focus for suppuration under any unusual irritation, such as excessive coition, colds, the recurrent monthly congestion of the parts. The treatment of these exudations was simply rest, fomentations, hot douches, iodine, blisters, etc.

DR. BAKER remarked upon the difficulty in diagnosis between old pelvic cellulitis and malignant disease in the pelvis, the cases sometimes being not easily differentiated. He referred to a doubtful case seen some five or six years ago which proved to be one of pelvic cellulitis, and which for a number of months remained hard throughout, but finally, under the use of hot vaginal douches, began to soften at the edge, not as a whole, and in this characteristic revealed its true nature.

DR. SINCLAIR observed that it was not unfrequent for the diagnosis of malignant disease to be made in a case which has nevertheless continued for years. In some such cases a history of inflammatory trouble has been found which has thrown a different light on the case. This point was illustrated by a patient formerly under Dr. Sinclair's care at the Channing Home, supposed to have malignant disease in the pelvis. She was finally removed from the Home on account of her good general condition. Dr. Sinclair was then able to unravel the history of her case, and from this, aided by an examination, came to the conclusion that the patient was recovering from an attack of pelvic cellulitis. He was not at that time familiar with the method of detection by softening of the edge.

DR. LYMAN called attention to the great danger of neglected cellulitis. In an instance which Dr. Sinclair had seen with him four or five years ago the patient got well, apparently, went to Maine, having more or less uterine disturbance, and was lost sight of. During the last fall another attack occurred, no doubt due to a rekindling of the old trouble. The results of cellulitis, he said, might remain, if neglected, for a lifetime. He did not believe that the advice of some distinguished authors to let these things alone, after the suppurative process had commenced, was reasonable. In one of the cases now reported the result of such expectant treatment was an opening, lasting for fifteen or sixteen years, into the bladder. A woman was never out of danger, certainly not until the menopause, when she had had one of those pelvic abscesses which had been allowed to go on without treatment. Treatment would obviate a vast deal of suffering and not a little mortality.

Dr. Lyman said he had aspirated a good many cases without getting pus, but no harm was done; on the contrary, the irritation of the puncture had been some-

times sufficient to stimulate absorption. Dr. Lyman observed that not more than half the cases of simple effusion were seen, or recognized when seen, any more than slight effusions into the pleura. In case, however, the peritonitis continued longer, one would in time have cellulitis following it; it was incredible that the thin peritonæum could be affected without resulting cellulitis. With cellulitis occurred a plastic effusion which was not to be got rid of so easily. Various circumstances might excite an effusion, the point of departure of an abscess. He would not touch a serous exudation, as it was likely to be absorbed; a plastic exudation remaining, nobody would put a needle into that, unless suppuration was suspected, but such a patient would need to be watched; she was liable to suppuration because she could not be kept still long enough. The suppurative process would extend the cellulitis everywhere. Dr. Lyman thought it quite possible that a pelvic peritonitis following labor would take that course. Cases, however, which were *primarily cellulitis* after labor were much more likely to be followed by an abscess, especially after injury.

DR. BAKER said it seemed to him that the reader had well insisted upon watching the case, and not letting it go out from observation until every part of the exudation had disappeared. He would ask in what proportion of cases without marked suppuration the temperature had indicated the presence of any inflammatory action?

DR. LYMAN replied that the temperature had been taken regularly, and the patients had been kept in the hospital till pretty nearly well. He could not give the exact record without referring to the chart. With pain and quickened pulse no doubt that the thermometer would indicate it. High temperature is not so marked an indication of suppuration as rigors, sweating, local pain, irritability of the bladder and rectum, where we know that there is already an old exudation.

STATED MEETING OF THE GYNÆCOLOGICAL  
SOCIETY OF BOSTON, FIRST THURSDAY OF  
MARCH, 1882.

HENRY M. FIELD, M. D., SECRETARY.

WM. G. WHEELER, M. D., president, in the chair.

IODOFORM PENCILS.

The SECRETARY read a letter from Dr. Ephraim Cutter, of New York, inclosed with copies of his monograph upon Iodoform in Uterine Lesions, etc., which was read before the Society in November, and since published in the *Therapeutic Gazette*. After the reading of his paper, Dr. C. W. Stevens, of Charlestown, had shown specimens of uterine suppositories of iodoform, made for himself, and used by him in his practice for some time past. Objection was thereupon urged against their very prominent and persistent smell. Dr. Cutter had requested Parke, Davis & Co. to make a similar uterine pencil or bougie, but invested with gelatine so as to conceal the objectionable odor, and accompanying Dr. Cutter's letter, accordingly, were specimens of the pencils thus made, of varying length and size.

A. L. NORRIS, M. D., read by appointment a paper with title,

<sup>1</sup> Printed in the Boston Medical and Surgical Journal, vol. xvi, p. 193.



## THE PLACENTA, ITS DEVELOPMENT AND ITS DISEASES.

The author disclaimed, for the most part, original research, but would endeavor to give in succinct form the results of the investigations of others, and this the more in detail as the placenta is so seldom, at least in this country, made the object of careful study either by the medical student or the physician. First, of the anatomical structure of the interior of the uterus. Developed within the mucous membrane, the characteristics of which tissue were given, are certain glands which have long been the objects of observation and, within recent years, of especial study, as they are found to perform a most important part in the scheme of reproduction. A *résumé* was here given of the consideration which the utricular glands have received from the time of Malpighi, who, in 1681, noted the important fact of their increased size in pregnancy, up to the present.

Certain significant modifications, attendant upon menstruation, do not occur at the time of the flux, but develop before it. The hemorrhage is not, in fact, the expression of the greatest congestion, but is a process due to the fatty degeneration of the uppermost layers of the mucous membrane, and is already retrogressive. Thus the normal process of menstruation lies in this, that the outermost layers of the proliferated mucous membrane are exfoliated, and thereby a hemorrhage is produced. Thus may be explained the so-called false membrane of dysmenorrhœa, which is only an increase in this process, the exfoliation being in layers or shreds, and not in minute particles. A microscopic view, magnified and illuminated and thrown upon a screen, showed at this point the glands and their functional changes. Next followed a series of slides demonstrating the double layers of the decidua vera, and the marked development of the utricular glands, the specimens having been recently prepared conjointly by the author and Dr. Holt, of Cambridge, from the pregnant uterus of the pig.

The changes produced by the periodically increased functional activity of the glands occasion a practical closure of the uterus, the opposing surfaces meeting at every point before the ovum has escaped from the Fallopian tube. The investigations in this direction by Professor Ercolani, translated by Dr. Marcy, of the Society, have been especially painstaking and lucid, and to these we chiefly owe whatever we have of full and exact information. This glandular formation affords to the ovum a protection until its connection with the uterus shall have been made complete. After delivery this same membrane, much modified in the mean time, is thrown off with the ovum, and so has received the name of decidua caduca. This consists of two chief portions, separated in early pregnancy, one called the decidua vera, as already seen, and the other decidua reflexa. True union between these occurs after the third month. Prior to this epoch there is a considerable interspace, and therefore it is, probably, that menstruation may occur for a month or two after conception, and that a sound passed into the uterus at this early stage does not necessarily produce abortion. The decidua serotina is limited to that part on which the ovum rests, and where the placenta is eventually developed. William Hunter taught that the ovum, in escaping from the tube, pushed the decidua before it, and so formed the decidua reflexa, but in one of his

photographed views, shown to the Society, he still demonstrates the patency of the Fallopian tube and the product of the utricular glands, thus picturing more truthfully than he knew, and narrowly escaping the full discovery.

What becomes of the decidua on delivery at full term has been a subject of earnest discussion from the times of Simpson, — this authority teaching that it undergoes a kind of fatty degeneration, which serves as the determining cause of labor. It was long believed that the entire membrane was thrown off, and the muscular wall laid bare, a new mucous membrane being formed during convalescence. We are set right in this, however, when we remember that the decidua is not the mucous membrane, but a product of the utricular glands, while from the epithelium of the glands themselves a new epithelium is formed to replace that expelled.

With this glance at the function of the utricular glands, the author introduced their product, the normal placenta.

First named by Fallopius in 1561, this organ, like the spleen whose mass is formed by blood, is subject to great variation in size, consistent still with normality of action, being estimated to be nearly double in size and weight, when in performance of its function, above what obtains when it is removed from the body. The reader proceeded to give a detailed account of the morphology of this organ. Its exact location in the uterus can often be determined by auscultation and palpation, especially when attachment is had to the fundus or anterior wall. Piörny is said to have been able to map out its exact outlines by percussion. The reader next traced the development of the placenta — literally *ab ovo* — from its double origin in the fetal and maternal portions, — this in terms so precise that abstract is hardly possible. His monograph closed with a review, statistical and otherwise, of the Placenta of Multiple Births. The paper was liberally and effectively illustrated, at frequent intervals, by illuminated and magnified microscopic slides.

Dr. MARCY offered brief remarks upon Dr. Norris's contribution, and showed a series of plates calculated to illustrate the development of the mucous membrane of the uterus. The fourth plate exhibited gave a view of the changes which go on within the uterus, stimulated by pregnancy and yet destitute of an ovum, taken from a case of the doctor's of death from tubal pregnancy about the tenth week, — the uterus acting under the influence, so to say, of reflex nervous excitation. The decidual formation was evident.

Dr. NORRIS asked how such a decidua would differ from a menstrual decidua.

Dr. MARCY replied that the latter would be the same in kind but less in degree. He also demonstrated, by means of a plate from Hunter, the enormous dilatation of the maternal vessels prior to the formation of the lacuna.

Dr. STORER read a circular letter, received from Dr. E. W. King, of New Albany, Ind., containing a series of questions relating to placenta previa and requesting of Fellows a report of their experience in this class of cases.

Dr. MARCY remarked that Dr. David Hunt, 149 Boylston Street, is making studies of the embryo, and would be glad to receive specimens of any stage of development. The doctor also stated that in the continuation of his studies of the uterine changes occurring

in the earlier periods of pregnancy, he desired a furtherance of favors from members of the profession, in respect of the sending of specimens from abortions or of any of the forms of diseased placenta. Specimens, especially of the embryo, are best preserved for study when immersed immediately in a considerable quantity of Müller's fluid.

#### HOSPITALISM.

DR. STORER read his reply to a letter from Dr. James L. Cabell, of the University of Virginia, who is about to write on the subject of hospitalism, especially in its relation to mortality after the major operations. Concerning ovariectomy, Dr. Storer said he preferred to operate in a private house rather than in a hospital, in the country rather than in the city, and for nurses he preferred the Catholic sisters. He stated he had himself used the spray prior to 1868. He also instanced Dr. Tait's one hundred and ten cases with nine deaths, and remarked that Tait had discontinued the use of Lister's method.

DR. MARCY was requested to prepare and read at the next meeting a paper upon Some Forms of Disease of the Placenta.

### Recent Literature.

*The Medical Digest, or Busy Practitioner's Aide-Memoir.* Being a Means of Readily Acquiring Information upon the Principal Contributions to Medical Science during the last Thirty-five Years. By RICHARD NEALE, M. D., London. Second edition. London: Ledger, Smith & Co. 1882.

The first edition of this work formed the seventy-fifth volume of the new Sydenham Society's publications in 1877, and was originally undertaken for the author's individual benefit, without a view to publication. It is not offered to the profession as a complete *Index* to all medical literature, but as a *Digest* of certain specified and widely-diffused journals — all British with the exception of the *American Journal of Medical Sciences*, to which occasional reference is made. Those requiring an *Index* will, of course, find it in the *Index Medicus*, and our countrymen seeking a key to their own medical literature will find the *Digest* but a very imperfect one.

As a ready reference to British periodical medical literature during the past thirty-five years, the *Digest* will prove very useful to the busy practitioner or medical writer. Dr. Neale says he has spent, upon an average, four hours a day for the past thirty-five years in bringing the work to its present state of perfection. The original manuscript contained 1879 pages; the book has over 120,000 distinct entries. Any complexity of plan the author has endeavored to avoid by an *Index*, which has been made as full and comprehensive as possible, and which, referring to all subjects under every variety of designation, contains nearly ten thousand references.

The sources of information especially represented are the *British and Foreign Medical-Chirurgical Review* from 1818 to 1877, the *Lancet* from 1837 to 1881, the *Medical Times and Gazette* from 1850 to 1881, the *British Medical Journal*, the *Practitioner*, the *London Medical Record*, *Rankin's Abstract* from 1845

to 1873, and *Braithwaite's Retrospect* from 1874 to 1881.

The above gives a fair idea of the scope of the work. Its absolute value depends of course largely upon the readiness of access to the files of the journals referred to. But the author claims, and with some reason, that even without the works at hand to which reference is made, "a vast amount of useful, and in many cases novel, information may be obtained."

The author likewise suggests that "gentlemen who are so much aided in their researches by the *Digest*, as their published lectures and papers show, might mention their indebtedness, a courtesy that is almost invariably omitted."

The *Digest*, with the *Index*, makes an octavo volume of 725 pages.

*Twenty-Eighth Annual Report of the State Commissioner of Common Schools to the General Assembly of the State of Ohio for the School Year ending August 31, 1881.* Columbus: G. J. Brand & Co. 1882.

A volume of valuable statistical information concerning the common schools of the State of Ohio.

About thirty pages are devoted to remarks on School Buildings in their Relation to the Health of Pupils, in the course of which some excellent criticisms and suggestions are made. We are glad to notice, as indicated by a quotation, that the efforts of the *JOURNAL* in behalf of school hygiene are appreciated in Ohio.

*A Treatise on the Science and Practice of Medicine; or the Pathology and Therapeutics of Internal Diseases.* By ALONZO B. PALMER, M. D., LL. D. Volume II. New York: G. P. Putnam's Sons.

This volume of Professor Palmer's work treats of diseases of the organs of the respiratory, circulatory, urinary, male generative, and nervous systems. The criticisms made upon the first volume apply also to this, which follows the same plan, and exhibits the same merits and defects. The publishers have, however, so far profited by one of them as to indicate upon the title-page, if not upon the back of the cover, that this is one of two volumes, thus not leaving the casual purchaser under the impression that he has a work complete in one volume.

*What to Do in Cases of Poisoning.* By WILLIAM MURRELL, M. D., M. R. C. P. Second edition. Detroit: George S. Davis.

The text has been revised for this edition, and a list of "fatal doses" added. Next to carrying the contained information in the head, it would be well for the physician to carry this little book in his pocket. It is very small and also correct.

— A story comes from Chicago of an accoucheur who attended a cyprian and delivered her of a fine boy. The blank form of a return to the Board of Registration required the physician to give the name of the child's father. This obligation caused the practitioner no little solicitude, but he finally acquitted himself by writing in the certificate *E Pluribus Unum*.

# Medical and Surgical Journal.

THURSDAY, OCTOBER 19, 1882.

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No. 4 PARK STREET, BOSTON, MASS.

## MALARIA AND THE COURTS IN BERKSHIRE COUNTY.

ALTHOUGH "fever and ague" was a disease not unknown in the early history of New England, and prevailed in a few towns for some years towards the close of the eighteenth century, for a few years at the beginning of the present century, and again from 1828 to 1836, the present epidemic, if so it may be called, has been steadily spreading from the shores of Long Island Sound more or less regularly for thirty-two years. Its origin seemed to be in the general obstruction of the natural drainage of the soil by the railroad from New York to New Haven acting as a dam to the small streams and swamps along the shore. Its progress has been chiefly along the beds particularly of the Connecticut and Hudson Rivers, independent of reservoirs and dams, and near natural and artificial ponds, especially those built in the course of the smaller rivers. On the Hudson River there is scarcely a town south of Albany in which the low land is not more or less associated with malaria; on the Connecticut there has been marked prevalence of the disease from Hadley southward, beginning with Springfield in 1820; on the Housatonic and Hoosac Rivers the cases of ague have all been adjacent to low, swampy places or near reservoirs, and the other cases were scattered over forty-eight towns in the State, for the most part in or near low, wet land, chiefly during the past five years. At the same time the disease has continued to prevail in the low land of Staten Island, near the obstructed water-courses in New York City, and in the places to the south where it has long been thought to be endemic.

In such a wide-spread prevalence of the malarial disease many persons living on hill-sides or high land have been subject to it, but it has begun almost without exception on low land, where its severity has always been the greatest. There are many houses on high land in whose vicinity the known conditions of malaria exist, namely, heat, moisture, wet soil, and stagnation of drainage; many of the people ill with intermittent fever, although living on high land, contracted the disease while exposed to its causes on low land, and a large number of the hills are so near swamps, ponded bodies of water, and low river beds, as to have the germs of the disease carried directly to them in the air.

One of the most striking epidemics began in Lenox, three miles below the noted summer resort in Berkshire

County in 1878; and in the five years up to this autumn there had been three hundred and twenty-six persons attacked, in many cases one person representing several attacks of fever (chiefly quotidian and tertian), out of a population of eight hundred, along the two shores of the ponded reservoirs of the Smith Paper Company. The first mill-pond is quite small; the second was raised three or four feet ten years ago, setting back the water a distance of four miles, so slight is the natural fall of the river at that place. Of thirty-one houses on the easterly shore, towards which the prevalent wind blows in summer, only five escaped the fever; of one hundred and seventeen houses on the other side there were seventy-nine in which cases of malarial disease were observed.

The town of Lenox, in the name of the State, brings suit against the owners of the mill-pond for creating a source of pestilence, and the case is now tried before Judge Brigham and a jury in the Superior Court at Pittsfield. The mill-owners have already paid the farmers very large damages, reported to be \$60,000, for flooding their land and damaging its agricultural value. Of course there was no thought, when their dam was built, that it would be a cause of malarial fevers, as Massachusetts was at that time thought to be too far north to be in any danger from that source. The case will be watched with great interest.

## COLLEGE ATHLETICS AND PROFESSIONAL TRAINERS.

Of late a somewhat growing tendency has manifested itself toward the removal of the sharply defined barriers which it used to be thought should separate the training and the contests of college athletic organizations from professional influences. The employment of professional trainers in the preparation of university crews, and public contests between amateur college base ball nines and professional nines are not unusual.

This tendency, with the attendant influences and results, has, for some little time back, forced itself upon the attention of the Faculty of Harvard College, and last spring a committee of three of their number, of whom Dr. Sargent, the superintendent of the gymnasium, was one, was appointed to take general supervision of college athletics.

The attention given, since their appointment, to the various questions connected with college athletics has led the committee to the conclusion that the general demoralizing effects on college sports of the use of paid professional trainers is in no way counterbalanced by the better records which may result therefrom. The committee is led, moreover, to believe that any competition between professional sporting men and undergraduates has a decided tendency to negative all the good effects of college athletics, to degrade the students who train, and to turn from its true course the whole current of amateur sports.

These conclusions on the part of the committee have led the college authorities to forbid the college grounds to professional trainers, and college organiza-

tions, such as the base ball nine, are to be forbidden to engage in contests with professional clubs. The latter step will be taken by the Faculty of Harvard College in common with those of the other principal colleges of the country, Yale alone refusing to enter into such an agreement.

This question of the propriety of permitting professional influences and experience to come in contact with amateur athletics in our colleges is one, of course, like most others, in regard to which something may be said on both sides; but we are inclined to agree with the committee of the Harvard Faculty, that much more is lost than is gained by contact with such influences. The advantages to be derived from the hints and experience of professional trainers, who themselves are or have been sporting men, can be largely supplemented from other sources; and it is not essential to a wholesome activity in the various games of ball that the college clubs should initiate themselves into all the "tricks of the trade," or, if necessary, these are not to be acquired only by actual public competition.

Certainly we think that the majority of those who are disposed to regard athletics as a means and not as an end, will take the view of the subject adopted by the Harvard Faculty, while those whose affections are set rather on the "best record" than on a sound general physique may perhaps dissent. The problem to be solved in seeking to control any amateur athletics consists of course in finding the happy mean between the amount and severity of competition necessary in order to lend interest and excitement to their cultivation as hygienic instruments, and the amount which exalts the "record" into the object of pursuit. When the latter stage is reached the wager is soon called in to supplement the interest of the "record," and then the professional influence is wholly bad.

For some years past Harvard undergraduates have been under expert supervision in their gymnastic exercises, the good effects of which have been very apparent in the exhibitions of their Athletic Association, as well as in the part taken by them in the intercollegiate athletic association contests.

Such control and supervision can, and we understand will, be extended to the other exercises as will obviate the dangers of injudicious or excessive training on the part of those who care to be advised.

If the colleges remove at once the advantages and drawbacks attendant upon intercourse with "professionals," they will naturally see that the former are made good as far as may be from other sources.

#### OPENING OF THE FIFTIETH SESSION OF MCGILL MEDICAL COLLEGE. CELEBRATION OF THE SEMI-CENTENNIAL BY THE FACULTY.

THE semi-centennial of the founding of the medical department of McGill College, Montreal, was celebrated in that city on Thursday, October 5th, by the Faculty, by an address delivered before them and their invited guests, and by a banquet in the evening at the

Hotel Windsor, to which a large number of invitations were issued to physicians in the United States and Canada, and to the graduates in medicine of the College.

About two hundred guests sat down to table, the chair being occupied by Dr. R. P. Howard, Dean of the Medical Faculty. Toasts were proposed to the queen, the governor-general, the principal of the University, sister colleges, the graduates, sister professions, the four founders, the Montreal General Hospital, the ladies. To the toast of sister colleges, proposed by Dr. William Osler, with a complimentary allusion to Harvard University, Dr. J. R. Chadwick, of Boston, who was present, responded in behalf of the Harvard Medical School. A letter from an anonymous benefactor was read at the dinner, pledging a gift of fifty thousand dollars to the Medical Faculty provided an equal sum were raised.

The *menu* reflected great credit upon the managers, the typographers, and the Montreal market. Upon the outside appropriate quotations from Shakespeare and Swift encouraged the guests to a valiant and cheerful gastronomy, which the articles announced within the covers must have amply satisfied. Extracts from the old English classics preceded and followed each course on the *menu*, Roman punch being followed by an admonition borrowed from Shakespeare,—

"For this, be sure to-night thou shalt have cramps."

The medical department of McGill University is the issue of the Montreal Medical Institution, established in October, 1822, by four physicians, who were the medical officers of the Montreal General Hospital. The first session of which there is any record is that of 1824-25, at which twenty-five students attended. The Medical Institution continued for five sessions, and in 1829 became the Medical Faculty of McGill College, thereby preserving for educational purposes the bequest of the Hon. James McGill. In 1823 an attempt was made to organize McGill College, and five professors were appointed, one, Dr. Fargues, to the chair of medicine. They never entered upon their duties. Up to 1853 there was only one professorship in the Medical Faculty. At this date the various lecturers were made professors. The lectures were suspended during the political troubles of the rebellion; there were no sessions in 1836-37, 1837-38, and 1838-39. It is owing to this gap that the present is only the fiftieth session, though the Faculty was organized in 1829. In reality this is the fifty-fifth session of the School, which is the direct continuation of the Medical Institution, and the fifty-eighth year since its foundation in 1824. The lectures of the Medical Institution were given at No. 20 St. James Street; the School afterwards moved to St. George Street; from 1845 to 1852 the lectures were delivered in the College Building, Sherbrooke Street; from 1852 to 1872 in the Faculty Building, Cotté Street; and in 1872 the present building was erected by the governors in the University grounds.

There are 917 graduates in medicine of the University, of whom 192 are dead; of those whose ad-

dressess are known, there are in Ontario 237; Quebec, 207; United States, 139; Great Britain, 31; Manitoba, 25; New Brunswick, 9; Prince Edward Island, 8; Nova Scotia, 6; Newfoundland, 4; British Columbia, 4; India, 2; New Zealand, 3; West Indies, 6; Sandwich Islands, 1.

The following list gives the order of seniority in the ten oldest medical schools on this continent:—

(1.) University of Pennsylvania, 1765. (2.) Harvard, 1782. (3.) Dartmouth (Hanover, N. H.), 1797. (4.) College of Physicians and Surgeons, New York, 1807. (5.) University of Maryland, 1807. (6.) Yale, 1810. (7.) Medical College of Ohio, 1819. (8.) Bowdoin (Maine), 1820. (9.) Jefferson Medical College, 1824. (10.) McGill (Medical Institution), 1824.

### MEDICAL NOTES.

— Judge Dixon, of New Jersey, in a recent charge to the grand jury of Paterson, called their attention to the case of a man employed at the pest-house in that city as nurse to a small-pox patient, and who, having the germs of the infectious disease about him, went recklessly to his family, communicating the disease to his children, one of whom died. In commenting on this case he said: "If a man, conscious that he carries about with him the germs of a contagious disease, recklessly exposes the health and lives of others, he is a public nuisance and a criminal, and may be held answerable for the results of his conduct. If death occurs through his recklessness, he may be indicted for manslaughter. It is held that where a person knowingly communicates a contagious disease to another and death results the crime is that of manslaughter." Judge Dixon furthermore added: "The man may be indicted also for spreading the disease by conscious exposure of others thereto by his presence in public places, such as on the streets, in halls, etc. He might be indicted as a public nuisance for endangering the public health in this way even if no consequences had followed. The law provides some penalty for such offenses against the public safety."

— Professor Leeds, who was instructed by the joint committee on pollution of Newark and Jersey City to make an investigation into the alleged poisoning of the Passaic River with arsenic washed from a label factory in Montclair during the recent floods, has reported that he has been able to detect no traces of arsenic or other poison in the water. The samples of the water submitted to him for analysis were taken from the pumping stations at both Newark and Jersey City. In view of the possible contamination of the Passaic in this way, however, one of the daily papers puts the very pertinent inquiry, why factories which use large quantities of poison are permitted to remain on the banks of a stream that furnishes the water supply of a city numbering 140,000 people? The common report was, that no less than a ton of arsenic had been washed into the river from the single establishment mentioned.

— It is suggested by Dr. H. Holbrook Curtis, in the *Medical Record*, that the popular remedy for nose-bleed, of tying a string around a finger, owes its

origin to the practice of ligating an extremity as a means of arresting bleeding. In that case the device is not altogether an inane one, even if its practice is useless. It seems that this "bleeding of a man into his own vessels" is as old as Galen, from whom modern therapeutics has only revived it. Dr. Curtis, it may be added, has had very good success with this treatment in certain alarming cases of pulmonary hemorrhage, when all the ordinary hemostatics had failed. It is also recommended as a remedy in the dyspnea of pneumonia by diminishing the congestion, perhaps after the suggestion of Esmarch of tying the extremities after gun-shot wounds of the lungs.

— The *Sanitary Engineer* has proposed to the National Board of Health, since the refusal of Congress to grant a sufficient appropriation to defray the expenses of publishing their *Bulletin*, to print the most important information hitherto published in the *Bulletin*, and the Board has accepted the offer.

— It is reported in the daily papers that the wife of President Gonzales, of Mexico, has arrived in Chicago to prosecute her studies in medicine and surgery. Toxicology and gun-shot wounds are respectfully recommended to her especial attention.

— The conflict between scientific and gastronomical claims upon the members of conventions and congresses is sometimes sharp. At the recent International Congress of Hygiene at Geneva, when twenty-four different nationalities were represented by four hundred delegates, the entertaining was on a scale proportionate to the augustness of the assembly. On one day the members, to the number of three hundred and fifty, were the guests of the Swiss government in a sail on the lake. The Italian representatives seem to have been the only ones alive to their responsibilities, for in the midst of the inspiring influences of clear skies, blue waters, beautiful music, and ravishing scenery, these devoted men held a meeting in the cabin to discuss cremation!

### NEW YORK.

— At the last meeting of the Board of Health Dr. S. A. Goldschmidt, inspector of offensive trades, made a report in regard to the condition of the Harlem tunnel on Fourth Avenue, in which he stated that the residents along the avenue complain of the dust, gas, and smoke from the passing locomotives; while the passengers through the side tunnels, in which the local rapid transit trains run, complain of the heat, gas, smoke, and foul air. It is impossible, he says, to eradicate all causes of complaint; but nearly all the smoke which pours out from the tunnel during the passage of the trains is due to the careless management of the engines, and if the regulations of the railroads that no engine shall come from the round house with a fresh fire, and that no coal shall be thrown into the furnace except between One Hundredth and One Hundred and Nineteenth Streets, were strictly enforced, it would do much toward improving the atmosphere of the tunnel, and the escape of volumes of smoke so often seen issuing from the ventilating shafts would cease. At the conclusion of his report Dr.

Goldschmidt makes the following suggestions: First, the strict enforcement of the regulations in regard to firing the locomotives; second, the use of a better grade of coal, containing as little sulphur as possible; third, the introduction of smoke-consuming locomotives on the rapid transit trains; fourth, straightening the ventilating shafts, and keeping the side ditches and drains clear, so as to reduce the dampness to a minimum; fifth, lighting the headlights and lamps while passing through the tunnel. These were approved by the Commissioners of the Health Board, and a resolution was passed by them requesting the managers of the three railroads concerned to take cognizance of them.

— N. W. Andrews, son-in-law of Cyrus W. Field, has brought suit against Samuel H. Smith, the owner of the Hotel Bellevue, at Seabright, New Jersey, for ten thousand dollars damages for the improper sanitary condition of his house, which he alleges was the cause of the outbreak of the typhoid fever at that resort during the latter part of the summer and early autumn. He will also bring action against James L. Corey, the lessee of the hotel, for five thousand dollars damages for alleged blackmail in compelling him and Cyrus W. Field, Jr., to pay five thousand dollars for the use of the hotel after the fever made its appearance.

— In an investigation just held before a commission appointed by the supreme court and a sheriff's jury, as to the sanity or insanity of William Keatings, who, for nearly two years past, has been an inmate of the insane asylum on Ward's Island, the jury found a verdict in favor of the man's sanity, and he was at once discharged. Dr. J. W. Ranney, the president of the commission, in charging the jury, said that he hoped the day would soon come when some proper and competent examination of persons alleged to be insane would be made before their commitment to a lunatic asylum.

— On the 10th of October Dr. Wm. B. Carpenter, of London, gave a summary of his investigations into the structure of the *Eozoon Canadense*, illustrated by many specimens exhibited under the microscope, before the New York Microscopical Society, and after the meeting a dinner was given by the Society to Dr. Carpenter at Delmonico's.

#### PHILADELPHIA.

— At the stated meeting of the College of Physicians held October 4th, several interesting communications were received. Dr. Arthur V. Meigs read a paper entitled Clinical Observations in Albuminuria based upon a study of Sixty-Two Cases seen in Private Practice (which will shortly appear in this JOURNAL). Dr. H. Augustus Wilson described an Autopsy of a Case of Transposition of the Viscera; and Dr. Addinell Hewson presented a paper recommending Flexible Glue as a Substitute for Adhesive Plaster. A memoir of the late Dr. H. Lenox Hodge was read by Dr. William G. Porter.

The library of the college is open daily (except upon legal holidays) from eleven A. M. to four P. M.

Arrangements are contemplated by which it will be opened, during the coming winter months, in the evening also from eight to ten o'clock.

— The Pathological Society of Philadelphia has instituted a plan by which it has added many new members and infused fresh vitality into an organization which a few years ago was supposed to be doomed. The business committee found that notwithstanding the fact that supply of good papers and cases was not lacking, interest in the Society was declining, and the membership was steadily diminishing. It was then decided to hold a social reunion twice a year, and invite a number of eligible members of the profession to attend. The semi-annual conversational meeting in the spring and fall was selected as the occasion, and the first meeting of the kind was held last April, which was unexpectedly successful; it was well attended, and as a result renewed interest was shown in the Society; it is said by the treasurer, Dr. M. S. French, to whose personal interest in the arrangements much of the success is due, that thirty-two new members were added to the roll in consequence of that one meeting. Another meeting of the kind was held at the College of Physicians last month, at which Dr. J. Solis Cohen presented an admirable address on Tuberculosis of the Larynx, abundantly illustrated by preparations and diagrams. (The points of this paper will be presented hereafter.) At nine o'clock the Society adjourned to a lower room where a simple collation was spread, and where an hour was most pleasantly passed in social intercourse. Quite a number of new names proposed for membership were received by the committee, also, at this meeting.

The Publication Committee of the Pathological Society, and of the County Medical Society, have each issued a most creditable volume of Proceedings.

The receptions of the County Medical Society, which were so successful during the last two winters, have not yet been resumed this fall.

The visit of Dr. Morell Mackenzie, of London, to this city, was improved by the Philadelphia Laryngological Society, which tendered him a complimentary dinner on the 10th inst., and by Dr. J. Solis Cohen, who gave a reception at his house on the same evening, where the guest met a large number of Philadelphia physicians, and seemed well pleased.

— The seventh annual meeting of the Association of Medical Officers of American Institutions for Idiotic and Feeble Minded Persons, was held at the Pennsylvania Institution for Feeble Minded Children at Elwyn, Penn., on the 3d inst., and continued in session three days. Papers were read by George Browne and Mrs. George Browne, of Barre, Mass.; Dr. C. K. Mills, Pennsylvania; J. G. Stewart, Kentucky; H. M. Greene, Kansas; H. B. Wilbur, New York; William B. Fish, Pennsylvania; W. Hailes, Jr., New York; communications were received also from other prominent men.

— The Board of Trustees of the Norristown Insane Asylum held its third annual meeting on October 6th. The old officers were re-elected. The total number of cases under treatment during the year was 660

males, 579 females) 1239, of which recovered (71 males, 41 females) 115; died (55 males, 36 females) 91; and there were remaining (494 males, 456 females) 950; a few were transferred or removed by friends. The total sum expended during the year was \$287,412.17.

—Among the interesting operations recently performed was the transplantation of a portion of a rabbit's conjunctiva to the human eye in a plastic operation performed at the Jefferson Medical College Hospital by Dr. William H. Little, Chief Assistant to Professor Thomson. The case was that of a healthy young man of about twenty-five years of age, who had had his face badly burned in the chemical works by a stream of sulphurous acid some months ago. One eye was completely destroyed, the other had a hazy cornea and adhesion of the upper eyelid to the globe of the eye. In the operation, before the class, the lid was dissected free, and several pieces of conjunctiva taken from a living rabbit were transplanted and fastened in the gap. It is now more than a week since the operation, and its success seems assured. The grafts appear to have retained their vitality, and the patient has qualitative vision. It is believed that an iridectomy will now give him sufficient sight for ordinary purposes.

—Prof. John H. Brinton recently operated in an interesting case of ununited fracture of the inferior maxilla, which resulted from a fall from a mast by the patient, a sailor, who sustained the injury six weeks ago. Two weeks elapsed after the accident before proper aid was obtained, and an abscess had formed and some small fragments of bone were subsequently removed. In consequence of the loss of substance, the extremities of the bone could not be made to approximate, and consequently remained ununited. Dr. Brinton cut down upon the ends of the bone, freshened the surface by aid of the surgical engine of Dr. Benwill, who assisted at the operation, and fastened the fragments together, before doing which it was found necessary to extract one of the lower central incisor teeth. The patient is doing well.

—The corner stone of a new hospital in the southern portion of the city was laid October 8th. It is to be known as St. Agnes Hospital, and is located at Broad and Millin Streets. It is under the patronage of the Roman Catholic Church. The structure is being erected under the auspices of the Sisters of the Order of St. Francis. It has a frontage of 358 feet on Broad Street, and a depth of 200 feet on Millin and McKean Streets. The building, including basement, will be four stories in height, and will be built of Bucks County graystone, with granite trimmings. The total cost is estimated at \$200,000. The central main building will have a frontage of 54 feet. The wings on each side will cover 108 feet with additional projections covering 88 feet. The first floor will be occupied by the administration offices and out-patient medical department. The chapel will be in the centre of the second floor, and will be surrounded with sick wards. The upper floor will be divided into wards of 27 by 46 feet in size. The wing buildings will also be devoted

to wards. It is intended to accommodate 400 patients in the hospital. The kitchen, laundry, stables, ice-house, bakery, and storeroom will be in the rear of the main building. Work on the structure was commenced in March of last year, and the stone work will be completed to the first floor before the winter sets in.

—A child, three years of age, died in this city, October 10th, from drinking about four ounces of bathing whiskey contained in a bottle which it accidentally obtained possession of at its home. The coroner's jury found a verdict to this effect in accordance with the statement of the mother.

#### CHICAGO.

—The medical colleges have commenced work for the winter. The new "College of Physicians and Surgeons" opened with a class of over a hundred. The new college building is nearly completed. This building is well designed for the purposes of a medical college. It has two large lecture rooms and all the additional rooms needed, besides apartments for a dispensary. This building is four stories high; has two of its sides veneered with cut and carved stone; has a tower at one corner nearly one hundred feet high. Its cost has been about \$75,000. The fees of the new college are only about one half as great as those of the other two regular colleges. Its requirements for graduation are practically the same as of the other colleges.

The Chicago Medical College opened with a class of about one hundred and fifty. Quite a number of changes have occurred in the faculty of this school since the last course of lectures. Dr. Dudley has become Professor of Gynecology, Dr. Danforth of Clinical Medicine, Dr. Scharfer of Anatomy, Dr. Feiger of Pathology, and Dr. Owens of Operative Surgery. Altogether the present faculty is a strong one.

Rush Medical College opened on the 26th ult., and has a class of four hundred and seventy.

—The new staff of Cook County Hospital has settled down to work in a quiet way. Clinics are to be given to the students of all colleges, as usual, during the present course of lectures.

Two detached pavilions are being added to the hospital this season for the purpose of accommodating cases of erysipelas, puerperal fever, and other affections which require to be separated from other patients. The central executive building for offices, warden's residence, etc., is being built also. When these buildings are completed the capacity of the institution will be considerably increased. Now the full capacity is less than four hundred patients; one hundred or more will be added to the capacity by the new buildings.

—Dr. W. T. Belfield, Lecturer on Physiology in Rush Medical College, has been invited to deliver the Cartwright course of lectures in New York the coming winter. Dr. Belfield has accepted the honor, and will deliver the lectures near the holidays. They will probably be given to the study of disease germs and the recent investigations in this field.

## Disseclamp.

### GUITEAU'S BRAIN.

IN the *Alienist and Neurologist* for October, 1882, Dr. Godding says of the macroscopic examination of Guiteau's brain, "When I saw with what difficulty the dura mater was torn away, I was surprised at the ivory whiteness of the brain substance, and remarked of the gray matter how thin some portions were anteriorly, and recognized that familiar, milky opacity of the arachnoid, extending over all the sulci of the superior convexity of both hemispheres of the cerebrum, and dipping down into the longitudinal fissure anteriorly, so startlingly like what I had so often seen in the autopsies of chronic mania, I questioned if it would be sufficient explanation for us to make to the public that this appearance was common in drunkards, and had been found in low types of chronic disease other than of the brain; that, indeed, it was often the result of cerebral congestion, and was frequently met with in advanced life; and if none of those conditions seem to exactly apply to Guiteau, to say further that Delafield is not inclined to attach any importance to it, and omit what Foville, and Greding, and Griesinger, and, in short, all writers on the pathology of insanity, have said of its frequency in the chronic forms of mental disease? And, since in the absence of observed lesions of the brain under the microscope [written before the microscopical examination of the brain were known], we certainly could not claim that mere opacity of the arachnoid proved the existence of insanity in any given case, would it do to boldly claim in the case of Guiteau that this thickened, diseased membrane should be accepted as conclusive proof that insanity did *not* exist, that by reason of its thickness it acted as a shield to his brain, even as his winter coat afforded a better protection than his summer duster? . . .

"The more I pondered the evidences of that autopsy, in conjunction with the retrospect of the life thus abruptly closed, the more I felt that it was just possible that the impartial psychological inquirers of the future, studying this remarkable case, might not be so unanimous as we had been in pronouncing this a 'happy ending.'"

### "THREATENED TYPHOID."

MR. EDITOR.—There are two points in the communication of Dr. Edward T. Williams, published in the *JOURNAL* of the 5th inst., upon which I hope you will allow me to make a few comments. It is probably a fact that a very large proportion of true, uncomplicated cases of typhoid fever terminate in recovery, without any medical treatment whatever, provided the patient has received good nursing and sufficient nourishment in the liquid form.

Authors do not agree in the treatment of the distressing diarrhoea which usually accompanies the disease. I have noticed that those patients who have little or no diarrhoea get up stronger, and return to their accustomed duties much sooner than those who have been troubled with the same. My treatment of typhoid fever during the past eleven years has been a literal adherence to that laid down by the late Thomas K. Chambers, M. D., in his admirable lectures upon the Renewal of Life.

It has been my experience that after the above treatment has been followed for a few days the diarrhoea ceases; hemorrhages from the nose and bowels are comparatively unknown; the temperature rarely exceeds 103° F., and a very large majority of the patients can take and digest large amounts of milk and beef tea. Relapses have been very few, and convalescence rapid and sure.

I have never yet used cathartics, always opening the bowels with enemata when required.

Having had the above experience I cannot assent to the production of an "artificial diarrhoea by cathartics" as recommended by Dr. Williams.

The expression, "I was threatened with typhoid fever and Dr. — was called and broke it up," has become so common, and is so generally believed, that I have long since found it to be a waste of breath to speak against it.

It is conceded by the best authors, and by those who have had much experience with the disease, that when the peculiar poison which constitutes *true* typhoid fever has entered and found lodgment in the human system, more especially in the intestinal glands, about all we can do is to carefully watch and safely conduct our patient through the disease, which I think will average about twenty-two days.

This average has been carefully computed from one hundred and thirty-three cases of *true* typhoid fever which have occurred in my practice during the past eleven years, and I must say, though it be to my discredit, that I have never been able to "abridge" or "cut short" one single case.

Yours respectfully,

PHANUEL E. BISHOP, M. D.

PAWTUCKET, R. I., October 8, 1882.

### FORCED FEEDING AND OVERFEEDING.

THE *British Medical Journal* gives an interesting account, based largely on a review by Dr. Mayer, of the *Revue Médicale de la Suisse Romande*, of this method of treating diseases of nutrition and other constitutional affections where there is no opposition on the part of the patient, and where, therefore, the process would, perhaps, more appropriately be called *examining*. We make the following extracts:—

"On October 28, 1881, M. Debove reported to the Medical Society of the Paris Hospitals the interesting and paradoxical cases of two phthisical patients in whom he had been able to supplement normal feeding, which intractable vomiting had rendered impossible, by alimentation by means of the œsophageal sound. The first patient, in the third stage of phthisis, had reached such a degree of anorexia that she rejected all food, even milk. M. Debove supposing that the anorexia might in this, as in other affections, be independent of any affection of the gastric mucous membrane, it occurred to him to inject a quart of milk into the stomach. It was well tolerated. The treatment was renewed with constant success, and soon the dose of food injected was increased, and from artificial alimentation he advanced to super-alimentation. Two quarts of milk, ten eggs, and two hundred grammes of scraped raw flesh constituted the daily ration of the patient. Under the influence of this *régime* the amelioration of her condition was so apparent that the treatment was immediately attempted in other cases.



"The instrument which M. Dujardin-Beaunez now recommends—an œsophageal tube reduced to half its ordinary length, and therefore not reaching quite into the stomach—is introduced on the stylet. It is connected by an India-rubber tube to the lower part of a glass jar, into which is poured the alimentary fluid, and in the upper part of which jar air can be compressed by means of an India-rubber ball. This vase being placed on the table, the patient can himself handle the India-rubber ball, and regulate at his pleasure the amount of food introduced, and the rapidity of feeding. It is obvious that a simple tube and funnel of the simplest construction might be employed, and perhaps the simpler the better.

"In a few cases, in which the stomach appears to be dilated, it may be well, in the first instance, to wash out this cavity with a four per cent. solution of bicarbonate of soda, or six per cent. of sulphate of soda. In the absence of dilatation such treatment may be omitted, and it is only necessary, then, at once to introduce the aliment into the funnel of the jar. This consists, usually, of a sort of a broth of milk, eggs, and a certain quantity of meat. M. Dujardin-Beaunez recommends the addition of common salt. At first finely scraped raw meat was employed, but lately M. Debove recommends powdered cooked meat for this purpose. The flesh, cut off a fillet of beef, is finely minced, pressed into a cake, carefully baked, then powdered, and passed through a silken tamis cloth. An impalpable powder is thus obtained, which resembles in flavor roast meat, and which represents four times its weight of raw meat. This is perfectly preserved so long as it is kept from wet. Its main defect is its cost, but this may be diminished by mixing it with cooked and powdered lentils.

"The vehicle employed is milk, two quarts a day, or, for some patients, two eggs are added to the bouillon.

"M. Dujardin-Beaunez adds, sometimes, to the repeat three or four spoonfuls of peptone or subnitrate of bismuth where there is intestinal irritation and diarrhoea.

"Some patients are intolerant of the œsophageal sound, and, if this cannot easily be got over, it constitutes a serious obstacle to the treatment. Occasionally the patient is seized with the desire to vomit, and there is a reflux of the fluid into the sound. This may often be overcome by gentleness and patience, and by the introduction of very small quantities of food at a time. In any case it is desirable to commence with moderate doses of food, not more than twenty-five drachms of powdered meat, but at each dose this may be gradually augmented. Moreover, the individual digestive aptitudes must be considered, and the occasional individual intolerance of special foods, such as milk, eggs, or soup. Food should never be given until it has first been tested, and found to be in a perfect state of preservation.

"As to the results of this treatment in phthisis, it is too early to pronounce any definite opinion; it would appear, however, that, even in the third and acute stage of phthisis, super-alimentation has prevented, at least arrested, the progress of the disease. For the rest, it is evident that a distinction must be drawn between those phthisical patients who have retained their appetite, and those who, on the contrary, are suffering from protracted vomiting and aversion to food. In such cases striking results are recorded, anorexia giving place to appetite, sweating ceasing,

and sleep returning. In some patients an increase in weight immediately occurs, amounting to as much as from eighty to one hundred grammes a day; at the same time the daily weight of urea increases from eighteen and twenty grammes to fifty, sixty, often eighty grammes. Thus may be noted the fabulous activity which super-alimentation impresses on the organic changes and the phenomena of combustion, and it is possible one may conceive from this fact that the ground is modified on which the disease is evolving.

"The pulmonary symptoms undergo no less important modifications; in such cases the cough and expectoration diminish, says M. Debove, and then disappear. The stethoscopic sounds of the bronchial tubes follow the same retrogressive course; the signs of pulmonary induration on the caverns seem to persist; but, in one case, first observed by M. Debove, in which death supervened accidentally from a traumatic injury, and in which post-mortem examination was made three and a half months after the commencement of the treatment, the walls of the cavern were found to be lined with healthy granulations, and the lesions in course of repair."

#### THE TREATMENT OF CARIES IN THE CERVICAL VERTEBRE.

In the *New York Medical Journal* for October, Dr. Roberts discusses the now prevalent treatment of Pott's disease according to the Sayre method. He points out that the percentage of recoveries is greater in cases where the disease is above the level of the axilla, and is therefore treated by the jury-mast, than in caries of the lower dorsal and lumbar vertebrae where the plaster jacket alone is used. He further claims that the method of Sayre is essentially different in its action in the two cases. Below the axilla it is, as described by its author, an extension of the diseased structures, with nearly complete fixation, the aim being of course anchylosis. When, however, the jury-mast is used, there is fixation of the healthy vertebrae only, and the elasticity of the metal rod keeps the cervical vertebrae in a condition of elastic extension, so that the diseased surfaces are kept from irritating each other, but are allowed to move with the effort of the patient. This he believes to be the true theory of treatment, and the facility with which it is applied in case of cervical disease accounts for the better results in such cases. It is in like manner, however, a desideratum for all cases of Pott's disease. The fixation by means of a plaster jacket is not desirable, but because it seems to be the only way to get a good foundation for the jury-mast, must at present be tolerated. Indeed it can better be afforded over vertebrae which are healthy than over those which are diseased. The elastic tension desired for the cervical vertebrae can be still further secured by substituting elastic bands for the unyielding ones used by Sayre. The writer claims that cases so treated recover quicker and *without anchylosis*, so that the movements of the head and neck are as free as ever. The *point d'appui* of the supporting apparatus should not be (as according to Sayre) from one point at the back of the jacket, but the ends of the support should be carried forward around the sides of the chest so as to bring the bearing more nearly under the centre of gravity. Finally, the jury-mast being

altogether a conspicuous and awkward affair should be substituted by a mento-occipital cushion carried on springs from a frame inserted in plaster, so as to secure the same elastic tension, without any curved rod passing over the head.

Since this article was written Dr. Roberts has read a paper before one of the local societies in New York, in which he describes the successful application of this theory to the treatment of dorsal caries. A jacket is applied, and then divided horizontally over the seat of the disease, the upper and lower segments of the spinal column being kept apart by elastic tension secured by strong spiral springs having their ends embedded in the plaster. The lower portion of the jacket takes support from the crests of the ilia, and the upper from the occiput or the thorax, according to circumstances.

#### ANOTHER "EXPERT" WITNESS.

THE *Australasian Medical Gazette* shows some just indignation regarding an action of tort brought against a reputable and qualified practitioner in Australia, in which a man and wife claimed £3000 for unskillful treatment of the latter during labor. It was a dillicult and protracted case, necessitating the use of forceps, and was followed by puerperal fever and phlegmasia dolens, through which the physician seems to have given wise and intelligent care. Finally, when she was convalescing, a Dr. Marshall, "M. D., of the College of Medicine and Surgery, Cincinnati, U. S. A.," visited the patient. This man was an admitted professional rival of the former practitioner, and was proved to be the instigator of the suit. As the only witness in support of the claimants at the trial he favored the court with some very remarkable evidence. He diagnosed the case when "called" to it as *uremia*, and from a microscopical examination of the blood determined that the white corpuscles equaled in amount one third of the red. From the ankles he obtained a watery serum containing (likewise determined by the microscope) crystals of uric acid, and the presence of urine in this situation was explained on the ground that it had "dropped down into the legs." The evidence of this practitioner was altogether unreliable, and displayed such ignorance that there could be no question of his professional incompetency. On the other side ample and unimpeachable testimony, supplied by highly qualified medical men, gave indisputable evidence of the skill with which the plaintiff had been treated; and the case naturally ended to the satisfaction of professional honor.

#### THE DIGESTIVE POWER OF COMMERCIAL PEPSIN.

Dr. C. L. DANA presents in the *American Journal of the Medical Sciences* for October the results of a series of experiments upon this point. They were made with various preparations and under different conditions as to the substance digested, the degree of dilution, of acidity, etc. Among the conclusions reached, from the results in an artificial menstruum outside the stomach, were the following:—

- (1.) That only slight results can be gotten from pepsin unless every precaution is carried out.
- (2.) That the different pepsins have different values.
- (3.)

That lacto-peptin and the so-called essences and elixirs of pepsin are feeble preparations. The author further concludes that ten grains of ordinary commercial pepsin will generally digest ten or twelve times its own weight of coagulated egg-albumen, finely minced, in four to six hours. It has, however, very little effect upon lumps of albumen or upon boluses of lean or cooked meat.

This is the case outside the stomach. If it does no better when given medicinally, or even if it does considerably better, its power as a remedy must be very slight.

Physiological investigations upon dogs gave more favorable results. From them Dr. Dana says in conclusion: "A physician in giving a dose of *good* pepsin may believe that it will have a value two or three times greater than that exhibited under ordinary artificial conditions, that is, it will digest twenty or thirty times its own weight. This conclusion is in harmony with much clinical experience, that *good* pepsin has a real though not a great medicinal value.

"Points of practical importance are, that large doses should be given, even of so-called pure pepsins. The physician should always know how much pure pepsin there is in the saccharated preparations. Acid should generally be given immediately before, and the pepsin after, meals."

#### BOSTON DISPENSARY.

The statistics of this institution for the year ending September 30, 1882, are as follows: The number of new patients treated at the central office is 14,742, classified as follows: Medical Department, men, 2,348; women, 4,712; children, 2,452; total, 9,512. Surgical Department, men, 1,520; women, 500; children, 382; total, 2,402. Dental Department, men, 247; women, 391; children, 484; total, 1,122. Skin Department, men, 700; women, 269; children, 153; total, 1,122. Department for Diseases of the Nervous System, men, 16; women, 12; children, 5; total, 33. Department for Diseases of the Throat and Nose, men, 278; women, 303; children, 172; total, 753. The number of visits made by patients, old and new, at the central office, is 26,954, classified as follows:—

|  |         |
|--|---------|
| Medical, 17,302; surgical, 9652; total, 26,954.  |         |
| The number of new patients treated in the districts is 11,436, including 201 cases of midwifery, classified as follows men, 2164; women, 4610; children, 4662; Total, 11,436.  |         |
| Number of new patients treated in the central office and in the districts  | 26,178  |
| Number of cases of midwifery attended during the year  | 201     |
| Number of cases of midwifery attended since July, 1854   | 3,867   |
| Whole number of patients since October, 1796   | 814,415 |
| Whole number of patients since July, 1856  | 695,612 |
| Average daily attendance at the central office during the year   | 88      |
| Largest number present any one day, May 8  | 200     |
| Smallest number present any one day, January 27  | 27      |
| Number of recipes put up at the central office during the year   | 32,080  |
| Number of house recipes  | 24,510  |
| Number of district recipes   | 7,570   |
| Largest number put up in one day, May 8  | 211     |
| Smallest number put up in one day, November 12   | 51      |
| Number of paid recipes   | 30,061  |
| Number of free recipes   | 2,019   |
| Surgeons: Thomas Waterman, M. D., Charles E. Inches, M. D., J. Foster Bush, M. D., Francis H. Williams, M. D.  |         |
| Physicians: Robert Disbrow, M. D., Josiah L. Hale, M. D., Joseph P. Oliver, M. D., Robert M. Lawrence, M. D., John Dixwell, M. D., Thomas M. Rotch, M. D., Claudius M. Jones, M. D., Henry C. Haven, M. D., Henry W. Broughton, M. D., Harold Williams, M. D., James J. Munot, M. D., George M. Garland, M. D., Edward M. Buckingham, M. D., Henry L. Morse, M. D., John B. Swift, M. D. |         |
| Department for Diseases  |         |

of the Nervous System, Frederick W. Vogel, M. D., Morton Prince, M. D., Department for Diseases of the Skin, Francis B. Gough, M. D., Almer Post, M. D., Department for Diseases of the Throat and Nose, Thomas A. DeBois, M. D., John W. Farlow, M. D., Department for Diseases of Women, William H. Baker, M. D., Francis H. Davenport, M. D., Charles M. Green, M. D., John W. Elliot, M. D., Department for Diseases of the Eye, Charles H. Williams, M. D., Department for Diseases of the Ear, Frank H. Hooper, M. D., Department for Diseases of the Genito-Urinary System, George H. Tilden, M.

D., Francis S. Watson, M. D., Dental Department, Frederick E. Banfield, D. M. D.  
District Physicians: No. 1, George W. Copeland, M. D., No. 2, William N. Bullard, M. D., No. 3, William C. Emerson, M. D., No. 4, Samuel J. Mixer, M. D., No. 5, Robert B. Dixon, M. D., No. 6, Walter J. O'Griss, M. D., No. 7, Vincent J. Bowditch, M. D., No. 8, Flavill W. Kyle, M. D., No. 9, Frederick F. Doggett, M. D., Apothecary: Frank H. Clark; assistant apothecary, Robert Nixon.

WILLIAM H. H. HASTINGS, M. D., superintendent.

# REPORTED MORTALITY FOR THE WEEK ENDING OCTOBER 7, 1882.

| Cities.                           | Population by Census of 1880. | Reported Deaths in each. | Deaths under Five Years. | Percentage of Deaths from       |                |                      |                |                       |
|-----------------------------------|-------------------------------|--------------------------|--------------------------|---------------------------------|----------------|----------------------|----------------|-----------------------|
|                                   |                               |                          |                          | The Principal Zymotic Diseases. | Lung Diseases. | Diarrhoeal Diseases. | Typhoid Fever. | Diphtheria and Croup. |
| New York.....                     | 1,206,590                     | 594                      | 229                      | 26.58                           | 10.20          | 2.87                 | 2.51           | 3.67                  |
| Philadelphia.....                 | 846,984                       | 353                      | 125                      | 16.41                           | 2.83           | —                    | 2.55           | 11.04                 |
| Brooklyn.....                     | 566,689                       | 278                      | 104                      | 23.53                           | 9.66           | 10.50                | 1.26           | 4.20                  |
| Chicago.....                      | 503,304                       | 197                      | 89                       | 35.43                           | 7.11           | 12.18                | 11.67          | 7.61                  |
| Boston.....                       | 362,535                       | 168                      | 54                       | 28.20                           | 8.40           | 14.40                | 5.40           | 6.00                  |
| St. Louis.....                    | 330,522                       | —                        | —                        | —                               | —              | —                    | —              | —                     |
| Baltimore.....                    | 332,190                       | 179                      | 80                       | 36.05                           | 5.32           | 4.14                 | 2.96           | 17.14                 |
| Cincinnati.....                   | 255,708                       | 91                       | 41                       | 27.45                           | 5.49           | 8.78                 | 1.10           | 3.29                  |
| New Orleans.....                  | 216,140                       | —                        | —                        | —                               | —              | —                    | —              | —                     |
| District of Columbia.....         | 177,638                       | —                        | —                        | —                               | —              | —                    | —              | —                     |
| Pittsburg.....                    | 156,381                       | 60                       | 26                       | 28.00                           | 12.66          | 5.00                 | 12.66          | 10.00                 |
| Pittsburg.....                    | 155,137                       | 84                       | 42                       | —                               | —              | —                    | —              | —                     |
| Buffalo.....                      | 115,578                       | 53                       | 34                       | 35.85                           | 3.77           | 20.75                | 1.89           | 7.55                  |
| Milwaukee.....                    | 104,857                       | —                        | —                        | —                               | —              | —                    | —              | —                     |
| Providence.....                   | 62,882                        | 22                       | 9                        | 22.73                           | 4.54           | 18.18                | —              | —                     |
| New Haven.....                    | 49,999                        | 31                       | 8                        | 12.90                           | —              | 12.90                | —              | —                     |
| Charleston.....                   | 43,461                        | 19                       | 7                        | 26.31                           | 11.53          | 15.79                | —              | —                     |
| Nashville.....                    | 59,485                        | —                        | —                        | —                               | —              | —                    | —              | —                     |
| Lowell.....                       | 58,295                        | 21                       | 12                       | 47.61                           | 9.52           | 23.81                | 19.04          | 4.76                  |
| Worcester.....                    | 52,740                        | 19                       | 8                        | 26.31                           | 5.26           | 15.79                | —              | 11.53                 |
| Cambridge.....                    | 49,006                        | 23                       | 9                        | 39.06                           | 4.34           | 21.70                | 17.36          | —                     |
| Fall River.....                   | 39,178                        | 17                       | 5                        | 64.70                           | —              | 23.53                | 17.65          | 11.77                 |
| Lawrence.....                     | 38,284                        | 16                       | 5                        | 12.50                           | —              | 6.25                 | 6.25           | —                     |
| Lynn.....                         | 33,340                        | 9                        | 1                        | 22.22                           | —              | 11.11                | —              | —                     |
| Springfield.....                  | 27,598                        | 9                        | 1                        | 11.11                           | —              | —                    | 11.11          | —                     |
| Salem.....                        | 26,875                        | 6                        | 1                        | —                               | 16.66          | —                    | —              | —                     |
| New Bedford.....                  | 24,985                        | 5                        | 3                        | 20.00                           | —              | 20.00                | —              | —                     |
| Somerville.....                   | 21,851                        | 10                       | 4                        | 40.00                           | —              | —                    | 40.00          | —                     |
| Holyoke.....                      | 21,785                        | 12                       | 6                        | 16.66                           | —              | 8.33                 | 8.33           | —                     |
| Chelsea.....                      | 21,213                        | 5                        | 1                        | 20.00                           | —              | —                    | 20.00          | —                     |
| Taunton.....                      | 19,329                        | 3                        | 2                        | 66.66                           | —              | 66.66                | —              | —                     |
| Gloucester.....                   | 18,475                        | —                        | —                        | —                               | —              | —                    | —              | —                     |
| Haverhill.....                    | 16,995                        | —                        | —                        | —                               | —              | —                    | —              | —                     |
| Newton.....                       | 13,608                        | 2                        | 0                        | 50.00                           | —              | —                    | 50.00          | —                     |
| Brocton.....                      | 13,537                        | 5                        | 2                        | 20.00                           | —              | 20.00                | —              | —                     |
| Newburyport.....                  | 12,405                        | —                        | —                        | —                               | —              | —                    | —              | —                     |
| Fitchburg.....                    | 12,017                        | 2                        | 0                        | —                               | —              | —                    | —              | —                     |
| Malden.....                       | 141,413                       | 57                       | 25                       | 10.52                           | 5.26           | 5.26                 | —              | —                     |
| Eighteen Massachusetts towns..... |                               |                          |                          |                                 |                |                      |                |                       |

Deaths reported 2310 (no reports from St. Louis, New Orleans, District of Columbia, and Providence): under five years of age 933; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 584, consumption 336, lung diseases 157, diarrhoeal diseases 217, diphtheria and croup 143, typhoid fever 94, scarlet fever 33, puerperal fever 29, small-pox 16, whooping-cough 16, malarial fevers 14, measles 10, cerebro-spinal meningitis nine, erysipelas three. From scarlet fever, Cincinnati three each, Chicago, Boston, and Spencer two each, Baltimore three each, New York five, Philadelphia one. From whooping-cough, New York nine, Brooklyn two, Philadelphia, Chicago, Cincinnati, Milwaukee, and New Haven one each. From malarial fevers, Brooklyn 11, Baltimore, Cincinnati, and Nashville one each. From measles, New York and Baltimore five each. From cerebro-spinal meningitis, Chicago, Milwaukee, and Lawrence two each, New York Springfield, and Peabody one each. From erysipelas, New York, Brooklyn, and Chicago one each.

Sixty-five cases of small-pox were reported in Baltimore, Cincinnati five, Lawrence one; typhoid fever 49, diphtheria 27, scarlet fever five, in Boston; scarlet fever 17, diphtheria four, in Milwaukee.

In 35 cities and towns of Massachusetts, with a population of 977,589 (population of the State 1,783,086), the total death-rate for the week was 20.32 against 21.17 and 23.64, for the previous two weeks.

For the week ending September 16th, in 169 German cities and towns, with an estimated population of 8,492,713, the death-rate was 23.9. Deaths reported 3910: under five years of age 2134; consumption 473, diarrhoeal diseases 289, lung diseases 284, diphtheria and croup 180, scarlet fever 109, typhoid fever 68, whooping-cough 67, measles and rubella 27, puerperal fever 18, typhus fever (Düsseldorf two, Braunschweig one) three, small-pox (Breslau one) one. The death-rates ranged from 9.0 in Weisbaden to 49.2 in München-Gladbach; Königsberg 29.4; Breslau 30.2; Munich 22.7; Dresden 27.3; Berlin 26.7; Leipzig 20.9; Hamburg 22.5; Cologne 28.3; Frankfurt a. M. 18.9; Strassburg 19.5.

In the 28 English towns, with an estimated population of

\$469,571, for the week ending September 23d, the death-rate was 20.8. Deaths reported 3374: acute diseases of the respiratory organs (London) 263, diarrhoea 270, scarlet fever 100, whooping-cough 64, fevers 50, measles 44, diphtheria 24, small-pox (Nottingham two, Newcastle five) seven. The death-rates ranged from 11.4 in Brighton to 28.5 in Sunderland; Birkenhead 17.5; London 19.4; Bradford 21.9; Birmingham 22.2; Hull 24.3; Liverpool 25.2; Preston 26.2; Nottingham 27.5. In Edinburgh 18; Glasgow 20.1; Dublin 26.1.

For the week ending September 23d, in the Swiss towns, population 494,390, there were 36 deaths from consumption, diarrhoeal diseases 23, lung diseases 10, diphtheria and croup six, typhoid fever six. The death-rates were, at Geneva 13.4; Zurich 14.2; Basle 17.9; Berne 25.3.

The meteorological record for the week ending October 7th in Boston, was as follows, according to observations furnished by Sergt. O. B. Cole, of the U. S. Signal Corps:—

| Date.            | Barom-eter. | Thermom-eter. |          |          | Relative Humidity. |            |             |             | Direction of Wind. |            |             | Velocity of Wind. |            |             | State of Weather. <sup>1</sup> |            |             | Rainfall.             |                   |
|------------------|-------------|---------------|----------|----------|--------------------|------------|-------------|-------------|--------------------|------------|-------------|-------------------|------------|-------------|--------------------------------|------------|-------------|-----------------------|-------------------|
| October, 1882.   | Daily Mean. | Daily Mean.   | Maximum. | Minimum. | 7.23 A. M.         | 3.23 P. M. | 11.23 P. M. | Daily Mean. | 7.23 A. M.         | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.        | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.                     | 3.23 P. M. | 11.23 P. M. | Duration, Hrs. & Min. | Amount in inches. |
| Sun., 1          | 30.090      | 61            | 70       | 53       | 81                 | 62         | 64          | 69          | NW                 | N          | NW          | 11                | 1          | 12          | F                              | C          | C           | —                     | —                 |
| Mon., 2          | 30.172      | 58            | 70       | 50       | 70                 | 34         | 71          | 58          | NW                 | NW         | NW          | 9                 | 14         | 12          | C                              | F          | F           | —                     | —                 |
| Tues., 3         | 30.244      | 51            | 64       | 43       | 76                 | 41         | 86          | 68          | NW                 | W          | W           | 4                 | 6          | 8           | O                              | C          | C           | —                     | —                 |
| Wed., 4          | 30.232      | 55            | 69       | 40       | 80                 | 26         | 62          | 56          | W                  | W          | NW          | 7                 | 12         | 5           | C                              | C          | C           | —                     | —                 |
| Thurs., 5        | 30.242      | 55            | 62       | 52       | 62                 | 61         | 72          | 65          | NW                 | SE         | SE          | 3                 | 8          | 4           | O                              | F          | O           | —                     | —                 |
| Fri., 6          | 30.296      | 56            | 64       | 50       | 78                 | 48         | 76          | 67          | SE                 | SW         | S           | 6                 | 9          | 6           | O                              | O          | O           | —                     | —                 |
| Sat., 7          | 30.147      | 61            | 71       | 55       | 89                 | 74         | 87          | 83          | S                  | SW         | SW          | 8                 | 13         | 8           | O                              | O          | C           | —                     | —                 |
| Means, the week. | 30.232      | 57            | 71       | 40       |                    |            |             | 67          |                    |            |             |                   |            |             |                                |            |             | 0.35                  | —                 |

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; X., clearing.

<sup>2</sup> Too small to measure.

**CORRECTION.**—The dinner of the Massachusetts Medical Benevolent Society will take place Thursday, October 26th, and not October 27th, as announced in the editorial of the JOURNAL last week.

**AMERICAN ACADEMY OF MEDICINE.**—The seventh annual meeting of the American Academy of Medicine will be held in the Hall of the College of Physicians, Thirteenth and Locust Streets, Philadelphia, on Thursday, October 26th, at three o'clock p. m. RICHARD J. DUNGLISON, *Secretary*.

**BOOKS AND PAMPHLETS RECEIVED.**—The Application of Pressure in Diseases of the Uterus, Ovaries, and Peri-Uterine Structures. By V. H. Talladiero, M. D., Atlanta, Ga. (Reprint.) 1882.

Woman's Medical College of the New York Infirmary. Fourteenth Annual Announcement. 1882.

On the Continuous Inhalation of the Vapor of Slacking Lime in the Treatment of Membranous Laryngitis. By Eugene F. Cordell, M. D.

Transactions Mississippi State Medical Association. Oxford, April, 1882.

Microscopic Morphology of the Animal Body in Health and Disease. By C. Heitzmann, M. D., late Lecturer on Morbid Anatomy at the University of Vienna, Austria. New York; J. H. Van & Co. 1883.

The Diseases of the Rectum, including Fistula, Hemorrhoids, Prolapse, Stricture, Prostatitis, etc., with Diagnosis and Treatment. By William Allingham, M. D., F. R. C. S. Fourth Revised and Enlarged Edition, with Illustrations. Philadelphia: P. Blakiston, Son & Co. 1882.

The Cuneiform Autopsy. Reprint of Editorial from the American Journal of Neurology. New York. 1882.

Is Glyceric Acid identical with Esculin? By Theodore G. Womley, M. D. (Reprint.)

A Practical Laboratory Course in Medical Chemistry. By John C. Draper, M. D., LL. D. New York: William Wood & Co. 1882.

The Physician Himself and What he should add to his Scientific Acquirements. By D. W. Cathell, M. D. Second Edition. Baltimore. 1882.

The Treatment of Diseases by the Hyperdermic Method. By Roberts Bartholow, M. A., M. D., LL. D. Fourth Edition, revised and enlarged. Philadelphia: J. B. Lippincott & Co. 1882.

Stricture of the Rectum treated by Electrolysis. By Robert Newman, M. D., New York. (Reprint.)

Nitro-Glycerine in Angina Pectoris. By William Murrell, M. D., M. R. C. P., Lecturer on Materia Medica and Therapeutics at the Westminster Hospital, etc. Detroit: George S. Davis. 1882.

Report of the Commissioner of Education for the Year 1880. Washington: Government Printing Office. 1882.

Twenty-Eighth Annual Report of the State Commissioner of Common Schools to the General Assembly of the State of Ohio for the School Year ending August 31, 1881. Columbus. 1882.

Cases of Pericarditis with Effusion. By J. Hamilton Mac-kechnie, M. D., Physician to the London Homoeopathic Hospital.

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## Original Articles.

FORTIETH REGISTRATION REPORT.<sup>1</sup>

BY C. F. FOLSON, M. D.

THE average annual rate of increase in the population of Massachusetts from 1870 to 1875 was 2.538 per cent. From 1875 to 1880 it was 1.55 per cent., estimated to have been unevenly distributed over the five years as follows: 0.000, 0.324, 0.599, 2.999, 3.835. In the three census years 1870, 1875, and 1880 the average of the ratios of the population to the assessed polls was 3.98. Calculating from the assessed polls of 1881 (469,207), the population for that year, upon the same basis, would be 1,867,441.

In the year 1881 there were recorded 45,220 births, 16,768 marriages, and 36,458 deaths; or 1003 more births, 1230 more marriages, and 1166 more deaths than in the previous year. The excess of living births over deaths was 8762, showing a natural increase of births over deaths amounting to 163 less than in 1880. The approximate rates for the year are: births 24.21, marriages 8.98, deaths 19.52, excess of births 4.69, to 1000 of estimated population, and for a period of years, as shown by the following table:—

|                      | Marriages<br>to 1000<br>Persons. | Births<br>to 1000<br>Persons. | Deaths to 1000<br>Persons. | Excess of<br>Birth-rate<br>over Death-<br>rate. |
|----------------------|----------------------------------|-------------------------------|----------------------------|---|
| 5 years ending 1855  | 11.7                             | 28.8                          | 18.7                       | 10.1  |
| 5 years ending 1860  | 9.8                              | 29.5                          | 17.9                       | 11.6  |
| 5 years ending 1865  | 9.3                              | 25.4                          | 20.7                       | 4.7 <sup>1</sup>                                |
| 5 years ending 1870  | 10.5                             | 26.1                          | 18.2                       | 7.9   |
| 5 years ending 1875  | 9.9                              | 27.6                          | 20.8                       | 6.8   |
| 5 years ending 1880  | 8.0                              | 24.8                          | 19.2                       | 5.6   |
| 30 years ending 1880 | 9.9                              | 27.0                          | 19.3                       | 7.8   |

<sup>1</sup> 8.3, excluding the three years most influenced by the war.

The highest birth-rates are in those parts of the State where there are most foreigners, who constitute mostly the laboring class; 26.6 per cent. of the births were in the third quarter of the year, 25.3 in the fourth, 24.1 in the second, 24.0 in the first. There were born 104.3 males to 100 females. Of the 801 illegitimate births 432 were in Suffolk County. There were 389 twin births and nine cases of triplets. There were 1466 still births.

The last ten years show an increase of nearly two thirds in the percentage of births of mixed parentage; that of the births of native-born parents has slightly increased, and the diminution is quite striking in the percentage of births of foreign parents. In a third of a century the decrease in births of natives has been very marked, while the increase in those of foreign parents apparently reached its height ten years ago, and the mixture of races is still becoming more prominent from year to year.

In the last quarter of the year 31.44 per cent. of the marriages occurred; in the second 25.62; in the third 22.17; in the first 20.77. The average age

<sup>1</sup> Fortieth Report to the Legislature of Massachusetts, relating to the Registry and Return of Births, Marriages, and Deaths in the Commonwealth for the Year ending December 31, 1881. Prepared under the direction of the Secretary of the Commonwealth. Boston: Wright & Potter Printing Company, State Printers. 1882.

of men at marriage was 28.8 years; of women 25.1; of men marrying for the first time 26.5; of women marrying for the first time 23.9.

The number of deaths in 1881 exceeded the mortality of the previous year by 1166, and was the greatest recorded in the State. The death-rate per 1000 of the living population was slightly (.27) less than for the previous year, but .30 per 1000 greater than the average of the previous five years, and .26 greater than the average for the preceding thirty years. It was exceeded only nine times since 1850. The deaths under one year of age exceeded those of 1880 by 199, whereas there were 1003 more births in 1881 than in 1880. The year was one, therefore, of a little less than average health. The threatened epidemic of small-pox was warded off by careful vaccination and revaccination, and the other infectious diseases were not in excess of the previous few years.

*Sex.*—The deaths of females exceeded those of males in 1881 by 119, a much smaller difference than has obtained since 1874. In fifteen deaths the sex was not reported. The ratio of females to males in the population, by the census of 1880, was 107.71. The excess of females over males was 66,205 as compared with 32,301 in 1855. The death-rate of males, for the five census years, 1860–1880, exceeded that of females by 1.2 per 1000.

Of the 36,458 deaths, 7389 were of infants under one year of age, 11,970 of children under 5. The average death-rate for ten years per 1000 living at the several ages was 200.19 under 1; 67.96 under 5; 8.86 from 5 to 10; 4.38 from 10 to 15; 7.34 from 15 to 20; 10.33 from 20 to 30; 10.74 from 30 to 40; 12.12 from 40 to 50; 17.62 from 50 to 60; 33.27 from 60 to 70; 72.77 from 70 to 80; 176.24 over 80. The average age at death in 1881 was 33.07 years.

The distribution of diseases by classes shows a decrease in "zymotic" and increase in local diseases as compared with 1880, but otherwise little change. From the "zymotic" or infection diseases, the proportion for 1881 was 1.5 less than for 1880, and 3.8 less than the average for ten years. From constitutional diseases it was very near the average, and .6 more than in 1880. The local diseases were 5.1 higher than the average, and only .2 higher than for the previous year. Developmental diseases, although 1.4 less than the ten years' average, were .5 higher than for 1880. Violent deaths were .2 below the average, and .2 below the proportion of the previous year.

The progressive increase in typhoid fever from 1879 has continued in spite of improved drainage and introduction of pure drinking water. The advance in the mortality from typhoid fever was much more rapid in the three years, 1879–1881, than was the decline in the previous three years, 1876–1878. The other infection diseases caused fewer deaths than in 1880, the decline being most marked in scarlet fever, which was the least fatal in 1881 of all the years since 1871. Diphtheria (with croup) caused only eleven deaths less than in 1880, and is in its seventh year of excessive prevalence.

From 1857 to 1880 the mortality rate from cancer more than doubled, while from consumption there was a diminution of nearly twenty-five per cent. In 1881 there were 949 deaths from cancer, and 5886 from consumption, as compared with 242 and 4625 in 1857, and with 928 and 5494 in 1880.

The principal local diseases still show an increase in

numbers of deaths, which has been almost steadily progressing in the ten years.

In *developmental diseases* the prevalence of puerperal fever is marked, and there is a striking decrease in the deaths ascribed to childbirth, but the two together caused 205 deaths in 1881 as compared with 211 in 1880.

*Violent deaths* show a decided diminution in deaths by homicide, and a great increase over the previous year from suicide. The railroad accidents were by far the most of any year in the decade.

Pulmonary consumption is, as usual, by far the most fatal of all the diseases. Pneumonia is next, as it was in 1874, 1875, 1878, 1879, and 1880, being third in 1872, 1873, 1876, and 1877. Heart disease — sometimes a vague term — is third, in place of occupying a lower place from fourth to eighth in the previous nine years. Cholera infantum fell steadily from the second place in 1872 and 1873 to the sixth in 1879, was third in 1880, and is in 1881 fourth. Old age, fifth in order, was sixth in 1880 and fourth or fifth from 1872 until then. Diphtheria was second in 1876 and 1877, third in 1878 and 1879, fifth in 1880, and is now sixth. Typhoid fever, after having fallen from the fourth place in 1872 to the thirteenth in 1879, was tenth in 1880, and this year is seventh. Cephalitis was tenth in 1879 and ninth in 1880; this year eighth. Paralysis, for the previous four years, seventh. Cancer was eighth in 1880 and 1879; previously from tenth to twelfth. Bronchitis has been eleventh for three years. The twelve leading causes of death constituted 59.98 per cent. of the mortality for the year, as compared with 59.8 in 1880.

A table of prevalence of typhoid fever in the several towns for ten years shows the average annual death-rate per 1000 living to have been in the State 6.37; in Boston, 5.55; in four towns of 40,000 to 50,000 population, 6.28; in three, of 30,000 to 40,000, 8.13; in five, of 20,000 to 30,000, 5.36; in twelve, of 10,000 to 20,000, 6.43; in thirty, of 5000 to 10,000, 5.19; in twenty-three, of 4000 to 5000, 6.51; in thirty-three, of 3000 to 4000, 7.42; in forty-nine, of 2000 to 3,000, 6.63; in ninety-eight, of 1000 to 2000, 6.20; in eighty-three, of less than 1000, 7.11.

The report will be ready at the State House in a few weeks for free distribution.

## PUERPERAL SEPTICEMIA AND LOCALIZED PERITONITIS.<sup>1</sup>

BY DR. J. H. NICHOLS, CAMBRIDGE.

THE case which I report to the Society to-night is one of puerperal septicæmia and localized peritonitis, with a large sero-purulent effusion, limited by adhesions, discharging through the umbilicus, complicated with extrathoracic pneumonia and double milk leg; ending in recovery.

Mrs. L., twenty-five years old, had always been well before the present attack. She had been married three years, and had given birth to one child, her confinement having been natural. Her second child was born at 11:30 p. m., January 22, 1881. The midwife who attended her reported the labor a short and natural one. At nine p. m. of the 23d, less than twenty-

four hours after delivery, she had a severe rigor, followed by fever, headache, vomiting, and pain in the lower part of the abdomen. During the 24th, the second day of the disease, the fever and pain continued, and she had diarrhœa. I saw her on the third day. She had a second chill, less severe than the first, two hours before my visit; the skin was hot and moist, the tongue furred, the headache severe; there were frequent light-colored, very offensive dejections, and occasional vomiting; there was much thirst; the pain in the abdomen was referred chiefly to the right iliac region, where the tenderness was also most marked; the abdomen was moderately tympanitic, and moved fairly well in respiration; the uterus was firmly contracted, and was not very tender on pressure; the lochial discharge was scanty, of natural color and odor; there were no clots in the vagina; the pulse was 130; respirations 36; temperature 102° F. On the fourth day all the symptoms were less severe; there had been profuse sweating during the night; pulse 96; respirations 24; temperature 99° F.

Fifth day. Was slightly delirious in the night, and the pain and diarrhœa were worse. At 10:30 A. M. she had a severe rigor; when seen an hour later, the face was pale and pinched; the skin hot and dry; pulse 120; respirations 36; temperature 104° F.; she had vomited several times. In the evening, pulse 130; respirations 36; temperature 102½° F.; the lochial discharge was pale and somewhat offensive in odor.

Sixth day. Delirious in the night, and had profuse sweating; no dejection; the pain and tenderness of the abdomen continued, and there was fullness and a feeling of resistance on palpation in the right iliac region. A. M. Pulse 130; respirations 36; temperature 103½° F. P. M. These figures were the same; the tongue was dry and brown.

Seventh day. Had a good night. A. M. Pulse 112; respirations 24; temperature 101½° F. P. M. Pulse 120; respirations 28; temperature 101½° F.; no dejection.

Eighth day. A. M. Pulse 120; respirations 28; temperature 101½° F. P. M. Record was the same; the lochial flow was less offensive, and of a brighter color; two large loose dejections. There has been no secretion of milk.

Ninth day. A. M. Pulse 112; respirations 26; temperature 100½° F. P. M. Pulse 120; respirations 26; temperature 101½° F.; no dejection.

Tenth day. For three or four days has had a slight cough, which to-day is worse, with scanty, thin, frothy expectoration, not tinged with blood; the lower half of the right back was slightly dull on percussion, and coarse moist râles were heard there. A. M. Pulse 120; respirations 28; temperature 101½° F. P. M. Pulse 120; respirations 26; temperature 102° F.; no dejection.

Twelfth day. Profuse sweating during sleep; the mouth was sore, and there was an eruption of herpes about the nose and lips; the cough was worse, and the expectoration thicker; the dullness on percussion over the right base was more marked; the vocal resonance and thrill increased, and the coarse râles still present.

Thirteenth day. Mouth very sore; fauces red and covered with a sticky mucus; tongue red and dry; pulse 120; respirations 28; temperature 102° F.

Fifteenth day. Rectum packed with hardened faeces; after clearing out this accumulation the vagina was found to be cool and moist; the lochial flow had

<sup>1</sup> Read before the Boston Society for Medical Observation, February 29, 1882.

ceased; the os was patulous, the sound entering four inches; the uterus was low down in the pelvis, and pushed a little to the left; its motion was limited, but it was not so firmly fixed as it often is in pelvic inflammation; there was tenderness and some fullness, with indistinct fluctuation in the upper part of the vagina, but no masses of exudation could be felt.

From this time the progress of the case was so gradual that it is not worth while to take up your time with the daily record. The abdominal pain and tenderness continued, always being most marked on the right side. The decubitus was always on the right side, motion increasing the pain. The right thigh could be moved without suffering. The abdomen steadily enlarged, the swelling being most prominent on the right side. About the fourteenth day fluctuation was detected, becoming more marked as the enlargement increased, until a distinct wave could be felt. The line of dullness which corresponded with the outline of the swelling did not change with position. Tympanites was not very marked, and the respiration was never entirely thoracic. The disease in the right lung continued, clearing up very slowly during convalescence. Moist rales were always present, bronchial respiration being never well marked. The expectoration was mucus-purulent, not bloody, moderate in amount, and had no offensive odor.

On the twenty-second day pain and tenderness were complained of in the calf of the left leg. Swelling soon appeared, extending up the thigh, and involving the vulva of that side. It presented all the appearances of milk leg. A lesser degree of the same condition affected the right leg, but did not extend above the knee. This complication ran its usual course, the swelling subsiding very slowly, causing trouble in walking for a long time.

The general condition of the patient was very bad. The hectic condition was very marked, and profuse sweating was a prominent symptom. The pulse was always rapid, and the temperature ranged from normal to 103° F., with an evening rise. There were no distinct rigors, excepting those already mentioned. There was no appetite, even liquid nourishment being taken with reluctance. Emaciation was marked. There was occasional vomiting and frequent attacks of diarrhoea, generally of but a few hours' duration.

The urine was scanty and high colored and did not contain albumen. There was no dysuria.

With the exception of slight delirium in the early part of the case the mind was clear.

On February 19th, the twenty-eighth day of the disease, the line of dullness and of fluctuation in the abdomen extended from the right iliac region to the crest of the left ilium; thence upward and inward to about an inch above the umbilicus; thence to the right, downwards and outwards, to the right iliac region. The No. 2 needle of Dieulafoy's aspirator was inserted just above the level of the anterior-superior spine of the right ilium, and an inch to the right of the median line. Forty-eight ounces of a thin turbid fluid were drawn off. On standing a thin layer of pus settled to the bottom of the vessel, leaving a pretty clear fluid, which had a specific gravity of 1016, — neutral to test paper, — becoming almost solid with heat or nitric acid. The sac was but partially emptied, the needle becoming plugged by a flake of lymph. The area of dullness was decidedly, though irregularly, lessened, especially at the upper part of the abdomen. After this opera-

tion a line of induration, perhaps a quarter of an inch wide, could be felt at the edges of the swelling in some places. The pain was somewhat lessened after aspiration, but the general condition of the patient did not improve. On the thirty-second day the sac was again aspirated, and twenty-four ounces of a more decidedly purulent fluid were drawn off. Not long after the skin about the umbilicus became red and swollen, and a fluctuating swelling gradually pushed out of the navel. On the fiftieth day the patient was etherized and this swelling was laid open. A small opening was found through the abdominal wall. This was enlarged, and a large quantity of thin, curly pus was discharged. It had no offensive odor. A rubber drainage-tube was inserted. On the following day the patient had no pain, and the general condition seemed rather better. The discharge was large, the pus thicker, but the odor had become very offensive. An elastic catheter was passed into the sac, and the cavity washed out with a weak solution of carbolic acid (two drachms of the five per cent. solution to a pint). Though this was done with the utmost care, it gave great pain, which lasted several hours. The pulse was quickened, the feet and hands became cold, and the face pinched. This injection was repeated four times, using a double catheter, and substituting a solution of permanganate of potash for the carbolic acid. Once warm water alone was used. Every time great pain and prostration followed the washing out of the sac. For a few hours after the washing the odor was lessened and the discharge less abundant. It was evident that this treatment was doing more harm than good, and it was therefore abandoned. From this time the general condition began to improve. The pain disappeared, and the patient could turn in bed without suffering. The discharge continued free, the abdomen slowly reducing in size. The fetor was in a measure concealed by charcoal poultices. The patient got much comfort from a firmly-applied swathe. Two weeks after the opening of the sac the discharge had nearly ceased, and the drainage-tube was removed. In a day or two after there was a return of pain, with considerable fever. A director was passed into the opening, and a free discharge of pus followed, with relief to these symptoms. After this there was no obstruction to the discharge, which gradually lessened and lost its fetid odor. The opening finally closed about the eightieth day. She was able to leave her chamber on the one hundredth day from the commencement of the attack.

The patient is now nearly as well as ever. She has no symptom of trouble in the abdominal cavity, is in good flesh, and of good color. She thinks she cannot endure as much as she formerly could.

The hygienic surroundings of the patient were unfavorable. Her room was small and did not get much direct sunlight. The severity of the weather prevented effectual ventilation by open windows, the only method available. Although everything essential in the way of food and stimulants was provided, the nursing of the patient had to be intrusted to her family. The only drugs given were quinine and opiates, in sufficient doses to relieve pain. Stimulants were given freely. In the early stages counter-irritation was used, and once a large blister was applied to the abdomen. A temporary relief of pain was the only apparent result of this application.

The effect of washing out the cavity of the abscess seems to me an interesting feature of this case. It

offers a striking contrast to the good results claimed from washing out the cavity of the chest in empyema. The intense fetor and the bubbles of air, blackening silver instruments, which freely escaped from the opening, showed that there was decomposition of the contents of the sac, and an attempt at disinfection seemed to be proper. But each time the attempt was made a condition like shock resulted, and the patient grew worse, until the injections were discontinued, when she began steadily to improve.

As the opening of an abscess of this character at the umbilicus is, I believe, rather unusual, I will very briefly give the outlines of a case seen by me in consultation.

Mrs. B., twenty-seven years old, six months advanced in her first pregnancy, had an attack of pain in the right iliac region, with fever. The symptoms subsided in a few days, and she left her bed, though there was still some pain on motion. A week later the fever and pain returned, and in a few days labor came on and terminated naturally. The fever, pain, and tenderness of the abdomen continued. Three weeks after delivery I was asked to see her, on account of an attack of pneumonia of the right lung. There was swelling of the abdomen, most marked on the right side, with distinct fluctuation. I did not see her again, but was informed by her physician that the lung partially cleared up; that the hectic condition became marked; the skin about the umbilicus became red; and that thin, curdy pus was discharged from the umbilicus in small quantity a few days before her death, which took place three weeks after my visit. The opening was not enlarged. No autopsy was made.

### EXCISION OF THE WRIST-JOINT.

BY J. COLLINS WARREN, M. D.

This operation has always been unpopular with surgeons; the results have not been nearly as satisfactory as excision in almost any other joint, considerable displacement and impairment of motion in the various articulations interfering greatly with the use of the hand. Professor Lister has devised a method intended to avoid any great injury to the tendons or vessels, and it has received general commendation, although we find Holmes saying in his *System of Surgery* that it is a most tedious and difficult operation. The difficulty in following out an operation based on nice anatomical distinctions is great either in injury or disease, both of which compel modifications of a theoretical plan in order to adapt it to the conditions of any particular case.

The method carried out in all but one of the following cases consisted in lateral incisions made sufficiently far back on the side of the wrist to avoid the large vessels, and long enough to enable the operator to remove the entire wrist from the ends of the metacarpal bones to the heads of the radius and ulna. An effort was always made, however, to follow as nearly as possible any pre-existing sinuses or openings into the joint. The bones, being carefully dissected away from the soft parts, were sawn through with a short hand resection saw. A tourniquet and bandage were applied to prevent hemorrhage during the operation. The operations were done antiseptically, drainage tubes inserted, the

Lister dressings were afterwards applied, and the hand usually placed upon a Bond's splint.

CASE I. M. Q., aged thirty, entered the Massachusetts General Hospital July 18, 1877, with a puffiness about some of the tendons overlying the wrist joint. The fingers were freely movable, but he had been obliged to give up work, as the hand was useless. An attempt was made to arrest the progress of the disease by pressure with sponges, and subsequently with plaster bandages. A seton was subsequently passed through an abscess and the joint for the purpose of drainage, but without improvement, and on March 8, 1878, he reentered the hospital for excision, which was performed March 27th. On June 14th the patient was discharged with the wrist much improved in appearance and the wounds nearly healed. A year later the patient reappeared to show his hand; there was some motion at the wrist-joint, which had healed entirely, but there was considerable stiffness in all the finger-joints. The hand was forcibly flexed and bandaged in that position, but the patient, who was much addicted to liquor, could not be induced to make any voluntary or persistent efforts toward developing the use of the hand. The use of some of the finger-joints subsequently improved, and he could grasp a substance between the thumb and hand. The last record is July, 1881, a little over three years after the operation, when it is stated that the hand and wrist have become quite useful. There is good motion at the wrist-joint, but there is inability to flex the carpometacarpal articulations. The accompanying drawing is taken from a cast of the hand at about this period.



CASE II. C. E. B., aged twenty-nine, entered the Massachusetts General Hospital March 22, 1879, with a sinus opening into the wrist-joint and discharging offensive pus. His general condition was bad. Myrrh dressing, consisting of a weak solution of tincture of myrrh on charpie, was applied without benefit, and on May 16th he reentered the hospital with the joint swollen and boggy. Excision was performed; the antiseptic dressing was continued until he left the hospital, a fortnight later. He returned in September in a feeble state of health, the arm and fingers much attenuated, and the wrist swollen and perforated with sinuses, the openings of which had a dull purple color, their walls being constituted of a soft gelatinous tissue. The whole aspect of the diseased part was not unlike that of a rotten apple. This tissue was easily broken down with the finger, and was thoroughly bored with a stick on the end of which was tied a small piece of sponge sprinkled with iodoform. Setons of oakum also sprinkled with iodoform were run through the various sinuses, and under this treatment the appearance of the joint greatly improved. Fourteen months later the record reads: There is no gelatinous tissue; the skin is natural in color; there

<sup>1</sup> Read before the Boston Society for Medical Improvement.



is considerable use of the fingers; the thumb is adducted by a bandage which he is told to omit; joint loose; wrist-drop; health better. April, 1881. One small sinus still existing; can use the index and middle finger nearly as well as those of the left hand; wrist-drop has disappeared. July, 1881. Wound healed; wrist quite flexible; hand very useful; he is much pleased with the result, but there is inability to flex the carpometacarpal articulations. His general health is good.

CASE III. C. B., aged fifty-three, entered the hospital June 6, 1879. The disease had existed two years. There was enlargement of the joint, and the integuments were red and swollen. There was no control over the fingers; a stiff bandage failed to give relief; the joint suppurated, and was excised August 2d. The antiseptic dressing was continued for a month, when, as there was little improvement in the healing process, various other modes of dressing were substituted, as oakum setons soaked in balsam of Peru or powdered with iodoform. He was finally discharged in January, 1880, with several sinuses still open. In April, 1882, he called upon me, reporting that the hand had been amputated about a year before. The stump had healed, and his general health was excellent.

CASE IV. J. C., aged fifty-five, fisherman, entered the hospital August 27, 1879. His wrist had been lame for three years, but he continued his occupation until five days previous to entrance. The wrist was much inflamed and swollen; a large abscess containing dead bone had opened over the carpus. The abscess was freely opened, the bone removed, drainage tubes were inserted, and a poultice applied, but as the inflamed condition continued the wrist was excised September 27th. The Lister dressing was removed October 11th, and ten days later the drainage tubes were removed. He was discharged October 26th. On January 15, 1880, the wrist appeared to be in a tolerably healthy condition, although one or two small sinuses still remained open. He could move the fingers a little, but did not have much power over them. He was seen six months later, when the wrist was found improved in appearance, although the sinuses had not entirely closed, and he had not been able to use it to any extent.

CASE V. J. K., aged twenty-seven, shoemaker, entered August 29, 1879. The right hand had been lame for five months, but he had been able to work until six weeks previously. The joint was much swollen, and some wrist-drop existed. He was kept in the hospital until September 22d, and was then discharged wearing a stiff bandage. In July, 1881, he re-entered with the joint enlarged and painful and an open sinus discharging. Two days later the wrist was excised in the usual manner; there was much pulpy degeneration of the soft parts, and the caries of the bones was quite extensive. An iodoform dressing was applied on oakum, but as considerable inflammatory action was produced the oakum was changed and a phenyle dressing substituted. He was discharged on September 29th with wrist in good shape, and showing only two small granulating surfaces the size of a ten-cent piece. He returned to the hospital, by request, in the spring of the present year, when the wrist was found to be healed, but the wrist-drop continued, and the use of the hand was quite limited. There was a small abraded surface over the ends of the bones of the forearm, which involved only the upper layers of the skin. His general health was fair.

CASE VI. J. T., a teamster, twenty-one years of age, sustained a gunshot injury of the left wrist which blew a hole through the joint, carrying away the head of the radius. The joint was resected July 20, 1880. One or two of the carpal bones were left, however. A Lister dressing was applied, and on October 23d he was discharged with the wounds entirely healed. There was a deep indentation at the point previously occupied by the head of the radius. He was seen a year later when the hand was found slightly flexed towards the radial border of the wrist; the fingers were stiff at the metacarpal articulation, but were somewhat movable at the other joints. The wrist-joint could be moved freely. There seemed a fair prospect of his obtaining a useful hand.

CASE VII. B. L., aged forty-three, carpenter, was injured by a sliver of timber six weeks before entrance to hospital, April 1, 1882. The appearance of the hand was that seen in severe forms of palmar abscess. The whole hand was stiff and swollen and numerous sinuses discharged at various points; his condition was correspondingly bad. After several ineffectual attempts to overcome the burrowing of pus by free incisions the wrist-joint was laid open by an incision on the dorsal aspect of the hand following the line of the radio-carpal articulation, that is, by a curved incision with its convexity pointing upwards. The flap being dissected downwards the carpus was freely exposed and found to be the seat of a collection of pus at its centre. The parts having been well laid back below this point a transverse section was made through the carpal bones with a saw. The other bones being healthy a full resection of the wrist was not made. The ends of the radius and ulna were not removed. This mode of opening the joint was adopted to expose the diseased parts thoroughly, and then terminate the operation by an amputation, if necessary, which alternative the patient fully expected. The wound, however, was closed, but without any special effort to re-adjust the divided tendons. Drainage tubes were passed through the wound and a poultice applied that night. Steady improvement took place from this time both in the joint and in his general health, and he was discharged a month later with the hand in about the condition one would expect to find it when convalescent from one of the worst forms of palmar abscess. Passive motion was actively kept up in the finger joints. This case must be classified as a partial resection only of the joint, as must also, strictly speaking, Case VI.

It will be seen that in but one of these cases a resort to subsequent amputation became necessary, the patient being much more advanced in years than the rest. In only one case, however, has a thoroughly satisfactory result been ascertained to exist (Case II.), and yet this very case was at one time more unpromising than any of the others. Case V. does not give promise of a useful hand, but this is due to a paralysis of the extensor muscles which existed previous to operation. The patient has been a resident of a poor house since, and is therefore not so situated in the world as to give himself all the advantages which might be obtained from after treatment. Case I. would undoubtedly have yielded a perfectly satisfactory result had not the patient been a confirmed drunkard. The healing of the wound in all cases was very slow, although great care had been taken to remove all diseased bones, the point to which Lister attributes success in

this operation. Although the results do not appear especially brilliant, the experience obtained by these cases would lead me to prefer resection to a more conservative operation which would not contemplate the removal of such portions of the joint as were not markedly the seat of disease, and would be confined chiefly to laying open sinuses and scraping the bone, or to more radical treatment by amputation.

# A CASE OF BRIGHT'S DISEASE TREATED BY PILOCARPINE.<sup>1</sup>

BY S. G. WEBBER, M. D.

JAMES O'N., aged thirty-five, entered the City Hospital January 4th. He had had varioloid, but no other fever. He had a fit two years ago when he was unconscious for two days, since which he was well till three weeks before entrance; then he retired Saturday night, and was not conscious again until the next Monday morning. His friends told him that he frothed at the mouth and kicked about. They were so assiduous in their care that they raised a large blister with mustard across the whole width of the back and about ten inches vertical length, and also by hot water or otherwise had produced a superficial ulceration about six by four inches on the right thigh, and a smaller one on the left ankle. He had no headache nor nausea. The face and legs were very oedematous, and a few days after admission he could scarcely see from swelling of the eyelids. There was a faint systolic murmur at the apex.

The urine was of high color, acid specific gravity 1013, contained about one fourth per cent. albumen; in the sediment were found hyaline casts, fine and coarse granular, epithelial and a few fatty casts, renal epithelium, some blood and pus, triple phosphates, and amorphous phosphates.

He received ten minims of digitalis, and the ulcers on the legs were dressed. He passed forty ounces or more urine daily. There was little or no change in his condition until January 10th, when he began to vomit, having considerable nausea and distress; and during the visit he had a convulsion, which was general, consisting in an exaggerated tremor rather than violent kicking. A third of a grain of nitrate of pilocarpine was given immediately, and soon after two drachms of brandy subcutaneously. He sweat freely, but the convulsions continued at intervals through the day, and he received a quarter of a grain of morphia once, and the pilocarpine was repeated at three and six p. m.

During the night he had several fits, but in the morning he said he felt comfortable, and the oedema was much diminished. On the 11th he received pilocarpine at ten a. m. and at noon. On the 12th he had it at two p. m. without much increase of sweat, but the urine increased in amount. On the 13th pilocarpine at noon, on the 14th at four p. m., on both occasions followed by free sweating, the amount of urine rising to seventy-six ounces. The last dose of pilocarpine was followed by slight vomiting.

On the 15th he had a convulsion at three p. m., which recurred at frequent intervals during the afternoon and night. Pilocarpine was given at 3.30 and at six p. m. The next day, 16th, at the visit the oedema was very much diminished, the man was insensible, bloody

froth was running out of his mouth, which had to be swabbed out; he seemed to be moribund. The pilocarpine was given in the morning and at six p. m. He had only a few fits during the afternoon and none during the night.

There were no more convulsions. The pilocarpine was administered twice a day on the 17th, 18th, 19th, and 20th; he recovered a fair share of intelligence, slept well, took and retained about twenty ounces of milk; had eggs by enema; the oedema almost entirely disappeared. He had one dose of pilocarpine on the 21st, two on the 22d, one on the 23d, 24th, and 25th. On the last date the power of expectoration was lost, and he died soon after receiving the pilocarpine. At times the skin became dry and harsh, and the sweating after the pilocarpine was diminished, but after rubbing with oil, the skin acted again freely.

Mr. Elliot, the house officer, examined the sweat and found it to contain a very large amount of urea.

The kidneys were found to have undergone amyloid degeneration. One weighed thirteen ounces.

This case is interesting as showing the efficacy of pilocarpine to produce its peculiar effect in exciting the sweat glands during many days of continuous use. Also its value in checking the convulsions, in preventing their return, and in prolonging the patient's life. A large amount of urea was excreted through the skin, and so much water escaped thus that the oedema disappeared. Another point of interest is that although the urine increased to seventy-six ounces the convulsions recurred just then.

# REPORT ON PROGRESS IN THERAPEUTICS.

BY FRANCIS H. WILLIAMS, M. D.

## PILOCARPINE IN DIPHTHERIA.

SINCE the publication of an article by Dr. George Guttman on the use of pilocarpine in diphtheria, which was referred to in volume c., page 317, of this JOURNAL, there have been many trials of the drug.

Dr. Paynardeau<sup>1</sup> thinks that under pilocarpine the false membranes are detached earlier than usual, that membranes in inaccessible places may be detached and expelled by the aid of pilocarpine, and its use would be indicated when the danger is from the false membrane rather than from the diphtheritic poison. On the other hand, pilocarpine sometimes causes violent and persistent vomiting, diarrhoea, and especially prostration and collapse, which are the more formidable, since in diphtheria there is a tendency to syncope and cardiac weakness.

In the same journal Dr. Tayac says that the action of pilocarpine in diphtheria is prompt and energetic, and its administration is almost always followed by the elimination of the diphtheritic deposit, and oftentimes a general improvement in the condition of the patient. If administered from the beginning it may hinder the development of the disease. He considers that further trials are necessary.

Delbo, of St. Petersburg, uses instead of Guttman's prescription the following:—

|                                    |               |
|------------------------------------|---------------|
| Chlorhydrate pilocarpine . . . . . | (Merk's) 0.05 |
| Water . . . . .                    | 50            |
| Sherry wine . . . . .              | 50 M.         |
| S. Ten grammes every two hours.    |               |

<sup>1</sup> Journal Thérapeutique, 1882. No. 7, p. 259.

<sup>1</sup> Read before the Boston Society for Medical Observation, February 6, 1882.

Denme gives the drug subcutaneously. Lepidi-Chioti made some experiments on the best method of giving this remedy. According to him it is best administered by the rectum, three centigrammes in sixty grammes of fluid. When thus given it is less apt to cause vomiting than by the stomach, and in children they are not frightened by the prick of the syringe.

M. Archambault<sup>1</sup> reports twenty-one cases of diphtheria.<sup>2</sup> Twelve of the patients died and only nine recovered. The cases which ended in death were severe ones, the others were not so. The conclusions drawn were:—

(1.) That no case was cured which seemed to show clearly any positive, and at the same time unusual, efficiency in the treatment.

(2.) That in many cases the remedy acted unfavorably by causing great depression without any compensatory amelioration in other symptoms of the disease.

(3.) That in the cases which ended in recovery the membrane did seem to be loosened and more readily removed than in cases in which salivation was not induced; but that this greater facility of removal by salivation did not seem sufficiently advantageous to outweigh the other depressing effects of the treatment.

(4.) That in the severe cases a new membrane was deposited on the surfaces from which old patches had recently separated, in spite of the fact that salivation was being kept up by the use of pilocarpine; and therefore that the treatment did not prevent the continued formation of membrane."

In general, the author is inclined to infer from his observations that the treatment of diphtheria with pilocarpine is not followed by good effects, and that its advantages are outweighed by its disadvantages.

#### CHINOLINE AND ITS USE IN DIPHTHERIA.

It was hoped that in chinoline or rather chinoline tartrate would be found a substance which could be used as an efficient substitute for quinia. According to Dr. Danath<sup>3</sup> it is a very powerful antipyretic in enteric and intermittent fever and is an excellent local antiseptic. It may be taken easily and no unpleasant after effects are caused by it.

In the following number of the same journal Dr. Von Jäksch is quoted as objecting to the unpleasant taste and vomiting caused by another salt, the hydrochlorate of chinoline. In the May number of the *Practitioner*, Dr. De Vey recommends the borate of chinoline, three grammes of the salt being equal to two of the sulphate of quinia.

It would seem from this that there is a great difference in the amount of irritation caused by the various salts of chinoline, but that they all have antiseptic and antipyretic properties.

Drs. Biach and Loimann<sup>4</sup> have investigated the physiological action of chinolin.

Dr. Brieger has carried out experiments on chinoline in the clinic of Frerichs.<sup>5</sup> He has obtained no good results from the drug in typhus, pneumonia, rheumatism, and remittent fever; it being in some

cases vomited, thereby probably reducing the temperature very slightly. Disturbances of digestion, vomiting, and nausea are caused by it so that it does not seem advisable to use it in its present form. Hüller has made similar observations, including also phthisis and enteric fever, with like results. It caused vomiting in three fourths of all the patients to whom it was given and he has abandoned it.

In an article on the treatment of diphtheria by chinolin<sup>6</sup> Dr. Otto Seifert speaks of using a five per cent. solution of tartrate of chinoline applied to the tonsils with a brush. The patients complained of an unpleasant taste and smell and a burning sensation, which was relieved by gargling with water. He found the tartrate so disagreeable to the patients and so insoluble in water that he used the pure chinoline instead.

He employed a mixture of equal parts of water and alcohol holding five parts of pure chinoline in solution. Local applications of this were made on a piece of cotton wool on a sound or by means of a brush; in the lighter cases applications were made morning and evening; in the more severe three or four times a day. Besides this treatment he used an ice-bag to the neck, broken ice, and in many cases a gargle of—

|                    |        |
|--------------------|--------|
| Chinolin pur.      | 1      |
| Aq. distill.       | 500    |
| Spir. vin.         | 50     |
| Ol. nuth pip. gtt. | ij. M. |

Under this treatment he claims that the membrane is loosened in from twelve to twenty-four hours, the glandular swelling subsides more quickly than otherwise, and the temperature is reduced.

#### NITRO-GLYCERINE IN THE TREATMENT OF HEART DISEASE AND PUERPERAL CONVULSIONS.<sup>7</sup>

The physiological action of this drug was studied by Lauder Brunton, whose paper was contributed to the St. Bartholomew Hospital Report for 1876. It was introduced to the profession by Dr. Murrell. This drug is similar in its action to nitrite of amyl, but its effects come on more slowly, within three minutes, and continue from four to six hours, when it may be repeated. A solution is the form most used, one per cent. in spirits of wine. It is nearly tasteless. The usual dose is one minim, or less, taken in water or placed on the tongue. This should never be exceeded in the beginning, as even this small quantity has been known to cause serious symptoms, though never fatal results. It paralyzes the vaso-motor centres, and the peripheral arterioles are dilated.

Dr. Green has found that while it is useful in almost all cases of heart disease, its greatest benefit will be observed in angina pectoris, and in weak, dilated, and fatty heart. He has used the drug for more than two years, and is more and more pleased with its value. A number of cases in which the drug was used are cited. Sudden congestions of the lungs in cardiac disease are relieved by the flow of blood to the surface, which is brought about by this remedy. In another journal<sup>8</sup> the same writer gives an account of the successful use of this drug in puerperal convulsions. He believes that there are several causes of puerperal convulsions, but the largest number of cases are the result of a high tension of the arteries, caused by their containing blood which has been imperfectly deoxygenated,

<sup>1</sup> Bull. et Mém. de la Soc. de Thérap., November 15, 1881.

<sup>2</sup> New York Medical Journal, March, 1882, page 324.

<sup>3</sup> Practitioner, January, 1882, page 45.

<sup>4</sup> Versuche über die physiologische Wirkung des Chinoline, Arch. f. path. Anat. u. Physiol., n. f. klin. Med., lxxvii, 3, 1881.

<sup>5</sup> Deutsch. Med. Zeit., February 2, 1882. American Journal Medical Sciences, July, 1882.

<sup>6</sup> Berlin. klin. Wochenschr., No. 22, 1882.

<sup>7</sup> W. E. Green, M. R. C. S., Practitioner, February 1882, page 103.

<sup>8</sup> British Medical Journal, April 22, 1882.

probably owing to pressure upon the renal arteries by the gravid uterus. The next most frequent cause is sudden or exhaustive hemorrhage. In both these cases the convulsion is probably the result of an anemic condition of the brain, which may be relieved by this drug.

#### TREATMENT OF ACUTE DYSENTERY BY ACONITE.

Dr. Owen<sup>1</sup> has tried ipecacuanha in dysentery, but objects to the vomiting which it causes, for this and other reasons he prefers aconite. He gives one minim of the tincture (British Pharmacopœia) every quarter of an hour for two hours, and one minim every hour afterwards; should the patient sleep he must make up the lost doses. The diet is as important as under any other treatment. His cases got only rice and milk, and a few had milk alone. The duration of the aconite treatment varied from seven hours to thirteen days, he average was four days. An experience with one hundred and fifty-one cases permits him to speak strongly in favor of this treatment.

#### TOPICAL APPLICATION OF IODOFORM.

Dr. Whitehead,<sup>2</sup> like many others, has found iodoform of great service in the treatment of soft sores, but he has found a way to completely hide its nearly irrepressible odor. Before making the application he first cleanses the sores by means of little pledgets of bibulous paper, and then applies freely, with a camel's-hair pencil, a solution of iodoform in ether, one part iodoform and two parts ether; the ether rapidly evaporates, and leaves a layer of fine powder. When perfectly dry each sore is given a coating of collodion, which is allowed to overlap about one quarter of an inch the area of each sore. Before the collodion has had time to dry a pinch of absorbent cotton-wool is placed on each patch as a protection against the rough contact of clothing. The dressing is renewed every day until the sores have quite healed. A further advantage gained is the protection afforded by the collodion against auto-inoculation.

As regards the poisonous effects of this drug, Dr. Henry E. Clark<sup>3</sup> finds that in all cases there is pyrexia, the pulse is rapid and feeble, nausea, vomiting, and loss of appetite are invariable symptoms; there is always lassitude, headache, and often delirium; the symptoms sometimes resemble meningitis. Although iodoform is so freely used, it is curious that constitutional effects are seldom produced. He thinks there is less danger when the applications are made to a free surface than when the iodoform is applied in a sinus; some granulating surfaces absorb more readily than others, healing burns being especially adapted for absorption.

#### THE IDENTITY OF THE ACTION OF IODINE AND IODIDE OF POTASSIUM.<sup>4</sup>

It is presumed that iodine taken internally is transformed into an iodic albuminate, so circulates in the blood, and is then converted into an alkaline salt, and excreted from the system. Experimentally it has been proved that iodine can be liberated from the iodide of potassium when that compound is exposed in an aque-

ous solution to carbonic acid and protoplasm. The same conditions appear to exist in the tissues. Other theorists imagine that iodine and iodide of potassium have a totally different action, and that the efficacy of the salt depends in a measure, if not entirely, on alliance with the alkaline base.

He reports a case which bears pertinently on the point at issue, namely, can the phenomena of iodism be observed in the same individual by the administration of both substances? A woman, aged thirty-five, was admitted to the infirmary suffering from chronic rheumatism. She was ordered ten grains of iodide of potassium in four drachms of infusion of quassia three times a day. Half an hour after taking the first dose she complained of slight itching of the nose and tenderness of the nasal and conjunctival mucous membrane. This was increased by the second dose, and in an hour after taking the third she stated she had small, shot-like elevations, appearing first on the inside of the knees, then spreading over the body. The eruption was most marked on the legs and elbows. She also observed that the feeling was as if she had had "the skin laid bare, and that she was bathed in salt and water." The soreness was more marked than the itchiness. On stopping the medicine it was found that they disappeared in twelve to twenty-four hours. She stated that on a previous occasion when in the hospital the same phenomena were observed; examination of the ward journal showed that she had then had iodide of potassium.

In order to see if similar results would be produced by the internal use of iodine she was given five drops of the tincture thrice daily. The following morning, no effect being manifest, the dose was increased to ten minims, and subsequently to fifteen minims, but without any result such as had been anticipated. After an interval of two days twenty drops of tincture of iodine were ordered at one dose, to be repeated thrice daily. After the third dose symptoms of iodism were manifested. The nose became itchy, the eyes swollen, and she experienced again the same peculiar "salted sensation;" the small papules were also seen, but were not quite so numerous as with the iodide.

### Reports of Societies.

#### THE NEW YORK LARYNGOLOGICAL SOCIETY.

TUBERCLE OF THE LARYNX.—EXCISION OF THE TONSILS.—ADENOMA OF THE PHARYNX.—RECEPTION TO DR. MORELL MACKENZIE, OF LONDON.

THE New York Laryngological Society met on the evening of October 13th at the house of Dr. R. P. Lincoln, who availed himself of the occasion to offer a very handsome reception to Dr. Morell MacKenzie, of London, now on a visit to New York. This was attended by a large number of prominent New York physicians and surgeons, and among the guests present were several representatives from Philadelphia, Baltimore, and New Haven of those specially interested in the subject of laryngology. The first paper of the evening was by Dr. J. SOLIS CORTEX, of Philadelphia, an honorary member of the Society, on Tubercle of the Larynx. It was profusely illustrated by drawings from the camera lucida and by large colored pictures, as well as by sections under the microscope, and among

<sup>1</sup> Indian Medical Gazette, April, 1882. Practitioner, July, 1882, page 52.

<sup>2</sup> British Medical Journal, March 11, 1882.

<sup>3</sup> Medical News, August 26, 1882.

<sup>4</sup> M. Charteris, M. D., Professor of Therapeutics in Glasgow University, Lancet, May 6, 1882.

the principal points brought out were the following: Tubercle of the larynx was now fully established as a pathological entity, but there was no positive proof that it ever occurred as a primary affection. All the evidence that had been advanced in favor of the latter proposition was simply clinical and presumptive, and he was at present entirely unwilling to acknowledge its validity. In all his practice there had been but three cases of this presumptive primary tubercle, and Dr. Solis Cohen gave a brief outline of the history of each. All the cases of laryngeal tubercle could be divided into two great classes, the acute and chronic; and preceding the deposition of tubercle (a phrase which he said he used merely because it was recognized as the current mode of expression, and not as giving his assent to any pathological process implied in it) there was always a merely inflammatory stage, which was characterized by the well-known pyriform swelling of the arytenoid cartilages. Another point that he believed to be now satisfactorily demonstrated was the infiltration of the glands in this affection.

The paper was discussed by DR. MACKENZIE, who said he considered it a most valuable contribution to our scientific knowledge of this important subject, and by DRs. KARL SEILER, of Philadelphia, CHARLES HEITZMANN, and F. H. BOSWORTH. The latter remarked that he was particularly pleased to hear Dr. Solis Cohen state so positively that the first stage of laryngeal phthisis was an inflammatory one, as the opinion coincided entirely with his own views, and sanctioned the idea that the disease in this stage was curable, in confirmation of which point a very considerable amount of clinical proof had now been accumulated.

The next order of the evening was some remarks on Excision of the Tonsils, by DR. MACKENZIE, who was received with much enthusiasm. He said he had selected this subject for the reason that he thought from what he had read and heard that the dangers of this operation were very greatly exaggerated in America, and particularly was this the case in a paper read by Dr. George Lefferts at the meeting of the American Laryngological Association next before the last, which was so excellent in all other respects that it would be apt on that very account to carry all the more weight with it. He first alluded to the points made by Dr. Lefferts, and then went on to say that if the operation was performed in a proper manner, and if sufficient attention was paid to the subsequent prevention of hæmorrhage, there was no danger whatever connected with it. He had long since discarded all other methods of removing or diminishing the size of the tonsils, such as the use of caustics, tincture of iodine, etc. Iodine, in fact, he believed, had the effect of even increasing the size of the organs when it was kept up for some time, and the same was probably true of solution of nitrate of silver. The tonsillotome was, in his opinion, much preferable to the bistoury, although the latter was still preferred by Dr. Ellsberg, the president of the Society, and other good laryngological surgeons. By means of this instrument the operation could be performed more quickly, with less pain to the patient, and with less hæmorrhage than with the knife. He had seen so world-renowned a surgeon as Sir William Ferguson take fully two minutes to remove two tonsils with the bistoury, and this with a vast amount of pain and distress on the part of the patient, while he himself, with infinitely less operative skill, could have

done the same thing equally well in five seconds with the tonsillotome. Some of the tonsillotomes in use were provided with prongs, by means of which it was supposed that the amount of the organ to be removed could be regulated, but this was a complete fallacy, and he considered such an addition to the instrument a very great disadvantage. The one that he preferred, and was constantly in the habit of using, was that invented by Dr. Physick, of Philadelphia, with one or two slight modifications suggested by himself, and he had found it entirely satisfactory in every way. As to the size of the portion to be removed, or whether it would be advisable to remove any of the tonsil at all in any given case, that must depend on the relative size of the pharynx of the patient. It was never, under any circumstances, necessary to excise the whole organ, and, indeed, with the tonsillotome this was quite impossible. It was a good plan to press inward the tonsil to be cut by means of the thumb on the outside of the throat, and in this way one could easily regulate the amount of tissue to remove. It was always advisable to reduce the tonsil at once to the size desired, as he had never noticed any perceptible shrinking of the remaining portion after the operation. As a rule the specialist in diseases of the throat could perform the operation with greater facility than the general surgeon, not only on account of his more extended experience with it, but also because he always had the best sort of light immediately at hand, and this he believed to be a very great advantage. In conclusion Dr. Mackenzie laid great stress upon his method of preventing hæmorrhage after the operation, which was exceedingly simple, and yet which always proved perfectly effective. This consisted of the use of the following mixture: three hundred and sixty grains of tannic acid and one hundred and twenty grains of gallic acid to the ounce of water. It had been found that tannic acid would not become dissolved in the presence of gallic acid, and hence the great advantage of this preparation, which was to be swallowed, and not employed as a gargle. It was necessary to use this only in very small quantities (a quarter of a teaspoonful often being quite sufficient), and, indeed, it was so very disagreeable to the taste, that it was difficult to get patients to take very much of it. Many surgeons were in the habit of ordering their patients to gargle after the operation, but he considered this wrong, as it tended directly to bring on hæmorrhage, and in no way could an astringent be so effectively applied to the bleeding surfaces as in the act of deglutition.

DR. LEFFERTS made some remarks in reply to Dr. Mackenzie, in the course of which he reiterated the opinions expressed in the paper referred to, which was based, he said, on five hundred cases of excision of the tonsils. Out of the five hundred there were two in which the hæmorrhage following the operation nearly proved fatal; but in both of these the cutting was done with a bistoury. One quite frequent source of hæmorrhage in the operation he thought was the fact that the anterior fold of the soft palate was to some extent spread over and adherent to the tonsil, and it was liable to bleed quite freely when cut.

DR. ANDREW H. SMITH and DR. DELAVAN had each met with one case in which there was dangerous hæmorrhage. In the former's case there did not seem to be any special reason why the unusual loss of blood should have occurred; but in Dr. Delavan's the child

operated upon proved to be of a markedly hæmorrhagic diathesis.

DR. JACOBI remarked that he recognized the source of hæmorrhage of which Dr. Lefferts had spoken as one liable to be met with, and that when he found the condition referred to present he was in the habit of separating the adhesions between the tonsil and the anterior fold of the palate by means of a probe, before he proceeded with the operation, and was thus able to avoid any bad result from it.

Remarks were also made by Drs. BOSWORTH and SOLIS COHEN, and by one or two other gentlemen, after which the discussion was brought to a close by DR. MACKENZIE, who said he was very glad to hear Dr. Lefferts acknowledge that in the only two cases out of his five hundred in which he had met with dangerous hæmorrhage he had operated with the bistoury, and not with the tonsillotome.

The last paper was by DR. F. H. BOSWORTH, of New York, on the subject of Adenoma of the Pharynx; but, in consequence of the lateness of the hour, he merely gave a synopsis of it. This affection, he believed, was much more common than was generally supposed. It was entirely benign in character, as was shown by the fact that it did not return after removal; and it consisted merely in a hypertrophy of the normal tissue of the part where it was situated. An elaborate description of the microscopic appearances presented by it, prepared by Dr. Heitzmann, was then read. The method of removing the growth which Dr. Bosworth now preferred to all others was by means of Jarvis's steel wire snare, which he exhibited to the gentlemen present.

In the afternoon DR. MACKENZIE lectured before the students of Bellevue Hospital Medical College.

## PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL OBSERVATION.

BY MAURICE H. RICHARDSON, M. D., SECRETARY.

### VACCINATION AFTER VARIOLA. EFFECTS OF VACCINATION AND REVACCINATION.

FEBRUARY 6, 1882.—DR. WELLS related an instance coming under his observation when health officer in a Western city during an epidemic of small-pox, where the disease being introduced into a family by the advent of a relative from the country, all the members were vaccinated except one who had previously had the disease, bearing the marks of it in thorough pitting. None of the family were infected except the last named, who suffered from a well-marked second attack. Dr. Wells had met with several persons who had had small-pox twice; and in view of these facts he thought it the duty of physicians to advise frequent revaccination, even in those who had had variola.

DR. REYNOLDS questioned the advisability of such advice in all cases. There is an undoubted possibility of the recurrence of variola. This fact we should undoubtedly state to the patient, and allow him to take his choice between the two evils; for, in certain cases, even revaccination is an evil. It is a slight matter, it is true, but in weak and elderly persons the constitutional symptoms are often severe, and may enfeeble an already feeble person. Dr. Reynolds often hesitated as to the propriety of advising revaccination in such

case. He also spoke of a case of primary vaccination seen by him of late where there was severe constitutional disturbance, and an eruption having much the appearance of that in confluent small-pox.

DR. WEBER stated that he had rarely seen this winter a distinct vesicle in secondary vaccination. There was usually a red papule, growing larger, surrounded by an areola, and covered with a scab. He asked whether the members considered this a protective vaccination.

DR. REYNOLDS replied in the affirmative. He thought this condition bore the same relation to that of a typical primary vaccination, as did the half-ripe to the mature fruit. It evidenced the action of the vaccine matter, modified by the primary vaccine disease.

DR. INGALLS stated that his experience agreed with that of the previous speakers. He had seen a typical vesicle but once this winter in a secondary vaccination, and observed that the manifestation developed later than in his former experience. Often as late as the seventh day nothing could be seen but a slightly elevated red spot, gradually enlarging, but with no vesicular formation, a brownish or black crust appearing towards the second week. In spite of great care in the operation, he had met with this result constantly.

DR. J. B. AYER's experience was that in primary vaccination about ten per cent. showed a typical vesicle; ten per cent. more a vesicle of irregular shape; twenty per cent. showed an apparent attempt at vesicular formation. In the remaining sixty per cent. little or no vesicular formation. In reply to a question by Dr. Reynolds, Dr. Ayer stated that he vaccinated in the usual manner, scarifying a small surface thoroughly, and rubbing in the virus for a considerable time.

DR. REYNOLDS thought it was the common experience of late that in secondary revaccination with bovine virus the appearances developed much more slowly than formerly.

DR. DUNN mentioned a case of primary vaccination, followed in ten days by a general papular and pustular eruption, with constitutional symptoms, and also mentioned five cases of eczema, developing soon after vaccination and apparently caused by it. One of these was very obstinate, resisting the treatment of skilled specialists.

DR. REYNOLDS spoke of a case of erythema of the palms of the hands and soles of the feet, coming on soon after vaccination.

DR. AYER mentioned his custom of determining the efficacy of certain virus by inoculating a child primarily. If there were evidence of vesicular formation in four or five days, he felt safe in using the same virus for secondary vaccination.

DR. GREENE asked if any one could explain the strawberry appearance occasionally seen in secondary vaccination. He had met with it several times of late, as had Dr. Reynolds.

DR. INGALLS had seen it in primary vaccination. No explanation was offered.

DR. WELLS said that, judging from his experience in vaccinating through two severe epidemics, he should not expect any result from bovine virus until the seventh to the tenth day. Speaking of the infection, he recalled the custom in Oppolzer's wards in Vienna, where small-pox patients were placed in the same room with those ill with other disease; yet the disease did not seem to spread, and during an epidemic, where he had been thrown among those ill with small-pox, he had

been astonished to note the comparatively few of the exposed, even of the unvaccinated, who contracted the disease.

Dr. J. B. AYER's experience differed somewhat in regard to the length of time elapsing in secondary vaccination before results were visible. In one hundred cases of secondary vaccination, where the patients were under close observation by a nurse in an institution, the question was asked if, in any case, where there was no evidence of successful vaccination by the fifth day, it ever had developed later. The answer was No. Dr. Ayer cited the case of a child of six years, primary vaccination; good result on the nineteenth day; after two days of fever an eruption of papules, each about the size of a split pea, appeared, abundant on the body, scanty on the face; temperature 103° F. at this time. There was a perfect pock on the arm, with considerable redness around it. The next morning the eruption had disappeared, and the temperature was normal. Dr. Ayer thought it unusual for an eruption of this character to appear later than the tenth day of the vaccine disease.

Dr. T. M. ROTCH reported a case of

THROMBOSIS OF THE POSTERIOR CEREBRAL SINUS, in an infant and exhibited the specimen.

Dr. HAVEN said the case was peculiarly interesting not only pathologically but as regards prognosis. This child was apparently perfectly well when admitted; and, as far as external appearances were concerned, and the performance of its vital functions, remained so for the first ten days. It ate well, slept well, and its movements were well digested and normal in amount and frequency. The child's friends could see nothing abnormal in its condition. At the end of the first week, however, a grave prognosis was made from nothing but the loss of weight,—a prognosis which the friends could not be brought to accept, but which the result proved correct.

Although the autopsy gives us no clew to the connection between the rapid loss of weight and the pathological condition found after death, except that of cause and effect, Dr. Haven felt certain there must have existed some ulterior cause producing both. That it was internal, and not due to any fault of the nourishment or hygiene of the nursery, he felt sure; for, in the period between this child's entrance and death, of seven other babies in the house, all under four months, and two younger even than this child, and none apparently in as normal a condition on entrance, one only, and he a seven months' child, and in a very debilitated condition on entrance, lost weight, and the loss for the same period then only amounted to ninety grammes. This loss has since been regained. These children were all under the same hygienic condition, and receiving the same food, so that it seemed to him the cause must have been due to some unknown condition in the child itself.

#### VAGINAL OVARIOTOMY.

Dr. W. H. BAKER presented the regular paper of the evening, entitled Vaginal Ovariectomy.

Patient aged twenty-five; six years married; no children; complaints of great pain in back and right groin increased on any exertion. A tumor of the size of a fist was found behind the uterus, freely movable, which was diagnosed as a cyst of left ovary or broad ligament. Having increased one third in two

months, it was aspirated *per vaginam*, and six ounces of sebaceous matter removed. Sixteen days after, there were symptoms that the cyst was suppurating, and after two days' delay operation was consented to. Patient was in Sims' position, and the posterior cul-de-sac was opened, the peritoneal incision being one and one half inches in median line. The cyst was drawn down to the vaginal incision and opened. The contents (which showed the cyst to be dermoid) had become somewhat offensive, and some of the purulent matter escaped into the peritoneal cavity. The patient died on the sixth day with evidence of septic peritonitis, which was attributed by the writer to the escape of the matter (made septic by former aspiration) into the peritoneal cavity, and the impossibility of washing it all out.

The writer's conclusions were that abdominal ovariectomy was always to be preferred to vaginal, except in the few cases, (1) where the cyst is small and the contents bland, so that there will be little danger of any, and especially of septic matter escaping into the peritoneum; (2) of dermoid cysts small enough to be removed by the vaginal incision without evacuation.

Dr. BEACH asked what provision had been made against septic infection by the air passing through drainage-tube.

Dr. BAKER replied that, inasmuch as the contents of the cyst had escaped into the peritoneal cavity during the operation, he had thought it impossible to render the wound aseptic, and therefore endeavored to insure free drainage. Moreover, the end of the tube lay within the vulva, so that the air would not gain access to it, unless the labia were separated. Dr. Baker spoke of his endeavors to carry out antiseptic precautions in operations for lacerated perineum, but he had been obliged to relinquish them on account of the mechanical difficulties in arranging the dressings so as to allow vent to the urine and feces. He had endeavored to accomplish this by putting in a self-retaining catheter and a rectal tube, but found it impossible.

Dr. Baker mentioned another case where he had removed a small, simple ovarian cyst through an abdominal incision, hoping to remove the cyst entire. The walls of the cyst were so thin that rupture occurred, and an unfavorable termination followed.

#### PILOCARPINE IN BRIGHT'S DISEASE.

Dr. WEBBER reported a case of Bright's disease, showing the good effects following the use of pilocarpine.<sup>1</sup>

Dr. DUNN spoke of several cases where he had thought this drug was indicated, but the salivation was so excessive that he had been obliged to relinquish its use.

Dr. WELLS asked if any effect on the color of the hair had been noted, and cited several cases lately reported in a Philadelphia journal, where a decolorization of the hair had followed the use of pilocarpine.

Dr. WEBBER had not noticed any effect.

In reply to a question by Dr. Tarbell as to whether any permanent benefit was to be expected from the use of this drug, Dr. Webber replied that although in this case the disease was too far advanced to allow of any such hope, in other instances he believed permanent good had accrued, that is, the amount of urine was increased, cedema had disappeared, and the patient had been able to return to work. Dr. Webber never gave it, where

<sup>1</sup> Vide page 330 of this number of the JOURNAL.

the heart seemed weak, and always used stimulants in connection.

Dr. REYNOLDS reported a case where he had administered pilocarpine to an infant, born prematurely, — seven months, — but having arrived at the age of six weeks; the child was well nourished, and the evening before the attack to be described apparently in good condition; nursed well, and went to sleep. Dr. R. was summoned at two o'clock in the night. The child had hiccup, and was apparently dying, being deeply cyanized. A satisfactory examination was impossible, but it was surmised that there was diphtheria. The battery was used, hot baths given, and one sixtieth of a grain of pilocarpine given hypodermically, every two hours, with brandy. There was occasional regurgitation of frothy liquid through nose, although fluids could be swallowed. Death ensued at eleven A. M. The next day on autopsy extensive capillary bronchitis was found, but no trouble in the throat or upper air passages. The pilocarpine was given on the strength of a conjectural diagnosis, and would not have been administered had the true state been known. Its action was very marked, the skin being bathed in sweat. One sixtieth of a grain was given six times in all. The diagnosis of diphtheria seemed more probable at the time from the fact that the preceding child, also born prematurely, had died with diphtheria.

#### ABDOMINAL ABSCESS.

FEBRUARY 20, 1882. The regular paper of the evening was read by Dr. J. H. NICHOLS on a case of abdominal abscess.<sup>1</sup>

Dr. BAKER asked how quiet the patient kept herself during the early part of the disease. There is often a tendency to move about, though it causes pain at that time, the patient thinking a change of position is going to give her relief.

Dr. NICHOLS replied that she kept absolutely quiet. The slightest attempts at motion were attended by great pain. In the early part of the disease the constitutional symptoms of septicæmia were more marked than when the signs of localization appeared. Opium, quinine, and stimulants were given.

Dr. A. T. CABOT asked whether any discolorization of the urine followed the collapse after injections of carbolic acid.

Dr. NICHOLS said there was none. The solution used was very weak — two drachms to a pint of water.

Dr. CABOT remarked that the use of weak solutions for injecting abscesses or large cavities is more likely to give rise to poisoning than strong ones, because the former are absorbed while the latter spends itself in coagulating albumen.

Dr. WHITNEY asked whether the opening probably went into the abdominal cavity.

Dr. NICHOLS thought it to be a local peritonitis limited by adhesions. It did not seem to him to be, as Dr. Whitney suggested, an abscess of the abdominal wall where the peritonæum was not involved at all. At the time of opening the abscess there were no intestines visible.

Dr. WHITNEY said that he was reminded by this case of one which occurred at the Massachusetts General Hospital some years ago of a boy with empyema. This was doing well, when it was noticed that the abdomen was hard, tense, etc., and fluctuating.

An opening was made near the umbilicus, pus evacuated, and a drainage tube inserted. The cavity closed up well. It was thought in this case that there was a diffuse inflammation or cellulitis which did not involve the peritonæum proper. Dr. Whitney, therefore, thought that in this case there might have been a similar condition of things — a diffuse cellulitis rather than a peritonitis.

#### THE NEW YORK ACADEMY OF MEDICINE.

##### THE ORIGIN AND NATURAL HISTORY OF TUBERCULOSIS.

Dr. T. E. SATTERTHWAITHE read a paper on the above subject before the Academy at the meeting of October 19th. He alluded to the profound interest which the study of tubercle had always excited among practitioners of medicine, and to the fact that the present century had done much more for the elucidation of the subject than all the preceding ones; and then went on to speak of the labors of the great investigators of the early part of the modern era, Bayle, Bailey, Laennec, Louis, and Rokitsansky. Their researches were based entirely on morbid anatomy, while those of the later observers had the advantage of being derived from experimental pathology as well as morbid anatomy, and some modern pathologists now asserted that any tissue or organ of the body might be the seat of tubercle. Many points in regard to tubercle were still far from being settled; there were, at all events, a vast mass of accumulated facts at our disposal. The special points which he wished to discuss on this occasion were, *first*, in regard to the histology of tubercle; *second*, its unitarian or dual character; *third*, its infectious or non-infectious quality; *fourth*, the mode in which it originates; and, *fifth*, the intimate nature of the infecting agent.

The tubercle discussed was here defined to be the true miliary tubercle, semi-transparent and granular, first described by Bayle. A *résumé* was then given of the tenets of Laennec, Louis, Reinhardt, and Virchow, and the later researches of Niemeyer, who endeavored to connect tubercle with pneumonia, but whose views were successfully combated by Bühl, of Munich.

Villemin was the first to claim that tuberculosis was a specific disease and communicable by inoculation. The results of his experiments were not favorably received, however, either in France or in England, where his views were notably opposed by Sanderson, Wilson Fox, and Andrew Clark. The experimental disease which Villemin and his school succeeded in setting up was justly named artificial tuberculosis. It was not easy, however, Dr. Satterthwaite continued, to point out the strict characteristics of miliary tubercle, and it was no wonder, then, that observers confused the characters of the real and the artificial disease. But, fortunately, the gross appearances of miliary tubercle, the bright and translucent body, and, later, the central caseation, could not readily be mistaken. It was a fact that tuberculosis could be set up in dogs by forcing them to breathe an atmosphere charged with various irritating substances, but in a considerable number of instances such experiments failed; while it was found to be *invariably* the case that if a dog were subjected to an atmosphere loaded with the sputa of tuberculous patients he became tuberculous. The latest experiments seemed, then, to substantiate the specific nature

<sup>1</sup> See page 386 of this number of the JOURNAL.



of the affection; tuberculous matter, whether inhaled or injected, appearing always to give rise to tuberculosis. Other substances did not act uniformly, and often failed in causing tuberculosis. As militating against the specific nature of tubercle, however, the case reported by Dr. Wolf was related, in which a blow upon the eye seemed to result in tubercle in a child previously free from any such trouble. But the probable explanation of the case was, that the traumatism was merely the exciting cause of tuberculosis in an individual previously disposed to it. The scientific mind was divided as to the specific character of tubercle, and clinical facts did not throw much light on the subject; although the results noticed in consumptive hospitals seemed to weigh against its contagious nature. The truth was that no *decisive* facts had been substantiated up to the present time, and it was, therefore, still difficult to believe that tuberculosis was an infectious disease with a contagious virus.

Dr. Satterthwaite then went into the subject of tuberculosis in horned cattle, and quoted Professor Law as stating that there was no satisfactory evidence that tubercle had ever been communicated by means of bovine lymph. The so-called bovine tuberculosis was entirely different in its morphological character from that of tuberculosis as we knew it in the human subject. In man the tubercles became cheesy, while in cattle they became cretaceous instead. In man ulcers and cavities were common in the advanced stages of the disease, while in cattle these rarely or never occurred, hard tumors being formed instead from deposits of the salts of lime. The glands also became enormously enlarged, and as hard as stone from the same cause. Dr. Crichton, of Cambridge, England, however, believed that a form of tuberculosis sometimes occurred in man which was identical with that met with in horned cattle, and claimed that he had seen twelve cases, but some objections had been urged against the correctness of his observations.

For many years different observers had associated bacteria with tuberculosis, and claimed that the latter had a pathognomonic kind of bacteria. As a rule but little attention was paid to such claims, but of late the researches of Koch, now of Berlin, had attracted more than ordinary notice. His claim was that there was a specific parasite, a peculiar microphite, which existed in every case of tuberculosis. Many investigators, including himself (Dr. Satterthwaite), had failed to detect the parasite in experiments made after Koch's methods; but in phthisical sputa he had succeeded in finding bacteria which corresponded to a great extent (although not perfectly) with those described by Koch. The matter, it must be granted, was still *sub judice*, but if Koch's views were correct their substantiation would forever set at rest the question of the unitarianism or duality of tubercle. At present there was a strong opinion in favor of unitarianism, founded not so much on minute microscopical details as upon the gross appearances of tubercle, and especially its characteristic central caseation. He then went on to speak of the different appearances met with in phthisis, and in treating of fibrous phthisis stated that it was that form of the disease in which nature was effecting a cure.

He next took up the subject of heredity. The hereditary nature of tuberculosis, he said, was abundantly proved by statistics. This fact, so strongly opposed to their views, the contagionists had to explain,

and they were at least forced to admit that there must always be a predisposition to the affection. It was thus admitted by Koch, and the most violent of the contagionists, that there must be, *first*, a predisposition to the disease, and, *second*, an infecting agent. The treatment, therefore, should be directed primarily against the predisposition.

Finally, Dr. Satterthwaite gave a summary of his conclusions: Tuberculosis was a disease which deserved the name of hereditary. It was most apt to attack those members of a family predisposed to it who from any cause were least robust. The most characteristic pathological feature of the affection was a collection of minute, bright, glistening bodies, which had been called granules and milary tubercle. This was of an inflammatory nature, because it was capable of being produced by various irritating substances. The lungs and serous membranes were most frequently attacked. As the disease advanced the tubercles gradually underwent caseation at the centre. In occasional instances, however, they became organized, and a cure was effected. Tubercles might be confined to a single lobe of the lung or other small portion of tissue, or they might be widely diffused, the latter being much the most dangerous form. Tubercle was capable of being inoculated, producing its kind if it produced anything, but other substances sometimes produced the same lesion. There was some good evidence in support of the contagiousness of the disease from close association. The best evidence of this character was from the study of the disease among the lower animals, especially horned cattle. There was no proof whatever that the meat or milk of phthisical cattle had ever produced tuberculosis in the human subject, yet the sale of such meat and milk should be prevented on the ground that they were less nutritious than those derived from healthy animals. So vaccine virus should always be taken from animals entirely free from tubercular taint. In the prophylaxis of the disease the chief attention should be directed to the vicious constitution of the patient rather than to the contagious qualities of the disease, which played an inferior and subordinate rôle if any at all.

### Recent Literature.

*Scrofula and its Gland Diseases. An Introduction to the General Pathology of Scrofula, with an account of the Histology, Diagnosis, and Treatment of its Glandular Affections.* By FREDERICK TREVES, F. R. C. S., Eng., Assistant Surgeon to, and Demonstrator of Anatomy at, the London Hospital. Late Wilson Professor of Pathology at the Royal College of Surgeons. London: Smith, Elder & Co. 1882.

Mr. Treves explains in his preface that the absence of any special work on the subject of the general pathology of scrofula in the English language since the publication of the works of Phillips and Glover in 1846, or on the subject of scrofulous gland disease, since the appearance of Dr. Price's monograph in 1861, together with the importance of the manifestations comprised under the term scrofula, were the motives which prompted him to the preparation of the present octavo volume of two hundred pages.

Mr. Treves was, at one time, resident assistant at the National Hospital for Scrofula at Margate, and,

though recognizing the fact that the subject of scrofulosis has received more manifest attention for some years back upon the Continent than in England, whereby its pathology has been reconstructed, its clinical outline more accurately defined, and a more distinct individuality imparted to it—of all which advantage has been taken—he is still able to assert that the greater part of the material of the present volume is the result of his own investigations into this disease. The clinical facts detailed are drawn, he states, from a careful examination of a very large number of scrofulous persons; the opinions expressed as to the pathological bases of struma, and the account given of the minute changes in the glandular affections, as well as the remarks on treatment, are all founded upon a careful personal observation of a rich material.

A perusal of the book confirms the statement that it is not a mere compilation or reproduction of others' investigations. It is divided into two parts, the first of which treats of the general pathology of scrofula, and the second of scrofulous affections of the external lymphatic glands; to these are appended five plates reproducing microscopical sections of different portions of scrofulous glands. These plates are borrowed from the article on scrofula, by the same author, written for a new English edition of Holmes' System of Surgery.

The author defines scrofula "as a tendency in the individual to inflammations of a peculiar type, the distinctive features of such inflammations being as follows: they are usually chronic, apt to be induced by very slight irritation, and to persist after the irritation that induced them has disappeared. The exudations in these processes are remarkable for their cellular character, and for the large size of some of those elements. Such exudations also show a remarkable tendency to resist absorption and to linger in the tissues, the affected area becoming rapidly non-vascular. Among the common products of these exudations are giant cells, and, if a certain stage of the process be reached, tubercles. The tendency of the process is to degenerate, not to organize, and the degeneration usually takes the form of caseation. At the same time these inflammations have a tendency to extend locally and infect adjacent parts, and their products present certain peculiar properties when inoculated upon animals. Lastly, a great feature of all these processes is this: they tend to commence in and to most persistently involve lymphatic tissue, an implication of this tissue being a conspicuous feature in every case of scrofulous disease. The tendency to this peculiar form of inflammation may be called, if so wished, a diathesis, or, more definitely, the scrofulous diathesis."

Much of part first is taken up with the individual and relative characteristics of scrofula and tubercle. Mr. Treves' position in regard to this part of his subject appears in the following paragraph:—

"Although one recognizes the fact that tubercle appears in scrofula, yet one is positively loth to term scrofula a tuberculous disease, and I would almost go so far as to say that it would be well *not* to call it a tuberculous disease until the bias associated with the latter term has been removed, until that term is accepted in a more generous and rational sense, and until it ceases to attempt to force an alliance between an anatomical appearance and a clinical state."

The following conclusions sum up the chapter on scrofula and tubercle: "(1.) The manifestations of

scrofula are commonly associated with the appearance of tubercle; or, if no fully formed tubercle be met with, a condition of tissue obtains that is recognized as being preliminary to tubercle. *Anatomically*, therefore, scrofula may be regarded as a tuberculous or tubercle-forming process. (2.) The form of tubercle met with in scrofulous diseases is usually of an elementary and often of an immature character, whereas in diseases called tuberculous in a strict clinical sense, a more perfect form of tubercle is met with in the form of the gray granulation or adult tubercle (Grancler). (3.) Scrofula, therefore, indicates a milder form or stage of tuberculosis, and the two processes are simply separated from one another by degree."

The book is certainly a valuable contribution to the subject treated, and worth an index, which it is without; it also merits more careful proof reading on the part of the publishers, as errors of carelessness on pages 14 and 102, if not on others, testify.

*Transactions of the Brighton Health Congress, 1881.*

*With Authentic Portraits, Maps, and Illustrative Diagrams.* Issued on behalf of the Building Fund of the Brighton School of Science and Art. London: E. Marlborough & Co.

The Brighton Health Congress was convened at Brighton at the time of the Domestic and Scientific Exhibition in December, 1881, under the presidency and largely at the instigation of Dr. B. W. Richardson.

Some account both of the Congress and of the exhibition was given the readers of the JOURNAL last winter in an interesting letter from its special correspondent.

This volume contains the papers read at the Congress, together with various maps and diagrams and photographic portraits of the president, Dr. Richardson, and of the veteran sanitarian, Mr. Edwin Chadwick, who presided over Section A, and delivered an address on The Prevention of Epidemics.

The papers, many of which are of much interest and value, are by well recognized authorities on the different questions which were discussed.

*Essentials of Vaccination: a Compilation of Facts relating to Vaccine Inoculation, and its Influence in the Prevention of Small-Pox.* By W. A. HARDWAY, M. D., Chicago: Jansen, McClurg & Co. 1882.

Without pretending to be a comprehensive treatise on vaccination, this professes to be a careful compilation of the more essential facts relating to the subject. No claim is made to original investigation, previous writers upon the subject in Europe and America being freely drawn upon, and some account given of the practical administration of vaccination in this country. Animal vaccination is more especially considered.

*How to Make the Best of Life.* By J. MORTIMER

GRANVILLE, M. D. Boston: S. E. Casino. 1882. A small book of the primer order—one of a series—with good advice of a general character.

—The rate of vibration of the rattlesnake's tail has been determined by Dr. Ott as sixty per second. The method of experiment was by attaching to the tail a pen which wrote its record on a revolving drum.

# Medical and Surgical Journal.

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## IMMIGRANT INSPECTION SERVICE.

THE supervising inspector of the western district of the Immigrant Inspection Service, Dr. Rauch, in his report for the month of September, says:—

"Concerning the character of the protective work done by steamship surgeons, there is still the same disparity noted as has been commented upon before. Passengers arriving by vessels of the same line present the most marked contrasts. On one, the surgeon will have made a careful inspection and have vaccinated or revaccinated all unprotected or doubtful cases; on the very next arrival by the same line, evidences of gross carelessness will be found in children of all ages holding the surgeon's cards, but without any personal evidence of ever having been vaccinated; and, in the case of adults, not revaccinated since infancy, but similarly equipped with cards to secure them, in several languages, 'against detention on railroads in the United States.'

"The steamship medical service is not yet by any means what it should be in its treatment of immigrant passengers with regard to the preservation of health. In the absence of any adequate national legislation prohibiting the introduction of foreign pestilence, and the want of proper State and local legislation, I know of no better method of securing a better result, under present conditions, than by giving publicity to the character of the work done by each surgeon, as shown in the condition of the immigrants passing through his hands and arriving in the interior."

Experience in this service suggests the statement that the most notable line for disregard of vaccinal protection of its passengers is the American of Philadelphia, the number of unprotected by this line being far in excess of any other; in one instance twelve passengers out of fifty by the steamer Pennsylvania, of this line, were found totally unprotected, never having been vaccinated at all, yet every one had been furnished a steamship protection card.

The difference in passengers arriving by vessels of the same line at Boston and at New York is noted by one inspector, and the better condition of those arriving at Boston is attributed to the character of its inspection service. Only one case of small-pox—a mild varioloid—attributable to Boston, has been observed in Illinois in something over a year.

An increasing number of emigrants, the evidence goes to show, are vaccinated or revaccinated just before sailing, and this is especially true of the English

and Scotch emigrants. Vaccination performed at this time, it is suggested, has the advantage of enabling the steamship surgeon to judge of its effectiveness during the voyage; and it would be a decided improvement on the present general plan of waiting until the last days of the voyage, if the surgeon would perform the operation as soon after leaving port as practicable. This would give him an opportunity of noting the value of the virus and result of his work, besides facilitating the labor of inspection upon and after arrival. A circular letter from the Board making this request of the managers of the various steamship lines would meet, it is thought, with a favorable reception.

The disparity in the results of vaccination performed on shipboard is due, possibly, as much to the method of performing the operation as to the character of the virus employed, though there is doubtless much of this used which has become inert, either from being kept too long or from exposure to the salt moist atmosphere. Both of these evils would be more likely to be remedied if the surgeon was able to follow up the results of his work.

Dr. Rauch refers with satisfaction to recent action in England which should lighten the responsibility of the Inspection Service. An inquiry has been opened at Liverpool by one of the inspectors of the local Government Board and a representative of the Board of Trade with regard to certain sanitary questions connected with emigration, and to the circumstances in which emigrants passing through the port of Liverpool are placed before sailing. The same commission was instructed to inquire as to the provision made for the isolation and treatment of sick persons arriving from infected places on the Continent or in the United Kingdom; and, further, as to the sanitary arrangements and supervision of the lodging-houses into which emigrants are received, and the means taken with respect to infectious diseases occurring therein.

The sanitary condition of the cars transporting immigrants from the sea-board has, as a rule, been found quite satisfactory, though in a few instances cars have been found wet and dirty, especially those transferred from connecting lines.

The number of immigrants inspected by this division of the Service during the month of September was 14,404, and the number vaccinated, 2918.

J. T. CLOVER, F. R. C. S., ENG.

THE name of Mr. Clover is familiar to all English speaking surgeons as the chloroformist to various London hospitals, and as the inventor of an exhausting bottle for the removal of calculus *débris* after lithotomy. The *Lancet* of October 7th records his death, and gives details of his life, which cannot fail to be of interest to all men interested in honest work, especially when accomplished under the burden of ill health.

Joseph Thomas Clover was born in Aylsham, Norfolk, in 1825. His first medical studies were pursued

in Norwich, and in 1842 he became a dresser in the Norfolk and Norwich Hospital. It is probable that the chronic pulmonary disease from which he suffered, and which marked his whole life, began at this time, as the hospital book shows that he was absent from ill health nearly four months. Subsequently he pursued his studies at University College, London, where he was regarded by his fellow-students and teachers as one of the most promising students of his time. After filling various minor positions he was elected house-surgeon to Mr. Morton and afterwards to Mr. Syme. On the return of the latter gentleman to Edinburgh, he showed his appreciation of his house-surgeon by offering him a similar position at the Edinburgh Royal Infirmary, which Mr. Clover declined. It was during his residence that anaesthesia was introduced, and it is probable that he was present in the theatre of the University College Hospital during the performance of the first successful operation under ether in England; and, if the scene impressed him as profoundly and vividly as it did others, it might well incite him to thought and study. The operation was a thigh amputation. Mr. Squire administered ether; the patient inhaled it without a movement; Liston, with the rapidity of a surgeon accustomed to spare his patient every second of suffering, removed the limb in thirty seconds, and the ominous silence of the patient, so unusual in those days, caused anxiety for his life. "Presently he awoke, and when the cloth was removed from his stump, and he saw that his leg was gone, the unbounded wonder and delight of the patient was scarcely greater than that of the spectators. The great surgeon was almost overcome with joyful emotion as his mind grasped the full meaning of this new era in surgery," which had just opened with such a startling and complete success.

In 1853 he settled in practice in Cavendish Place. Work came to him quickly, and had he enjoyed a fair measure of health he would doubtless have gained a high position among the surgeons of his day. Frequent attacks of ill health, however, compelled him almost to relinquish ordinary practice, and hence it was that he restricted himself—we can but believe with some regret—to the administration of anaesthetics, and he soon came to take a prominent part in the development of this discovery. Chloroform had already supplanted ether in England. Its danger soon showed itself by fatal accidents, and Clover applied himself to the task of discovering a means by which its vapor could be safely administered. He constructed a bag which was used by the chloroform committee of the Medico-Chirurgical Society during their experiments. Mr. Clover was appointed chloroformist to the Westminster, University College, and the Dental Hospitals, and was the companion in operative cases of many of the chief surgeons of London. When other agents were brought forward as anaesthetics he was always interested in testing their merits.

Best known, certainly in America, among his improvements in other branches of surgery is his exhausting bottle, which was an improvement upon the idea of others, and has since been improved upon and

its use prolonged by Bigelow until all the stone is removed at a single sitting.

"Every man has some few prominent points of character which give a tone to his whole life. These, in Clover, were his gentle modesty, his absolute unselfishness, and his active sympathy with the joys and sorrows of others. He had no 'push,' no ostentation, or love of display. He worked steadily; his happiness consisted in honestly doing the duty which lay clear before him. None ever heard him speak harshly or unfairly of any; he was without guile or bitterness. He had hosts of friends, for he made many and lost none. 'His end,' writes Dr. Sydney Ringer, his constant friend and medical adviser, 'was quite in keeping with his whole life,—gentle, amiable, uncomplaining, grateful to the last. The world wants one true man since he was taken away.'"

#### MEDICAL NOTES.

—Those who enjoy an apt quotation will appreciate the felicity of the words with which an English physiologist closes some remarks on the Anti-Vivisection Act. Repelling the charge that such experiments, when conducted with a thoughtful and intelligent purpose to advance the sum of human knowledge, and thereby to further the philosophical treatment of disease, are "inhuman" or "unchristian," he concludes in substance, "Nor can I believe that such studies are contrary to the spirit of Him who sacrificed a whole herd of swine that one human being might be restored, and who said 'Ye are of more value than many sparrows.'"

—Strong claims are made by Dr. Charles Taylor in the *Australasian Medical Gazette* (Practitioner, September, 1882) of the success of treatment by injection of pure fluid carbolic acid, five or six drops, into the substance of carbuncles. Also by Dr. Morse Taylor, of the United States Army, in the *American Journal of the Medical Sciences*, April, 1882, for the same treatment in bubo. He uses, instead of the pure acid, ten to forty minims of a two per cent. solution. In each case the injection is made directly into the inflamed tissue, and an abortive action is claimed to be the rule when suppuration is not already too advanced.

—The *Archives of Dermatology* contains an account of a fictitious eruption in a hysterical young woman. The efflorescence was encrusted, and was in parallel lines. It had been presented by its owner in many hospitals and dispensaries. Suspicion of its cause led to examination of the patient's nails, which were found to be bitten off. It was, however, discovered that the appearance was produced by rubbing the skin with the finger-tips for an hour or more at a time. The patient alleged that it was the pleasurable titillation rather than any intention to create surprise or sympathy which led her to do this.

—Edward King, in the *Boston Journal*, writes of the morgue connected with the monastery of St. Bernard, where the bodies of persons who have been lost in the pass are brought for the chance of identifica-

tion. "Here is death without decay; here, in this wondrous air, on this pass, more than eight thousand feet above the sea level, putrefaction is unknown, and bodies found in the snows in winter, or after the white shroud has melted away from the bosom of Nature in the spring, are preserved entire so long as the monks care to keep them." Only on an occasional day, when it is a little warm, is there the slightest odor, and that hardly a reminiscence of decay. The spot remains covered all winter in some years, and when it is opened in the spring no change can be seen in the bodies, which are simply desiccated like mummies. At long intervals, when the morgue becomes full, the bodies are carried down into the valley for burial. It is, indeed, a better place for the dead than for the living, as it will be remembered that the average duration of life among the monks after they are assigned to that post is only something like three years.

—The *Sanitary Engineer* expects to hear something equivalent to the following colloquy in the hygienically constructed sea-side hotel of the future: "Anxious guest to hall-boy: 'Boy, where are the water-closets?' 'Hain't got any, sir; they breeds fever. Boat goes down the harbor every morning. Ladies at nine, gentlemen at ten.' 'Well, is dinner ready?' 'No, sir. We always carbolize the dining room before meals. Now they are spraying the waiters, sir.' Impatiently: 'Well, where is your ice water?' 'Don't have drinking water now, sir. 'Tain't healthy. Yonder's our Labarraque mixture flavored to taste. Have a glass, sir.' Guest retires and takes a thymolized julep."

—An Illinois farmer went to a "dance" and partook of considerable liquor. The next morning while he was sleeping it off, a blue-bottle fly found her way into his nostril and deposited her eggs, attracted possibly by an ozæna from which the man was suffering. In due course of time some sixty-five maggots came into existence, and for a week or more ran riot through the various meatuses and sinuses that were accessible. Edema of the naso-pharynx, causing considerable obstruction to the respiration, and facial erysipelas combined to add to the attractiveness of the picture; but the man finally recovered.

—The most successful results ever attained in the Maternité Hospital in Paris (a mortality of only three quarters of one per cent.) have been reached in the new pavilion, of which M. Tarnier says:—

Each patient there has a separate room, entered from without, so that a nurse can only pass from one to another by going outside into the open air. The furniture is of japanned iron; the floors, walls, and ceilings are of impermeable concrete. The mattresses and pillows are stuffed with cut chaff, which is burnt after use in every single case. For the McIntosh sheet is substituted one of brown paper, made impermeable by pitch; this is burnt after use. For the washing of the genitals weak solutions of bichloride of mercury are employed, as being the best and most powerful germicide.

The same enthusiastic accoucheur has invented a

sort of incubator in which babies of an age heretofore considered non-viable are placed. This machine consists of two compartments, the lower containing hot water to furnish the heat, and the upper for the reception of the child, where he is enveloped in cotton and under a glass cover. The results are said to be very encouraging.

—In the July number of *Good Health* it was represented that the health of the Chinese residents of San Francisco was better and the death-rate lower than among the white inhabitants. This is denied by Dr. Hatch, the medical officer of the State Board of Health of California, who says that the death-rate among the Chinese population in 1881 was 21.77 per 1000, while among all the other nationalities in the city it was 17.20 per 1000, and this notwithstanding the fact that the Chinese population was composed almost entirely of adults. Besides contradicting the facts alleged he denies the reason given, namely, their personal habits of cleanliness, saying that to those familiar with the actual state of things such assertions must seem like a practical joke. So far from their living hygienically, he says:—

"This excess of mortality among the Mongolians is to be attributed mainly to their mode of living, their disregard of sanitary rules, the wretchedly-crowded tenements, the damp, close, and disgustingly-filthy cellars, in which many of them live."

#### NEW YORK.

—Another of those wretched attempts to hold a dead body for debt was recently made by an undertaker in the case of a woman who died on Madison Street, against whom he had some old claim. The funeral having been delayed for twenty-four hours, the matter was brought to the attention of the Board of Health, and Dr. Nagle, registrar of vital statistics, immediately wrote to the undertaker, reminding him that his action was illegal (constituting a misdemeanor under the law), and commanding him to bury the body at once, or else deliver it and the certificate of death and deed of the grave to the family, so that another undertaker might be employed. The result was that the funeral was no longer delayed.

—Dr. J. Foster Jenkins, the most prominent physician of Youkers, on the Hudson, died on the 9th of October, and his funeral from St. Paul's Church at that place on the 12th was very largely attended by the profession and the community at large. He was an active member of the New York Obstetrical Society, whose meetings he seldom missed, and of the State Medical Society, of which a few years ago he was chosen president.

—At Bunnell's Museum, on Broadway, can now be seen Carlo Benedetti, "the Swedish phenomenon," who is able to pass swords and other murderous steel weapons into his œsophagus for a distance of two feet and more with impunity. There is said to be no trickery about his performances, and one of his most extraordinary feats is to take a masket weighing fifteen or twenty pounds, with a bayonet sixteen inches long, and, inserting the latter up to its hilt into the œsopha-

gus, support the musket above it without touching his hands to it. The man was born in Nordkoping, Sweden, in 1849, and he was twenty years of age when he made the discovery that he could pass various articles down his throat without injuring himself. In May, 1874, an investigation of his case was made at the Jefferson Medical College, Philadelphia, the examination being conducted by the late Dr. F. F. Maury, assisted by Professors Gross, Wallace, and Pancoast. Among the feats that he performed on this occasion was the passing of a regulation Spanish sabre, with a blade twenty-nine inches long, its full length into his œsophagus and stomach. The end of the sabre could be distinctly felt below the level of the umbilicus on the left side, the pressure causing him some inconvenience, but no actual pain, and it was the opinion of the medical men present that the blade displaced the stomach partially, tilting it and pushing it downward.

—A meeting of the Section of Practice of Medicine of the New York Academy of Medicine was held October 17th, when Dr. E. C. Seguin read a paper on Myelitis following Intoxication by Paris Green (arsenical paralysis). One of the practical points brought out in it was the possible danger of giving large doses of arsenic in chorea, as was so commonly done.

—Dr. L. Duncan Bulkley commenced on the 11th of October his annual free course of lectures to practitioners and students, at the New York Hospital, on diseases of the skin, including syphilis. The first half of the hour each week is devoted to a didactic lecture illustrated with fine wax models, colored plates, etc., and the second half to clinical teaching.

—At the seventy-seventh annual meeting of the County Medical Society the following officers were elected: President, Dr. David Webster; Vice-President, Dr. Andrew H. Smith; Secretary, Dr. Wesley M. Carpenter; Assistant Secretary, Dr. Charles H. Avery; Treasurer, Dr. O. B. Douglas.

—On the 10th of October an insane Frenchman rushed through Fourteenth Street, which was at the time crowded with ladies, shopping, and assaulted with a sharp-pointed compass all the females at whom he could get a chance, and one of his victims, the wife of a police officer, has since died in consequence of the injuries thus received. At the autopsy it was found that death was due to secondary hemorrhage. The wound was directly over the fifth rib, and the point of the instrument was found to have entered the wall of the heart and pierced a branch of the coronary artery. It seems that on the 15th, five days after the wound was inflicted, hemorrhage set in, and caused death by filling the pericardial sac with blood, and producing collapse. In speaking of this rare occurrence, the deputy coroner, Dr. Philip E. Donlin, remarked, "I know of no case of death by secondary hemorrhage due to an injury of the coronary artery. When the compass was being withdrawn the artery must have been twisted, and thus immediate hemorrhage did not occur. After several days, however, the woman, who had suffered only from shock while in the hospital, became more active, and the renewed

pressure on the artery caused by her thus moving about, in addition to the changes taking place in the process of reparation, opened the vessel afresh, with the result of fatal hemorrhage." In another case that Dr. Donlin recalled the patient went about for a week with a bullet in his heart, but in this instance the immediate cause of death was shock and not hemorrhage.

—The late Thomas Clark, of Buffalo, bequeathed to the Buffalo General Hospital and the hospital of the Sisters of Charity in that city each the sum of \$5000.

## Miscellany.

### THE AMERICAN PUBLIC HEALTH ASSOCIATION.

The tenth annual meeting of the Public Health Association held its first session at Indianapolis, on Tuesday morning, October 17th, the President, Professor R. C. Kedzie, of Lansing, Michigan, presiding. About sixty members were present.

The secretary, Dr. Azel Ames, Jr., of Wakefield, Mass., reported, for the Executive Committee, in regard to procuring an act of incorporation that after examination of the laws of the several States, and of the United States, they were unanimously of the opinion that the United States laws offered the best inducements to the Association, and the sub-committee was instructed to cause an act to be secured. They therefore ask for further time. Adopted, and further time given.

The secretary also stated that he was directed by the executive committee to announce that the committee has directed the president, subject to the approval of the Association, to fill such vacancies as shall occur during the meeting in the advising council by members who are present. The Association approved the order.

The special committees on Prevention of Venereal Diseases, Management of Epidemics, and other topics, were called, and, not being ready to report, the time for doing so was extended.

### NATIONAL MUSEUM OF HYGIENE.

The committee on the National Museum of Hygiene reported through their chairman, Dr. Albert L. Gihon, United States Navy. After quoting the resolutions of the American Medical Association, and the circular of the Surgeon-general of the Navy announcing the establishment of the museum, and explaining the scope of the enterprise, the committee expressed the hope that each member of the Association will feel a personal interest in the success of the museum and library, and will manifest that interest by contributing and inducing others to contribute to their growth, and they suggest the establishment of a permanent committee, to be entitled The Committee on National Museum of Hygiene, to be the medium of communication between the Surgeon-general of the Navy and the officers and members of the Association, to be specially charged with the dissemination of information respecting the museum, and with the collection and transmission of such contributions as the Association may desire to have deposited.

## THE NEWPORT SYSTEM OF SANITARY PROTECTION.

The first paper on the day's programme was that by Dr. Horatio R. Storer, of Newport, R. I., on The Newport (Edinburgh) System of Sanitary Protection. In the absence of the author, it was read by Dr. Gihon.

Dr. Storer briefly refers to the first conception of the new principle in sanitation termed Protection, which is based on individual organization made collective upon the principle of mutual life insurance, by Prof. Fleming Jenkin, of the University of Edinburgh, in April, 1878, and its immediate introduction into this country, at Newport, R. I., in November of the same year. Its early bibliography, both in Scotland and the United States, is then given. Four years had now elapsed since the commencement of the Newport experiment, now such no longer. The system had early been successfully copied at Lynn, Mass., and subsequently at Trenton, N. J., Brooklyn, Savannah, Montreal, and other cities and towns. As had been anticipated, very great aid could be given by protection associations to local, State, and even the National Board of Health, and hearty acknowledgments to this effect were quoted from the National Board of Health Bulletin for November 27, 1879, and from the Third Annual Report (1881) of the State Board of Health of Rhode Island. This latter board speaks with strong approval of the plan of organization, the *personnel* and the immense amount of public, as well as private, work that has been accomplished by the Newport Sanitary Protection Association. The Newport Association from the outset had labored first, foremost, and all the time for a City Board of Health, distinct from the aldermen. As yet its efforts have been unsuccessful, but the local public sentiment had been so enlightened, and so great a moral pressure had been brought to bear upon the city, through the daily and professional press of the whole country, that not only was the special change desired now close at hand, but there had arisen a demand for other municipal progress, general and far reaching in its scope.

Detail was then given of certain measures employed by the Association for insuring complete inspection of the houses occupied by permanent residents and transient visitors, and a digest of the public and private work accomplished during the past year. There was also appended the report rendered to the Association upon the dangers of impure ice, by Professors Pumphrey and Hills, of Harvard University, and Dr. Storer. The source of the whole ice supply of Newport was found polluted by the overflow of several cesspools, and the experiments made by the chairman of the committee proved most conclusively that during the congelation of water its impurities are collected together, concentrated, and intensified in the resulting ice. The Association therefore enjoined upon the Newport Ice Company to either protect its pond or discontinue using it. The former course was very sensibly adopted by the construction of an expensive intercepting sewer, to the very great advantage and enhanced safety of the whole city of Newport.

Dr. Thad. M. Stevens, of Indianapolis, read a paper on The History of Health Work in Indiana to Date, in which the organization of the State Board of Health was set forth.

At the evening session an address of welcome was delivered by Mayor Grubbs, who spoke of the vital

importance of sanitary matters to all large cities, and expressed his opinion of the character of the work done by the members of the Association by a quotation slightly changed from the original:—

"Heaven's gate is closed to him who comes alone,  
Save thou a life, and thou shalt save thine own."

Governor Porter followed, commencing his remarks by saying: "To see the most intelligent members of a profession whose income is derived from fees for curing diseases assembled to consider with real earnestness the most efficient means of preventing disease, is an inspiring spectacle. An Association formed for such a purpose should be warmly welcomed alike by the State and by the municipality in which it is met." With an additional recognition of the work done by others than medical men, and a glimpse at the vast field open for sanitary work, he closed with a cordial welcome on behalf of the State.

Professor Kedzie, the President, then delivered the

## ANNUAL ADDRESS.

He first paid an eloquent tribute to the late Dr. Charles B. White, of New Orleans, last year's President of the Association, and then proceeded to the subject proper of the address, of which the following is a brief abstract:—

Sanitary science includes everything that can prevent disease, and thus promote the public health. The public health is not an entity apart and by itself, but is the aggregate of the health of the individuals of a community. Any means that will promote the public health will correspondingly increase the well-being of the largest number of individuals. The subject of public sanitation, which implies preventive medicine in its widest sense, touches every hearth and home in the country. Its end is to improve and to preserve man's body in the best condition, and through it his immortal part. The body of man, says Dr. Ackland, is not only the casket which contains the soul. It is more,—it is a casket which, under certain conditions, moulds and modifies the soul.

If the sanitarian is working for noble ends by unselfish means, let him not therefore suppose that he will be exempt from the imputation of sordid motives, or that he will at once be hailed as the benefactor of his race. Human nature resents the assumption of moral excellence. "Every man's work shall be tried by fire of what sort it is," and he who acts from motives that seem a rebuke to selfishness, will be subjected to the ordeal of a furnace heated sevenfold.

He will sometimes be associated with men who bring discredit upon the cause, for the reason that they do not themselves rise to the level of the greatness of the work. In the words of an eminent sanitarian, "Many modern sanitarians, with but a smattering of knowledge, and with imperfect powers of reasoning, have done much to throw ridicule upon a great subject. But this was to be expected. In every department of human knowledge there have been, and still are, camp-followers of science more ready to theorize than to investigate, whose dogmatism is only equalled by their ignorance, and who have adopted some special line of investigation without any previous training or discipline. These men, in the words of Curran, 'hop with airy and fantastic levity over fact and argument, and perch on assertion which they call conclusion.'"

In the next place the good to be secured by sanitary science will be questioned, and its benefits de-

nied. As a sample of the skepticism which waylays scientific progress, there has been going the round of the newspapers a statement that the improvement effected by science consists in a prolongation of the passive endurance of life rather than an extension of the period of true vitality or any increase of the opportunity for good work and real intellectual enjoyment.

The object of sanitary science is not to spin out existence when all the light and joy of life are fled, but rather to make existence so full of life that the suicidal suggestion, "Is life worth living?" shall never enter the human soul. The man who prevents disease is not to be mistaken for the valetudinarian who spends life in dodging death.

Let us now turn our attention to vital statistics to determine whether the advance in health and the enlargement in life is real progress or only a hallucination of wild enthusiasts.

#### REDUCED DEATH-RATE.

The report of the Registrar-general of England shows that the death-rate in twenty-three and a half years has been reduced 12.2 per cent. in urban, and 8.5 per cent. in rural districts. This is a grand showing of the results of sanitary progress. But these estimates of the Registrar-general relate to human life in gross, and give us no comprehension of the condition of the different epochs of life. Life may be drawn out into attenuated helplessness without any increase of human happiness.

By a study of the reports of the Registrar-general of England for forty years, I find that the number who complete adolescent life by surviving the twentieth year has been increased 12.6 per cent. in forty years; that the number who enter adult life, and pass from twenty to thirty-five years, has been increased 12.2 per cent. In other words, in a given population where eight persons passed from childhood to manhood forty years ago, more than nine now join the ranks of productive manhood; where eight persons survived fifteen years of active toil, nine persons now attain the same age. This is something vastly more significant than a mere extension of life in gross; it is an addition in particular to that period of existence when the real work of life is done.

When we regard the causes of death we find the same evidences of progress. Two hundred years ago small-pox was the cause of death of 96 out of every 1000 deaths in England, and 66.5 out of every 1000 deaths in Germany. Now the mortality from small-pox is less than 1 in 1000. Sanitary science has thus saved 95 deaths in every 1000 in England, and 65.5 in Germany. The saving of life by vaccination every year is equal to one-tenth of the standing armies of Europe. In Mexico three and one-half millions perished by one visitation of this fell disease. If one hundredth part of this number should now die in any nation by a single epidemic, the world would stand aglaze in horror. The black death that slew 25,000,000 in Europe is a thing of the past, and will never again be possible until sanitary science is forgotten. Other diseases less amenable to control have been checked, if not exterminated. Within thirty years the number of deaths from typhus, typhoid, and continued fevers, has been reduced more than one-half.

The improvement of all the lower forms of life, both animate and inanimate, has been the result of direct

interference on the part of man. If man would give a corresponding attention to the development of his own race by careful attention to the laws of heredity and a wise control of his environment, might not as striking results be secured in human development as already have been secured in stock-breeding? The complete realization of this is hardly to be expected. But the environment, at least, is within man's control, and he may thus secure that "continuous adjustment of internal relations to external conditions in which healthy life consists."

#### THE OUTLOOK OF SANITARY SCIENCE.

With reference to preventive medicine, we may appropriately utter the challenge of the old Hebrew bard: "Watchman, what of the night?" and, as in the days of old, comes back the response, "The morning cometh, and also the night." There are signs of encouragement and cheer for the race, like the breaking of the morning, and also signs of discouragement and failure.

Among the causes for hopefulness for the immediate future are the following:—

(1.) Extension of the knowledge of the causes of zymotic diseases, such as charbon (or splenic fever) and chicken cholera in domestic animals, and of diphtheria in human kind.

(2.) The prevention of these diseases by extension of the method of inoculation. This has been done in some diseases of domestic animals. If by similar means measles, diphtheria, and scarlet fever can thus be brought under control, how many a Rachel, now weeping beside her childless cradle, will be comforted?

(3.) The discovery of the bacillus, which is the cause of consumption, by Dr. Koch, of Berlin, marks an epoch in the history of medicine. It is yet too early to say how much immediate benefit shall spring from this capital discovery, but any means which shall bring within our control, even remotely, this fell destroyer of our race, is full of promise.

(4.) The wide interest now taken in questions of public health.

(5.) The increase in the number of State Boards of Health and other organizations with the same object.

#### DISCOURAGEMENTS.

A most important cause of discouragement is found in what may be called the hostile indifference of Congress and the executive to the National Board of Health. The American Public Health Association and the Sanitary Council of the Mississippi Valley were active in securing the organization of the National Board of Health. Both the Association and the Council are firm believers in the need of a National Board of Health, whose jurisdiction shall be continuous with the national boundaries. When destruction takes on winged form and comes floating on the very winds to lay waste our heritage, then we want some power whose jurisdiction shall command every force requisite to withstand the invading foe. Look at the situation. Small-pox has been pouring in with the flood of European immigration, and but for the timely action of the National Board of Health, and the efficient aid of a few State Boards of Health, the Northwest would have been one widespread hospital for small-pox, and the commerce of this vast region closed for a time. Yellow fever has been flickering along



our Gulf borders, and lately has blazed up into an epidemic, wasting large communities with sickness, and crippling the commerce of our Gulf coast — inflicting a money loss exceeding tenfold the entire cost of the National Board of Health, to say nothing of the suffering and death thus entailed.

When we look to the future the prospect is not reassuring. The same destructive agencies will continue to work in the future as have in the past. When we turn our eyes to the East we find additional cause for apprehension. Cholera has roused up from its lair in the jungles of India; is now laying waste the islands of the Indian Ocean, and will soon start on its sweep westward to lay waste Europe, to charge across the stormy Atlantic, and, like its predecessors, to die out in the valley of the St. Lawrence or along the banks of the Mississippi. Is this a time to withdraw the watchmen who guard the public safety, to call in our trusty picket line and hope to meet the destroyer with the *fulmen bratum* of States' rights, or the guerrilla warfare of isolated municipal action?

The painful conviction abides with us that a fearful blunder has been made in thus crippling the National Board of Health, and that we have been guilty of the folly of changing front in presence of the foe.

We thus see that light and shadow alternately flit across our landscape, but the light grows stronger and the shadow less sombre. Whatever we may contribute towards improving the condition of our race will be a permanent addition to the welfare of our kind, while our errors and mistakes, like dead leaves and useless chaff, will be mercifully buried in our graves. We are now painfully and wearily sowing the seed, but the generations to follow us shall reap the joyful harvest. Though our eyes shall never behold the sheaves of that far-off summer time, our ears may yet catch the echoes of their harvest song: "There shall be no more thence an infant of days; nor an old man that hath not filled his days, for the child shall die an hundred years old." By the advancement of sanitary science and the stricter enforcement of sanitary law, the proportion of "infant of days" has been steadily diminished, and a constantly increasing number pass on into adult life. Year by year and age by age a smaller number die in infancy and a larger proportion pass forward to productive manhood. With wider knowledge, and more general enforcement of sanitary law, this diminution of infant mortality and expansion of human life will go forward with ever-increasing momentum till life will attain its normal limits, and every child shall reach his hundred years. Not only will life be extended, but the long life will be full of joyful activities, and man shall fill his days. For this we toil and hope.

#### ALARMING SYMPTOMS FROM EIGHT GRAINS OF POTASSIUM IODIDE.

DR. J. R. WEIST in the *American Practitioner* relates an instance of marked idiosyncrasy with reference to this drug. The patient was a well-developed female, unmarried, twenty-eight years old. The attendant apparently suspected syphilis, and ordered a mixture containing eight grains of potassium iodide in each dose; the mixture was composed of the iodide, syrup, and water. One dose of the medicine was taken at eight p. m. In less than an hour disagreeable symptoms appeared about the mouth and throat;

these increased in severity and new ones were added. At eleven o'clock, three hours after the medicine was taken, the symptoms became alarming; the pulse was sixty and full; the axillary temperature 95° F.; face pale; slight oedema present over nearly the entire body. The face was markedly edematous, especially the upper eyelids, which were so swollen as to render opening the eyes impossible. There was an abundant secretion of viscid saliva, from which the mouth was cleared with great difficulty. The mucous membrane of the nose was so swollen as to make it impossible to force air through the nasal passages. The lips, tongue, uvula, and soft palate were all greatly enlarged. There was nausea but no vomiting, and much pain throughout the entire abdomen. Respiration was greatly embarrassed, apparently because of oedema of the laryngo-tracheal mucous membrane. The patient would every minute start up in bed and toss the arms wildly about in her struggle for breath. The articulation was so impaired that it was with difficulty she made herself understood. The hypodermic use of one fourth grain morph. sulph. greatly relieved the respiration. The hypodermic injection was repeated in three hours, and the symptoms of poisoning gradually disappeared, although at the end of twenty hours after taking the iodide, there was still great suffering, the eyelids presenting great swelling. In seventy-two hours all the apparent effects of the medicine had disappeared. As a matter of experiment this patient, one week after her recovery, was given *one grain* of potassium iodide, and in two hours all the symptoms recorded above, but in a much less degree, were present. These disappeared within twelve hours. A quantity but little greater than the dose first prescribed of the medicine would, in the opinion of the author, have destroyed the patient.

#### THE CEPHALIC MURMUR.

DR. GIBSON, in the *Birmingham Medical Review* for October, presents a contribution on this subject. After examining the views of other writers and showing that this murmur is not characteristic of brain diseases in children, is not physiological in children, and is not, in fact, peculiar to children at all, he proceeds to give in detail five cases where he found it. These were (1) a strumous boy of five years; (2) a chlorotic female of sixteen; (3) a married woman of thirty-six, with menorrhagia and anaemia; (4) a man of forty-six, complaining of hæmorrhoids, and (5) a man of sixty, suffering with omental cancer.

These patients were alike in one particular, namely, anaemia, and all had a marked venous hum in the neck. Some had in addition cardiac murmurs, mostly hæmic.

The cephalic murmur, which was systolic or slightly post-systolic in rhythm, was heard most distinctly over the orbit, also over the mastoid and occipital regions. The author differs from Tripier, who considered the murmur to be produced in the internal carotid, and to be due to relative stenosis, believing it to be of venous origin. The grounds upon which this theory is based are stated as follows:—

"If the murmur originated in the terminal parts of the internal carotid system, it should be found to wane in intensity with distance from that system. It is not so, however; as above remarked, the occipital is usually more distinct than the mastoid murmur.

"The position of the greatest intensity of the mur

mur is of great importance. It is most clearly heard over the orbit, the mastoid eminence, and the occipital protuberance. This fact furnishes a key to the question. These three situations are closely related to the cavernous sinus, the lateral sinus, and the torcular herophili; and I am of opinion that the murmur is produced by fluid veins within these sinuses; in other words, the murmur is of venous origin. It will at once be said that the murmur ought to be continuous, like the *bruit de diable*, if it arises from vibrations of the fluid contents of these venous channels. But, as in the case narrated, the venous hum is frequently found to have systolic augmentations of intensity. These are caused by the pressure of the large arteries on the venous trunks during the distension of the arterial walls, consequent upon the cardiac systole. This pressure creates additional waves in the contents of the veins, and the acoustic expression of these waves is increased intensity of sound. The internal carotid artery is in very intimate relationship with the contents of the cavernous sinus, being practically surrounded by the venous blood. When the anæmic condition is present, therefore, with its predisposition to the generation of intra-venous ripples, the pulsations of the artery excite fluid veins in the blood contained within the sinus. In this, I think, we have a sufficient cause to account for the production of the orbital murmur; and similarly we may account for the occipital and mastoid murmurs. The internal jugular vein, at its origin and in its upper part, is so closely connected with the internal carotid artery, that the shock of the arterial pulsation is always communicated to it. Hence, in the anæmic state, fluid waves are transmitted upwards to the blood within the cranial sinuses, and cause a murmur in situations where the vibrations come to a focus."

The conclusion of the author regarding the clinical significance of the murmur is that it is invariably associated with the anæmic state. Several of the authors referred to report its presence in healthy children, but allow that it is more common in those suffering from rickets and similar affections. Tripler has never found it in any healthy adult, and, on a careful review of the whole facts of the case, it seems that the cephalic murmur entirely depends upon the anæmic condition of the patient, and that, like the venous hum, which may now and then be found in those apparently quite healthy, it is a sign of anæmia.

#### TRANSPPOSITION OF THE VISCERA.

A CASE of transposition of the viscera was presented before the College of Physicians of Philadelphia recently, occurring in a young man, who died at the age of twenty-one of purulent peritonitis, the cause of which was not stated in the report. The individual was left-handed, and the right testicle hung lower than the left. The cardiac impulse had been noticed to the right, and percussion ante-mortem had revealed the probable transposition of the liver and spleen. The external appearances (except for the testicles) were normal.

The autopsy showed the heart in the right of the thorax but otherwise normal, the right being the pulmonary and the left the systemic side. The arch of the aorta crossed the right bronchus, and the vessel then descended on the right side of the spine. The innominate

artery was on the left, giving off the left common carotid and left subclavian, while the right carotid and subclavian came directly from the right portion of the arch. The right lung was the smaller and had two lobes; the left had three. The liver occupied the left hypochondriac and, in part, the epigastric regions, and its lobes, as well as the gall bladder, were similarly changed. The stomach was chiefly in the right hypochondrium, the pylorus extending toward the middle of the abdomen. The spleen was on the right and attached to the greater curvature of the stomach. The cæcum was in the left iliac fossa; the transverse colon ran from left to right and descended to the sigmoid flexure which was upon the right.

#### THE CURABILITY OF EPILEPSY.

DR. FERRAND has presented a thesis on the results of treatment of epileptics in the Salpêtrière, in which eighty-nine cases are reported treated with bromide of potassium. Twelve cases were decidedly benefited, fifty-one were improved, sixteen slightly benefited, and ten received no benefit whatever. The manner of administering the bromide is important. At first two or three grammes are given daily, increasing the dose every fifteen days or every month, until the daily quantity reaches, for women, five or six grammes, and for men six or eight grammes. The use of larger doses than this is severely criticised. Opinions differ as to whether the bromide ever cures epilepsy. Dr. Ferrand finds that many of the accompanying troubles are much modified, such as the nervous state, maniacal delirium, and the insane impulse. The intellectual troubles are also influenced for the better. The most frequent ill results of improper methods of administration are headache, somnolence, impaired locomotion, gastric irritability, constipation, anæmia, feebleness, etc.

#### RHEUMATIC LEUCOÏNOITIS OF THE PULMONARY AIR TUBES.

IN an article with the above title in the *American Journal of Medical Sciences*, Dr. Thomas H. Buckler advances the theory that the disease known as rheumatism frequently finds lodgment in the fibrous tissue which forms the chief part in the structure of the bronchi; that this is one of the points to which it goes by metastasis from other fibrous structures; that it causes cough without pain or expectoration or any of the physical signs of catarrhal bronchitis; that this cough comes and goes according to the shifting character of the disease, but that if long continued it gives rise to a form of pneumonia by obstruction of the interjacent pulmonary tissue, in which the consolidation is particularly dense; that in the absence of rheumatism elsewhere, a cough coming on after exposure to cold, and unattended with any physical signs of bronchitis, or with expectoration, may be considered to denote an idiopathic rheumatism of the fibrous tissue of the bronchi. A number of cases are cited of varying degrees of this affection, in some of which the lungs alone were affected, while in others the ordinary symptoms of rheumatism alternated with the cough, and in several the resultant rheumatic pneumonia occurred.

A paper by Dr. Bolles, published in this JOURNAL February 3, 1881, is reviewed at length, and it is claimed that some of his cases of pneumonia therein described are examples of the rheumatic disease.

## REPORTED MORTALITY FOR THE WEEK ENDING OCTOBER 14, 1882.

| Cities.                           | Population by Census of 1880. | Reported Deaths in each. | Deaths under Five Years. | Percentage of Deaths from         |                |                      |                |                       |
|-----------------------------------|-------------------------------|--------------------------|--------------------------|-----------------------------------|----------------|----------------------|----------------|-----------------------|
|                                   |                               |                          |                          | The Principal "Zymotic" Diseases. | Lung Diseases. | Diarrhoeal Diseases. | Typhoid Fever. | Diphtheria and Croup. |
| New York.....                     | 1,206,590                     | 516                      | 199                      | 27.41                             | 11.19          | 13.12                | 2.90           | 3.86                  |
| Philadelphia.....                 | 846,984                       | 298                      | 160                      | 18.12                             | 4.36           | —                    | 4.02           | 11.06                 |
| Brooklyn.....                     | 566,689                       | 226                      | 112                      | 28.29                             | 10.17          | 12.93                | 4.41           | 6.63                  |
| Chicago.....                      | 503,304                       | 166                      | 77                       | 24.68                             | 6.62           | 10.23                | 6.02           | 7.83                  |
| Boston.....                       | 362,555                       | 180                      | 55                       | 21.64                             | 8.32           | 8.88                 | 7.77           | 4.44                  |
| St. Louis.....                    | 350,522                       | —                        | —                        | —                                 | —              | —                    | —              | —                     |
| Baltimore.....                    | 332,190                       | 143                      | 65                       | 38.45                             | 7.0            | 3.50                 | 4.19           | 17.58                 |
| Cincinnati.....                   | 255,708                       | 113                      | 52                       | 19.20                             | 1.01           | 48                   | —              | 4.0                   |
| New Orleans.....                  | 216,140                       | 137                      | 38                       | 22.63                             | 2.19           | 6.57                 | 7.73           | 1.46                  |
| District of Columbia.....         | 177,638                       | —                        | —                        | —                                 | —              | —                    | —              | —                     |
| Pittsburg.....                    | 156,381                       | 55                       | —                        | 30.91                             | 10.91          | 3.64                 | 16.36          | 5.45                  |
| Nashville.....                    | 155,137                       | 79                       | 35                       | 34.16                             | 10.12          | 10.12                | 7.60           | 9.86                  |
| Buffalo.....                      | 115,578                       | 55                       | 33                       | 41.81                             | 5.45           | 12.72                | 1.82           | 3.64                  |
| Milwaukee.....                    | 104,857                       | 40                       | 9                        | 22.50                             | 7.50           | 12.50                | 5.00           | —                     |
| Providence.....                   | 62,882                        | 15                       | 1                        | 13.33                             | 6.66           | —                    | 6.66           | 6.66                  |
| New Haven.....                    | 49,999                        | 34                       | 9                        | 5.88                              | 8.82           | —                    | 5.88           | —                     |
| Charleston.....                   | 43,461                        | 21                       | 8                        | 14.28                             | —              | 9.52                 | —              | 4.76                  |
| Lowell.....                       | 59,485                        | —                        | —                        | —                                 | —              | —                    | —              | —                     |
| Worcester.....                    | 58,295                        | 23                       | 8                        | 30.38                             | 17.36          | —                    | 13.02          | 4.34                  |
| Cambridge.....                    | 52,740                        | 27                       | 8                        | 14.80                             | 7.40           | —                    | 7.40           | 9.86                  |
| Fall River.....                   | 49,006                        | 22                       | 8                        | 45.45                             | 4.55           | 27.27                | 4.55           | 4.55                  |
| Lawrence.....                     | 39,178                        | 13                       | 4                        | 15.38                             | —              | —                    | —              | 7.69                  |
| Lynn.....                         | 38,284                        | 9                        | 5                        | 22.22                             | —              | 22.22                | —              | —                     |
| Springfield.....                  | 33,340                        | —                        | —                        | —                                 | —              | —                    | —              | —                     |
| Salem.....                        | 27,598                        | 10                       | 4                        | —                                 | —              | —                    | —              | —                     |
| New Bedford.....                  | 26,875                        | 7                        | 1                        | —                                 | 14.28          | —                    | —              | —                     |
| Somerville.....                   | 24,985                        | 3                        | 1                        | 33.33                             | —              | —                    | —              | 33.33                 |
| Holyoke.....                      | 21,851                        | 6                        | 1                        | 66.66                             | 16.66          | —                    | 33.33          | 16.66                 |
| Chelsea.....                      | 21,785                        | 7                        | 3                        | 28.56                             | —              | 14.28                | —              | —                     |
| Taunton.....                      | 21,213                        | 6                        | —                        | 33.33                             | —              | —                    | 16.66          | —                     |
| Gloucester.....                   | 19,329                        | 7                        | 3                        | 28.56                             | —              | 14.28                | —              | 14.28                 |
| Haverhill.....                    | 18,473                        | 7                        | 1                        | 14.28                             | 28.56          | —                    | 14.28          | —                     |
| Newton.....                       | 16,995                        | 7                        | —                        | —                                 | —              | —                    | —              | —                     |
| Brookton.....                     | 13,608                        | 5                        | 0                        | —                                 | —              | —                    | —              | —                     |
| Newburyport.....                  | 13,537                        | 5                        | 2                        | 40.00                             | —              | 40.00                | —              | —                     |
| Fitchburg.....                    | 12,405                        | 3                        | 2                        | 33.33                             | —              | —                    | —              | —                     |
| Malden.....                       | 12,017                        | 2                        | 0                        | —                                 | —              | —                    | —              | —                     |
| Eighteen Massachusetts towns..... | 136,698                       | 42                       | 11                       | 14.28                             | 7.14           | 4.76                 | 7.14           | —                     |

Deaths reported 2282 (no reports from St. Louis and District of Columbia); under five years of age 755; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 579, consumption 323, lung diseases 175, diarrhoeal diseases 186, diphtheria and croup 143, typhoid fever 94, scarlet fever 41, malarial fevers 36, small-pox 25, whooping-cough 23, cerebro-spinal meningitis 13, puerperal fever eight, measles six, erysipelas four, typhus fever one. From *scarlet fever*, Cincinnati 10, New York seven, Brooklyn six, Philadelphia five, Buffalo four, Pittsburgh and Worcester two each, Chicago, Baltimore, Milwaukee, Fall River, and Chelsea one each. From *malarial fevers*, New York and New Orleans 12 each, Brooklyn nine, Baltimore two, Chicago one. From *small-pox*, Baltimore 12, New Orleans seven, Chicago four, Philadelphia two. From *whooping-cough*, New York 10, Brooklyn five, Buffalo two, Philadelphia, Chicago, Baltimore, Cincinnati, Pittsburgh, and Milwaukee one each. From *cerebro-spinal meningitis*, New York and Cincinnati two each, Philadelphia, Chicago, Providence, Worcester, Fall River, Lawrence, Taunton, Fitchburg, and Chicopee one each. From *puerperal fever*, Chicago and Baltimore two each, Boston, Milwaukee, Providence, and Holyoke one each. From *measles*, New York five, Chicago one. From *erysipelas*, New York three, Brooklyn one. From *typhus fever*, Baltimore one.

Three cases of small-pox were reported in Cincinnati, Pittsburgh two; diphtheria 38, typhoid fever 35, scarlet fever 18 in Boston; scarlet fever 29, and diphtheria 10, in Milwaukee. In 35 cities and towns of Massachusetts, with a population of 943,536 (population of the State 1,789,086), the total death-rate for the week was 18.57 against 20.32 and 21.17, for the previous two weeks.

For the week ending September 23d, in 171 German cities and

towns, with an estimated population of 8,482,268, the death-rate was 23.5. Deaths reported 3835; under five years of age 2051; consumption 427, diarrhoeal diseases 268, lung diseases 254, diphtheria and croup 178, scarlet fever 111, typhoid fever 62, whooping-cough 58, measles and röteln 32, puerperal fever 22, small-pox (Königsberg, Bonn, Koblenz, and Metz one each) four, typhus fever (Braunschweig one) one. The death-rates ranged from 11.0 in Karlsruhe to 37.4 in Frankfurt a. O.; Königsberg 29.8; Breslau 33.2; Munich 21.2; Dresden 23.8; Berlin 26.4; Leipzig 18; Hamburg 18.7; Cologne 25.5; Frankfurt a. M. 14.5; Strassburg 24.9.

In the 28 English towns, with an estimated population of 8,469,571, for the week ending September 30th, the death-rate was 20.6. Deaths reported 3344; acute diseases of the respiratory organs (London) 300, diarrhoea 162, scarlet fever 130, whooping-cough 75, fevers 73, measles 49, diphtheria 37, small-pox (London seven) 10. The death-rates ranged from 13.7 in Derby to 32.6 in Preston; Sheffield 17.6; London 19.4; Leeds 20.3; Brighton 21; Plymouth 22.4; Birkenhead 22.9; Newcastle-on-Tyne 24.7; Sunderland 30.7. In Edinburgh 18; Glasgow 24.5; Dublin 23.7.

For the week ending September 30th, in the Swiss towns, population 494,330, there were 23 deaths from diarrhoeal diseases, consumption 21, lung diseases 11, scarlet fever four, diphtheria and croup four, whooping-cough two, typhoid fever one. The death-rates were, at Geneva 10.3; Zurich 14.3; Basle 17.1; Berne 18.4.

The meteorological record for the week ending October 14th in Boston, was as follows, according to observations furnished by Sergt. O. B. Cole, of the United States Signal Corps:—

| Date.            | Barom-eter. | Thermom-eter. |          |          | Relative Humidity. |            |             |             | Direction of Wind. |            |             | Velocity of Wind. |            |             | State of Weather. <sup>1</sup> |            |             | Rainfall.             |                   |
|------------------|-------------|---------------|----------|----------|--------------------|------------|-------------|-------------|--------------------|------------|-------------|-------------------|------------|-------------|--------------------------------|------------|-------------|-----------------------|-------------------|
|                  | Daily Mean. | Daily Mean.   | Maximum. | Minimum. | 7.23 A. M.         | 3.23 P. M. | 11.23 P. M. | Daily Mean. | 7.23 A. M.         | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.        | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.                     | 3.23 P. M. | 11.23 P. M. | Duration, Hrs. & Min. | Amount in inches. |
| October, 1882.   |             |               |          |          |                    |            |             |             |                    |            |             |                   |            |             |                                |            |             |                       |                   |
| Sun., 8          | 30.035      | 67            | 83       | 56       | 93                 | 46         | 85          | 75          | SW                 | SW         | SW          | 6                 | 10         | 10          | F                              | C          | C           | —                     | —                 |
| Mon., 9          | 29.940      | 64            | 78       | 57       | 100                | 58         | 81          | 80          | SW                 | SW         | SW          | 8                 | 14         | 12          | G                              | C          | C           | —                     | —                 |
| Tues., 10        | 29.913      | 58            | 71       | 48       | 59                 | 32         | 57          | 49          | W                  | W          | NW          | 14                | 15         | 8           | C                              | F          | C           | —                     | —                 |
| Wed., 11         | 30.204      | 47            | 52       | 43       | 68                 | 60         | 71          | 66          | N                  | E          | E           | 5                 | 12         | 10          | O                              | O          | O           | —                     | —                 |
| Thurs., 12       | 30.330      | 52            | 56       | 48       | 67                 | 75         | 81          | 74          | E                  | E          | E           | 16                | 14         | 12          | T                              | O          | F           | —                     | —                 |
| Fri., 13         | 30.210      | 53            | 57       | 51       | 80                 | 68         | 86          | 78          | E                  | E          | E           | 14                | 11         | 6           | F                              | F          | O           | —                     | —                 |
| Sat., 14         | 30.039      | 51            | 55       | 48       | 93                 | 96         | 94          | 94          | E                  | NW         | NW          | 8                 | 16         | 8           | R                              | O          | O           | —                     | —                 |
| Means, the week. | 30.096      | 56            | 65       | 50       |                    |            |             | 74          |                    |            |             |                   |            |             |                                |            |             | 9.00                  | 1.43              |

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; X., clearing.

### "BREAKING UP TYPHOID FEVER."

CHAMBERS, page 97, says it can be done, often by an emetic. Murchison, Jenner, and other eminent writers favor this view rather than otherwise. The evidence is that it arises from surroundings, or may so arise, and not, like variola, from a specific cause, in all cases generated from within the body or from its surface. Filth, in any quantity or form, never causes small-pox, but it certainly does "typhoid fever." Can the virus of variola be expelled from the human body by art or nature? No one holds the affirmative, however small the quantity absorbed. What clinician holds this same view as to the fever in question? None that I find. According to our present knowledge the theory, at least, is that means can be taken that will abort it in many cases. J. K. Chambers uses emetics if there is gastric disturbance. Think I have seen quinine do it. Use an emetic first, if it seems indicated. J. O. WHITNEY.

PAWTUCKET, R. I.

### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM OCTOBER 13, 1882, TO OCTOBER 20, 1882.

MOORE, JOHN, major and surgeon, medical director, headquarters Department of the Columbia. Granted leave of absence for one month, with permission to apply to headquarters Military Division of the Pacific for extension of one month. S. O. 145, Department of the Columbia, October 3, 1882.

WOODWARD, J. J., major and surgeon. Leave of absence extended four months on account of sickness. S. O. 233, A. G. O., October 6, 1882.

WATERS, W. E., surgeon. Ordered to Madison Barracks, N. Y., for duty as post surgeon. S. O. 178, Department of the East, October 5, 1882.

LOHMEYER, LEONARD Y., captain and assistant surgeon. Granted leave of absence for four months. S. O. 243, A. G. O., October 18, 1882.

BYRNE, CHARLES B., captain and assistant surgeon. Leave of absence extended ten days. S. O. 243, A. G. O., October 18, 1882.

CRAMPTON, LOUIS W., captain and assistant surgeon. To be relieved from duty in Department of Dakota, and to report in person to commanding general, Department of the East, for assignment. S. O. 237, A. G. O., October 11, 1882.

BARRETT, RICHARDS, captain and assistant surgeon. Relieved from duty in Department of the Platte, and to report in person to commanding general, Department of the East, for assignment. S. O. 237, A. G. O., October 11, 1882.

CALDWELL, D. G., captain and assistant surgeon. Granted leave of absence for one month, with permission to apply for an extension of three months. S. O. 106, Department of the Platte, October 3, 1882.

APPLE, A. H., first lieutenant and assistant surgeon. Granted leave of absence for one month. S. O. 168, Department of Dakota, October 11, 1882.

CARLE, EDWARD C., assistant surgeon. Now at Camp Price, to proceed to Fort Thomas, and report to the commanding officer of that post for duty. S. O. 159, Department of Arizona, October 11, 1882.

EVERTS, EDWARD, assistant surgeon. Assigned to duty at Fort Ceur d'Alene, I. T. S. O. 143, Department of the Columbia, October 3, 1882.

TAYLOR, A. W., assistant surgeon. Relieved from duty at Fort Supply, I. T., and assigned to duty at Fort Cammings, New Mexico. S. O. 208, Department of the Missouri, October 16, 1882.

KANE, JOHN J., assistant surgeon. Granted leave of absence for one month, with permission to apply for extension of three months. S. O. 202, Department of Missouri, October 9, 1882.

BRECHEMIN, LOUIS, assistant surgeon. Relieved from duty in Department of Dakota, and to report in person to commanding general, Department of the East, for assignment. S. O. 237, A. G. O., October 11, 1882.

GRAY, W. W., first lieutenant and assistant surgeon. To be relieved from duty in Department of the Columbia, and to report in person to commanding general, Department of the South, for assignment. S. O. 237, A. G. O., October 11, 1882.

WAKEMAN, W. J., first lieutenant and assistant surgeon. Upon being relieved at Fort Douglas, U. T., to proceed to Fort Bel Steele, W. T., and report to the commanding officer at that post for duty in the absence of Assistant Surgeon D. G. Caldwell, on leave of absence. S. O. 106, Department of the Platte, October 6, 1882.

MCCLUREY, GEORGE, assistant surgeon. To report in person to the Superintendent Mounted Recruiting Service, Jefferson Barracks, Mo., to conduct a detachment of recruits to the Department of Arizona. On completion of that duty to rejoin his station in that department. S. O. 233, A. G. O., October 6, 1882.

BIRMINGHAM, H. P., assistant surgeon. To proceed to Fort Bayard, New Mexico, when relieved at Fort Elliott, Texas, and report to the commanding officer for duty. S. O. 198, Department of the Missouri, October 3, 1882.

EWEN, CLARENCE, assistant surgeon. Relieved from duty at Fort Elliott, Texas, to proceed to Fort Gibson, I. T., and report to the commanding officer at that post for duty. S. O. 198, Department of the Missouri, October 3, 1882.

APPOINTMENT. — At a meeting of the Trustees of the Free Hospital for Women, held October 19, 1882, Dr. J. W. Elliot was elected Assistant Surgeon to the institution.

SUFFOLK DISTRICT MEDICAL SOCIETY. — There will be a stated meeting of the Suffolk District Medical Society on Saturday, October 28th, at 19 Baylston Place, at 7.30 p. m. Readers: Dr. H. J. Barnes, Boston's Water Supply; Dr. A. C. Garratt, Static Electricity as a Remedy. Dr. Morton Prince will exhibit some preparations showing the Bacterium of Red Sweat. Supper at nine o'clock. H. C. HAYEN, Secretary.

GYNECOLOGICAL SOCIETY OF BOSTON. — The next regular monthly meeting will be held in the Medical Library Rooms, 19 Baylston Place, on the first Thursday in November, at eleven o'clock a. m. Reader, Dr. A. L. Norris. Subject, A Series of Clinical Cases in Obstetrics.

HENRY M. FIELD, M. D., Secretary.  
A. L. NORRIS, Secretary pro tem.

## Original Articles.

CLINICAL OBSERVATIONS ON ALBUMINURIA,  
BASED UPON A STUDY OF SIXTY-TWO  
CASES SEEN IN PRIVATE PRACTICE.<sup>1</sup>BY ARTHUR V. MEIGS, M. D.,  
*Physician to the Pennsylvania Hospital.*

DURING the last eight or nine years it has been my habit to keep a record of the examinations of urine I have made. That record now contains notes of between sixteen and seventeen hundred examinations, and a study of it recalls to my mind, with more or less distinctness, the histories of sixty-two persons suffering with albuminuria.<sup>2</sup> In a number of instances I have been able to follow cases for a series of years; from this circumstance in particular, the number of years the patients were under observation, I have been enabled to satisfy myself of some clinical facts, particularly in reference to the diagnosis and prognosis in this complaint, which I hope may be worthy of your attention.

That which has most impressed me is the impossibility of making a prognosis, with any degree of exactitude, in most cases of Bright's disease. Of course, in the plainer ones, the decision is easy; if asked an opinion in a case with a large, or even moderate amount of albumen in the urine, with increasing heart failure, and evident decline of strength and vitality, with headaches and the peculiar white complexion of the disease, it is easy to prophesy that such a person will not live long, and the prophecy, nine times in ten, comes true; if called, however, to decide questions of the future for a young man of thirty-two or three, previously well, but for some weeks complaining of headaches, malaise, and boils, and then examination of the urine shows a slight amount of albumen, granular and hyaline casts, and abundance of rather small oxalates, the question of the future is not so easily decided. I have seen such cases go on pretty well for a few months, then suddenly have convulsions, and die in a few days. Again, persons presenting identical symptoms, after being sick a few weeks or months, entirely recover. To my mind it is impossible, in the present state of our knowledge, to anticipate the future, and the patient should always have the benefit of the doubt, and be shown the brighter rather than the darker side of the picture.

I know of three persons in whose urine I found albumen and tube-casts, accompanied with all the other signs of Bright's disease more than eight years ago, who are yet alive. One is a lawyer in easy circumstances, who was taken sick in January, 1874, when he was fifty-six years of age, with what appeared to be a bad cold, but he had extreme dyspnoea and excessive restlessness and nervousness, although he is usually very self-composed. The dyspnoea seemed greater than could be accounted for by the extent of disease of the lungs, which amounted only to a moderate bronchitis; the urine being examined, it was found to contain a trace of albumen, some blood, and tube-casts. It should be said that this man had suffered in previous years with attacks of gravel, when

he would pass blood and small calculi. Nearly four years afterwards there was still a trace of albumen in the urine, and granular casts, showing that the condition was by no means merely temporary. Ever since he is liable to severe cold, and always suffers more than common with oppression, although it usually takes the form of a common coryza. He is now sixty-four years old, and an unusually young-looking, active man of his years.

In contrast with this case, a woman of about sixty was seized in the night, having gone to bed apparently in her usual health, with an attack of oppression, and what her physician called congestion of the lungs, so violent that it was thought she would die at once; she, however, rallied by morning. An examination of the urine, made a few days afterwards, revealed the presence of a slight trace of albumen and casts. Four months afterwards there was still a trace of albumen in the urine, and granular and fatty casts, although she was up and about as usual, being merely very weak, having no apparently urgent renal symptoms. At a later examination the trace of albumen was still found, but no casts. About seven months from the first discovery of the disease she had another violent attack of oppression, and died in a few hours. Now what are the points to distinguish these two cases? One died after a few months' illness, and the other, having had apparently the same complaint and almost identical symptoms, is, after eight years and a half, still alive, and more, apparently, unusually well for his time of life.

In December, 1874, a lawyer in full practice, then about fifty-seven years of age, was taken with an attack of acute catarrhal pneumonia, and was also found to have albumen and tube-casts in the urine. He was sick all that winter and the following spring, the urine constantly containing albumen and granular and hyaline casts. The albumen and casts were found in the urine during 1875 and 1876, and part of 1877. On May 2, 1877, about two and a half years from the onset of the disease, there was at last no albumen found, and the microscope revealed nothing abnormal. Since that time, although the urine was examined in 1878, 1880, 1881, and 1882, there has never been found either albumen or tube-casts, and the patient, now a man sixty-five years of age, enjoys very good health, having had no return of the disease in more than five years.

The third case is a woman, whose father, brother, and two sisters have died of the same disease. She has had a trace of albumen and hyaline and granular casts in her urine since March, 1874, when she was about thirty-one years of age. I have records of this condition in 1874, 1876, 1879, 1880, 1881, and 1882. In February last she caught cold, and seemed for some time upon the verge of a severe renal attack, having coryza, so that her nose was almost entirely stopped, and there were bronchial râles heard in the chest, but an amount of dyspnoea, seemingly out of all proportion to the extent of the disease, that could be detected by physical exploration; the albumen in the urine also increased very much in quantity. In some weeks, however, she recovered, and this summer seems in her usual health.

The father of this patient had a severe attack of hepatic colic, and passed several gall-stones in 1877, but afterwards he continued in pretty fair health for some time. On May 9th, 1879, a trace of albumen was

<sup>1</sup> Read before the Philadelphia College of Physicians, October 4, 1882.

<sup>2</sup> Many of these cases occurred in the practice of my father, Dr. J. Forsyth Meigs, but a large majority of them I saw from time to time myself.

found in the urine; this continued to be present at succeeding examinations, but no tube-casts were found at this time, or afterwards, although they were carefully sought for, and about December, 1880, eighteen months from the original discovery of his disease, he succumbed to an attack of uræmic convulsions, being seventy years of age. A son and two daughters of this man died of the same disease some years before. The son, after having had dropsy, lived for several years in tolerable comfort, until a severe cold proved fatal. With the history of this son, and one of the daughters, I am not familiar, but the third one I saw, and she died in convulsions. The condition of this person before her final illness, which lasted only a few days, was in no way different from that of her sister, who is still living, and has had the disease for nearly nine years, and the attack which the surviving one had last March was exactly like those of which I have frequently seen other people die.

I maintain, therefore, that with our present knowledge it is impossible, in doubtful cases, to prognosticate what the result will be, and that for the patient and his family, as well as for the credit of our profession, we should be very guarded in our prognosis. The presence of albumen and tube-casts in the urine, even when found for so long a time as two years continually, is not, as shown by one of the histories I have detailed, a reason why we should necessarily give a fatal prognosis, and this is particularly the case when the patient is a person past middle life. In the face of such authorities as Beale and Grainger Stewart, many practitioners think the microscopists can better judge (by examining the urine) of the stage and form of Bright's disease, they have to deal with than they themselves can. Grainger Stewart is emphatic upon the subject. On page 271 of the American edition of his work on Bright's Disease, he says: "Some authors attach great importance to the tube-casts. They are of undoubted value in establishing the existence of Bright's disease, considered generically, but they afford comparatively little assistance in the differential diagnosis of the different forms. Any form of tube-cast may occur in any form of the disease and at almost any stage. Indeed, all the leading varieties may occur simultaneously in one case." Beale says: "Dr. Basham thinks he can judge of the stage of Bright's disease by the character of the urinary sediment. I wish I could agree with him in this conclusion. The more carefully the matter is investigated the more convinced am I that it is unsafe in many cases to attempt to draw inferences as to the stage of the disease from the character of the urinary sediment only. Nothing but a careful consideration of every point connected with the case will enable us to arrive at a general conclusion concerning the state of the disease. . . . Dr. Basham says: 'The most intractable and hopeless form of *morbus Brightii* is that represented by the presence of the fatty or oily cast.' This statement requires some qualification, for although it is quite true that some of these cases are terribly and rapidly fatal, it must be admitted that some live for twenty years or more, and die at last of other disorders." With regard to the presence of oily casts in the urine, and it is upon their discovery that microscopists found their gravest prognosis, Dr. George Johnson says: "The appearance of oily casts and cells excites less alarm now than

it formerly did. It indicates that in certain parts of the kidney the secreting cells and inflammatory exudations are undergoing fatty transformation; but I have seen many cases of complete recovery after oily casts and cells in great numbers had appeared in the urine continuously for many weeks."

A very common symptom of renal disease, and one upon which there is not much stress laid in the majority of books upon the subject, is dyspnoea. Whenever a patient is found suffering with dyspnoea, and particularly if there is great nervousness and loss of self-control and anxiety, with no other fully sufficient cause for its existence, suspicion of renal disease should be aroused, and the urine examined, even if there are no other symptoms whatever pointing toward a lesion of the kidney. These attacks of dyspnoea frequently come on with great suddenness in persons who have not considered themselves sick, and such attacks are often quite rapidly fatal. This condition has been described as renal asthma, but I believe it much more common than is usually supposed. Another symptom of Bright's disease, which I have frequently noticed, and have never heard described, is coryza, of such a character that it gives rise to very much greater distress than any ordinary cold in the head; with this there is not much discharge from the nose, but the patient complains that he can get little or no air, except through the mouth, this being accompanied with excessive oppression, much more than the condition would seem to warrant. This symptom was first called to my attention by my father, Dr. J. Forsyth Meigs, in a case we saw together about nine years ago.

The suddenness of the onset, or perhaps it would be more correct to say of the discovery of the existence of this disease, is often very great. In one instance I knew of a young man, previously supposed healthy, seized with a convulsion while sitting at the supper table, after he had finished his day's labor as a wagon driver; this was followed by others, and the case ended fatally in a few days. In a second case I was called upon by a young woman to explain a swelling of the vulva, with which she was suffering; examination of the urine revealed the existence of a large amount of albumen; this continued for some time, but after prolonged use of iron her condition improved, and she had apparently fair health, until about two years later she became pregnant, and died within a few days after the birth of her child. In a third case, a man, fifty-four years of age, was seized in the night with epistaxis, a thing he had not had since he was a boy; examination of the urine revealed the cause, and about six weeks later he was found one morning insensible in the bath-tub; examination showed that he had right hemiplegia, and he died in three days; a vessel in the brain had ruptured, presumably from the same degeneration which, six weeks earlier, had caused the nose bleed. On the other hand, the insidious nature of this disease, and of its onset, is a matter of such common report that I will not weary you with any cases illustrative of this fact.

The existence of oxaluria, or of uric acid lithiasis, is a prolific source of mischief to the kidney. The deposit of oxalates or uric acid in the kidney and its passage outwards occurs most frequently in persons who are large eaters, living an inert life, and taking but little exercise. Such people are common among the rich in large cities, and I have seldom failed to find tube-casts in the urine of any one who passed

1 Kidney Diseases, Urinary Deposits, and Calculus Disorders.

2 Lecture on Bright's Disease, New York, 1874.

gravel for any length of time, whether oxalates or uric acid, even if the calculi were microscopic in size, and this commonly before any albumen was to be found. Later, if there is any considerable amount of gravel passed, albumen and blood will be found in the urine. If the attacks of gravel occur often, they are apt at last to be followed by Bright's disease, directly caused, probably, by the mechanical irritation of the lining membrane of the tubules of the kidney by the sharp edges of the minute calculi passing through them.

It cannot be proved by statistics, and yet I think there is strong ground for believing that the proportion of deaths caused by affections of the kidney is greatly on the increase. The tendency of modern life seems to be such that a larger number of deaths are caused by degenerative processes, and less by acute disorders. In former times children were less delicately reared, and a larger proportion of the frailer ones probably died from exposure and want of care; now, beginning at childhood, and continuing up to old age, we are much more careful to avoid exposure, and are more self-indulgent, at least as far as our bodies are concerned. Who, in modern times, except the professional athletes, would undertake the physical labors of the Emperor Charles V. of Germany, of whom Motley says that he was able to tell, at a time when all journeys were made on horseback or by boat, "of his nine expeditions into Germany, six to Spain, seven to Italy, four to France, ten to the Netherlands, two to England, as many to Africa, and of his eleven voyages by sea!" Nowadays the majority of city men are in their places of business all day, and take but little exercise, eating as much and as rich food as in former times, and drinking not a little withal. The natural and necessary consequence follows that after years of this kind of life the excretory organs degenerate; first the kidney, which is the common sewer of the body, and, like the heart, has to do continual work from the hour of birth until the hour of death. It is a common thing, in modern life, to see a man naturally robust, and gifted with a large appetite, become more inert as years go by, when he will gradually give up his active exercise until finally he takes none; still the eating and drinking go on, and he becomes fat and sluggish; finally he loses health, and then examination shows that degeneration is beginning in the kidney. I could instance several cases of the kind, but my space will not allow me.

The drift of my paper has been to try to establish, that we should, in all ordinary cases of albuminuria, be very guarded in our prognosis, except when it is self-evident that the case must be rapidly fatal. I have now under observation fifteen persons, seventeen, if I count two who have albuminuria alternating, or parallel, with diabetes mellitus, who have been suffering with this complaint for a greater or less length of time. With three of them, the disease began nearly nine years ago, and they either have it now or have entirely recovered from it after more than two years' continual duration; yet in regard to no one of them do I feel able, even in my own mind, to guess, much less to formulate an opinion, as to how much longer they may live. There are absolutely no data, if such cases are considered in the light of the experience of the sixty-two I shall mention, upon which to found a positive prognosis.

Another observation I have made is in regard to the deaths of very old people. We are all agreed I

presume, that when a very old person dies, and we report the death as one of old age, it is because we are unable to put the finger upon the exact part of the old and worn out machinery that at last refuses to work, and thereby causes all the rest of the mechanism to stop. This direct cause, if sought for, will frequently be found in the kidney. To examine the urine is not always a thing that strikes us, particularly when absolutely no symptoms appear to point toward kidney disease. I have seen a number of instances in which old people seemed to be fading out, as they often do, yet have felt entirely unable to explain to myself any direct cause for the failure, until the urine was examined, when there was found albumen, with granular and hyaline casts, and sometimes a few blood corpuscles. A careful inquiry would perhaps reveal the fact, that the amount of urine passed was very small, all this without any other symptom to point toward kidney disease; at the same time the failure of the patient being very gentle and gradual, or else, as not infrequently has happened, senile delirium existed, either violent or mild in type, followed at last by death.

In the whole sixty-two cases, which I will now summarize collectively, there have occurred twenty-six deaths, thirty-four are, to my knowledge, still living, some in better and some in worse health, and of two I have lost sight.

Five were cases of ordinary acute desquamative nephritis, with the occurrence of one death and four recoveries. In one instance, a child, there were two attacks, two years apart, the first being unaccounted for, the second following scarlet fever; the second case occurred after scarlet fever; the third after diphtheria; the fourth was in a young man apparently healthy previously, and now in good health; his attack only lasted a short time; the fifth and fatal case was in a boy of about fifteen years of age, and came on while he was at boarding-school, the onset being insidious, and the disease progressing from bad to worse, until death occurred.

Four cases seemed to be caused by the passing of gravel, principally oxalates. These people are still all living, although they have had albumen and casts present in the urine, on and off, for varying lengths of time; two of them for six years past, one for seven years, and the fourth has had two attacks of nephritic colic, about a year apart; on each occasion albumen and granular casts, uric acid, and blood corpuscles were found in the urine.

Twenty-two cases I class as of ordinary Bright's disease, there being probably contracted kidney in the majority of instances, and of them fourteen are dead. I made no post-mortem examination in any one of these cases. In most of these cases (seventeen of them) the onset was insidious, there being no illness to mark the beginning of the disease; in one, the patient was seized with a convulsion at the supper-table, having been supposed previously to be in good health; in a second, there was a violent attack of congestion of the lungs, with terrible dyspnoea during the night, the patient, a woman, having gone to bed thinking herself in good health; in a third, there was dyspnoea and congestion of the lungs occurring suddenly; in a fourth, the condition of the kidneys was discovered concurrently with an attack of catarrhal pneumonia; a fifth was a man who had had attacks of nephritic colic. He had a violent attack of congestion of the lungs, with bron-

chitis and dyspnoea, and was found to have albumen and casts in the urine, which condition continued, on and off, for four years; he is now in apparently good health, although the first attack was nearly nine years ago. Of these twenty-two cases, two were in one family, one soon dying, and of the other I have lost sight; two in another family, one dying and the other, I think, being still alive, although the disease was discovered three years ago; five cases occurred in another family, the father, son, and three daughters. The father and mother of this family had ten living children, five reaching adult life, one died of consumption, and the other three, and the father, of Bright's disease, the surviving daughter has had the disease for nearly nine years. In another family there were three cases, all women; one died, having had uræmic convulsions, and the other two still live, both having had the disease for about three years. A brother has now cancer of the rectum. The mother is still alive, and, although seventy-four, enjoys good health. The father died at quite an advanced age, but I do not know of what disease.

The next twenty-two cases I must classify as unaccountable; eighteen of them occurred in persons over sixty years of age, and the other four were well on in life; one was over ninety, three over eighty, and two over seventy years of age. Of these people only five are dead, and of the five fatal cases one was the man over ninety, two were over eighty, a fourth was seventy-seven, and the fifth sixty-seven.

The next four cases were of people advanced in life, and they died of general break-down, having in three instances concurrent disease of the heart and kidneys, with implication of the lungs, and the fourth had renal and brain disease.

In two instances there has been albuminuria with diabetes mellitus; in one sugar was discovered in the urine six, and in the other four, years ago. Since then there has been sometimes sugar, and at others albumen; at times both at once in the urine of these two women. In neither instance have tube-casts ever been found. I mention these two cases in a paper upon albuminuria, because both have frequently had albumen in the urine, and I confess myself unable to explain the phenomenon, the quite frequent presence of albumen in the urine, without tube-casts, or any other sign of renal disease, and yet I can hardly believe the albumen to be merely due to cystitis, for if that were so it should be constantly present.

In one instance I have followed for four years the history of a man who drinks to excess. At the beginning of, and for a time before, his attacks of delirium tremens, while he is consuming alcohol freely, he often has bloody urine, which will contain tube-casts of all the varieties at different times, fatty, hyaline, and granular. When he ceases his consumption of alcohol, as he has quite frequently done for two or three months at a time, the urine becomes normal, as far as chemical tests and microscopic examinations will reveal its condition. In the light of this case how can we believe that the abuse of alcohol does not produce renal degenerations? Is not this man sure to die of Bright's disease if he continues his indulgence in alcohol?

Another case was a man over fifty years of age, who was seized with rheumatism; he progressed badly, and was much more sick than the amount of rheumatism would seem to warrant, and at last, after about

three weeks, died, having obstruction of the bowel and inflammation of the kidneys, as shown by the presence of albumen and tube-casts in the urine; also hydrothorax, and extreme stupor, which seemed uræmic. This man had had an attack of influenza about three or four weeks previous to his fatal illness. Can there be any connection between the severe influenza, and the rheumatism, and renal inflammation and obstruction of the bowel, of which this patient died?

The last case I will mention was a boy, who died very suddenly of congestion of the lungs, probably the first stage of pneumonia. A trace of albumen and granular casts were found in his urine, which was obtained a short time before death. This boy was about sixteen years of age, and did not seem much sick on the afternoon of one day, being up and dressed, the next morning dying, in a state of maniacal delirium, with his lungs extremely congested. There was, unfortunately, no post-mortem examination made. This case would seem one in which the pulmonary affection was primary, and yet it might be that he had a latent contracting kidney.

There has been much said of later years about kidney disease without the presence of tube-casts in the urine, and of the presence of casts without albumen. I may say that I have frequently found tube-casts in the urine when the most careful chemical examination failed to detect any albumen, and *vice versa*, have failed to find any casts at all, when the event proved the existence of renal disease.

The subject of treatment I have not even mentioned in my paper, although much might be said about it, because I have already trespassed too long upon your time.

In conclusion I will briefly recapitulate the points which it has been my endeavor in this paper to prove.

First, that in no ordinary, uncomplicated case of Bright's disease, should a prognosis of speedy death, or even of incurable disease, be given, for I have related cases in which the disease was chronic, lasting more than two years, and which ended in complete recovery, and others in which the person affected has lived nearly nine years.

Second, that dyspnoea, usually taking the form of renal asthma, is much more common than is usually supposed, and, when properly appreciated, is a valuable diagnostic sign of the disease; also that severe coryza is a complication or accompaniment, and has a diagnostic value.

Third, that Bright's disease, as a cause of death, is on the increase.

Fourth, that it is a very common cause of the deaths of old people, probably being the direct cause in many deaths reported as of old age.

Fifth, that the passage of gravel, even when microscopic in size, but particularly if large enough to cause nephritic colic, is a prolific cause of the disease.

Sixth, that the occurrence of tube-casts in the urine, without, or in advance of, the presence of albumen, is very common, and *vice versa*, persons may die of Bright's disease, and the most careful examination fail to show any tube-casts, although there may be albumen constantly present in the urine.

Seventh, that the abuse of alcohol is certainly a cause of kidney disease, as proved by the case I have related, in which it has, again and again, caused hemorrhage from the kidney, with the temporary presence of albumen and tube-casts in the urine, disappearing again with the cessation of its consumption.



## ONE HUNDRED CASES OF ANTISEPTIC OVARIOTOMY.

BY JOHN HOMANS, M. D.

| No. | Date.           | Place of Operation. | Condition. | Age. | Length of Incision. | Adhesions.  | Treatment of Pedicle.  | Weight of Tumor.      | Result.   | Remarks.   |
|-----|-----------------|---------------------|------------|------|---------------------|---|--|-----------------------|-----------|--|
| 1   | Feb. 27, 1877.  | Carney Hospital.    | S.         | 16   | 1½ in.              | Slight and vascular, to omentum.  | Tied in halves with carbolized catgut.                                     | 21 lbs.               | Recovery. | Well, strong, and working hard in 1878. Catmenia regular since August, 1877.   |
| 2   | Mar. 30, 1878.  | Carney Hospital.    | S.         | 20   | 5 in.               | Almost universal to anterior and lateral abdominal parietes.                            | Do.  | 29 lbs.               | Recovery. | Went home at the end of four weeks. Catmenia regular since May, 1878. In November, well and strong. Has gained twenty pounds in weight.  |
| 3   | Aug. 31, 1878.  | Carney Hospital.    | W.         | 58   | 4 in.               | To uterus by strong and thick vascular bands.   | Do.  | 20 lbs.               | Recovery. | Went home at the end of four weeks.  |
| 4   | Sept. 17, 1878. | Carney Hospital.    | W.         | 60   | 4 in.               | Delicate cellular adhesions to envelope, like those of an easily separable fatty tumor. | No pedicle.  | 24 lbs.               | Recovery. | Went home on sixteenth day.  |
| 5   | Sept. 29, 1878. | Carney Hospital.    | M.         | 24   | 4½ in.              | Slight peritoneal. Extensive omental.   | Tied as in other cases.  | 14 lbs.               | Recovery. | Went home on twenty-first day. Peritonitis and purulent inflammation of the cyst walls at time of operation.   |
| 6   | Nov. 8, 1878.   | Boston.             | S.         | 48   | 4 in.               | Strong and intimate to peritoneum, pelvis, to mesentery, and intestine.                 | Do.  | 42½ lbs.              | Death.    | From shock in fourteen hours.  |
| 7   | Dec. 28, 1878.  | Northfield, Vt.     | M.         | 47   | 5 in.               | To intestine and omentum.   | Tied with catgut, without transfixion. Several circular ligatures applied. | Not determined.       | Recovery. | A burst papillomatous cyst, peritoneal, with patches of lymph on the peritoneum, and considerable ascites were present. Patient had been vomiting, and had hectic fever for two weeks. A piece of cyst wall, adherent to intestine, was cut with scissors, and left otherwise undisturbed. |
| 8   | Feb. 13, 1879.  | Reading, Mass.      | M.         | 38   | Unbil. to pub. vis. | To rectum and pelvis.   | Tied with catgut and silk and dropped back.                                | 3 lbs. ascitic fluid. | Recovery. | Died eight months later of cancer.   |
| 9   | March 6, 1879.  | Carney Hospital.    | M.         | 26   | 3½ in.              | Omental.  | Do.  | 30 lbs.               | Recovery. |  |
| 10  | May 11, 1879.   | Carney Hospital.    | M.         | 50   | Unbil. to pub.      | Universal.  | Do.  | Not weighed.          | Death.    | From shock in three hours.   |
| 11  | June 26, 1879.  | Carney Hospital.    | S.         | 28   | 2½ in.              | Slight parietal.  | Tied with many ligatures.  | 12 lbs.               | Recovery. |  |
| 12  | July 16, 1879.  | Carney Hospital.    | S.         | 41   | Unbil. to pub.      | To abdominal parietes, liver, omentum, and mesentery.                                   | Tied with catgut.  | 18 lbs.               | Death.    | Shock.   |
| 13  | Oct. 1, 1879.   | Carney Hospital.    | M.         | 41   | 5 in.               | None.   | Do.  | 21 lbs.               | Death.    | Hæmorrhage from slipping of catgut ligature ten hours after operation.   |
| 14  | Nov. 26, 1879.  | Carney Hospital.    | S.         | 24   | 6 in.               | Slight.   | Tied with carbolized silk and dropped back.                                | 12 lbs.               | Recovery. | Both ovaries removed. Menstruation regular, but more painful than before ovariectomy. One cyst demoid.   |
| 15  | Dec. 21, 1878.  | Carney Hospital.    | S.         | 33   | 4 in.               | Omental and intest.   | Do.  | 25 lbs.               | Recovery. |  |
| 16  | Feb. 8, 1880.   | Boston.             | M.         | 39   | 4 in.               | None.   | Do.  | 25 lbs.               | Recovery. |  |
| 17  | Mar. 7, 1880.   | Carney Hospital.    | M.         | 28   | 3 in.               | None.   | Do.  | 27 lbs.               | Recovery. | Cyst of left broad ligament.   |
| 18  | Mar. 23, 1880.  | Taunton.            | M.         | 37   | 3½ in.              | Slight.   | Do.  | 20 lbs.               | Recovery. |  |
| 19  | April 1, 1880.  | Carney Hospital.    | S.         | 18   | 5 in.               | Universal and intimate to anterior parietes, and slight to quelin's cavity.             | Tied as above, and made to anterior parietes with Faguet's cautery.        | 4½ lbs.               | Recovery. | Adhesions burnt off with Paquelin's cautery.   |
| 20  | April 17, 1880. | Fall River.         | M.         | 48   | 3 in.               | None.   | Do.  | 8½ lbs.               | Recovery. |  |
| 21  | April 29, 1880. | Carney Hospital.    | S.         | 58   | 24 in.              | None.   | Do.  | 14 lbs.               | Recovery. |  |
| 22  | May 18, 1880.   | Mt. Holly, Vt.      | M.         | 38   | 3½ in.              | None.   | Do.  | 50 lbs.               | Recovery. |  |
| 23  | July 10, 1880.  | Boston.             | M.         | 57   | 4 in.               | None.   | Do.  | 48 lbs.               | Recovery. |  |
| 24  | July 15, 1880.  | Carney Hospital.    | S.         | 47   | 4 in.               | None.   | Do.  | 18 lbs.               | Recovery. | Cyst of left broad ligament.   |
| 25  | July 31, 1880.  | Carney Hospital.    | M.         | 47   | 6 in.               | Intimate, and recent to omentum and intestines.   | Do.  | 11 lbs.               | Recovery. | The omentum turned up and laid on a carbolized towel, and the intestines turned downwards towards the pubes during the removal of the cyst.  |
| 26  | Aug. 1, 1880.   | Carney Hospital.    | M.         | 39   | 3½ in.              | None.   | Do.  | 25 lbs.               | Recovery. | Demoid cyst.   |
| 27  | Aug. 21, 1880.  | Carney Hospital.    | M.         | 29   | 6 in.               | Almost universal and recent to parietal peritoneum.                                     | Do.  | 23 lbs.               | Recovery. | Papilloma.   |
| 28  | Aug. 22, 1880.  | Carney Hospital.    | M.         | 29   | 6 in.               | Slight.   | Do.  | 51 lbs.               | Recovery. | Forty ounces of serum removed by aspiration from the left thoracic cavity on the fourth day after ovariectomy.   |
| 29  | Sept. 1, 1880.  | Woburn, Mass.       | M.         | 46   | 8 in.               | To peritoneum, small intestine, and diaphragm; firm and old.                            | Do.  | 39 lbs.               | Death.    | Exhaustion on 5th day. Very hot weather.   |

| No. | Date.           | Place of Operation.      | Condition. | Age. | Length of Incision. | Adhesions.   | Treatment of Pedicle.                               | Weight of Tumor. | Result.   | Remarks.   |
|-----|-----------------|--------------------------|------------|------|---------------------|--|---|------------------|-----------|--|
| 30  | Sept. 2, 1880.  | Auburndale.              | M.         | 47   | 7 in.               | None.  | Tied as above, and burnt off with Paquin's cautery. | 40 lbs.          | Recovery. | Fluid gelatinous.  |
| 31  | Sept. 7, 1880.  | Carney Hospital.         | M.         | 27   | 6 in.               | Intimate and old, or congenital, to small intestine, mesentery, and uterus; in fact, incorporated with them. | Do.   | 20 lbs.          | Death.    | Shock. Papilloma.  |
| 32  | Sept. 23, 1880. | Carney Hospital.         | M.         | 33   | 4 in.               | Recent to anterior peritoneum.   | Do.   | 16 lbs.          | Recovery. | Sixty-five pounds of ascitic and ovarian fluid removed by tapping within the last three weeks before operation.  |
| 33  | Oct. 2, 1880.   | Carney Hospital.         | S.         | 48   | 5 in.               | Universal, old and new, to peritoneum.   | Do.   | 38 lbs.          | Recovery. | Cyst more or less encalcified.   |
| 34  | Oct. 6, 1880.   | Carney Hospital.         | W.         | 38   | 3 1/2 in.           | Solid, old, to uterus, oment. and pelv.  | Do.   | 15 1/2 lbs.      | Recovery. |  |
| 35  | Oct. 23, 1880.  | Carney Hospital.         | M.         | 45   | 2 1/2 in.           | None.  | Do.   | 10 1/2 lbs.      | Recovery. |  |
| 36  | Nov. 6, 1880.   | Carney Hospital.         | W.         | 31   | 2 1/2 in.           | None.  | Do.   | 2 1/2 lbs.       | Recovery. |  |
| 37  | Nov. 18, 1880.  | Carney Hospital.         | S.         | 31   | 6 in.               | To intestine and uterus.   | Do.   | 18 lbs.          | Recovery. | The portion of the cyst adherent to bowels was cut out and left behind.  |
| 38  | Nov. 28, 1880.  | Carney Hospital.         | W.         | 52   | 3 in.               | Do.  | Do.   | 30 lbs.          | Recovery. | Diseased kidneys.  |
| 39  | Dec. 1, 1880.   | Carney Hospital.         | M.         | 37   | 6 in.               | None.  | Tied and burnt off with Paquin's cautery.           | 27 lbs.          | Death.    |  |
| 40  | Dec. 18, 1880.  | Carney Hospital.         | S.         | 54   | 6 in.               | Parietal.  | Do.   | 110 lbs.         | Death.    | Facial erysipelas on the fourteenth day.   |
| 41  | Dec. 21, 1880.  | Carney Hospital.         | S.         | 58   | 3 in.               | Slight.  | Do.   | 25 lbs.          | Recovery. |  |
| 42  | Jan. 6, 1881.   | Carney Hospital.         | S.         | 26   | 5 in.               | None.  | Tied and burnt off with Paquin's thermo-cautery.    | 14 lbs.          | Recovery. |  |
| 43  | Jan. 26, 1881.  | Carney Hospital.         | S.         | 58   | 5 in.               | None.  | Do.   | 15 1/2 lbs.      | Recovery. | Dermoid cyst. Considerable ascites.  |
| 44  | Jan. 27, 1881.  | Carney Hospital.         | W.         | 43   | 5 in.               | To both Fallopian tubes and to sigmoid flexure.  | Do.   | 9 1/2 lbs.       | Recovery. |  |
| 45  | April 5, 1881.  | Carney Hospital.         | S.         | 40   | 6 in.               | None.  | Do.   | 5 lbs.           | Recovery. | Dermoid cyst, and attached to this a spindle-celled sarcomatous tumor. A uterine fibroid, two pounds' weight, also removed.  |
| 46  | April 14, 1881. | Carney Hospital.         | M.         | 40   | 4 1/2 in.           | None.  | Do.   | 36 lbs.          | Recovery. |  |
| 47  | April 16, 1881. | Carney Hospital.         | M.         | 42   | 8 in.               | Parietal, intestinal, and omental.   | Do.   | -                | Death.    | Died of exhaustion on the third day. Very severe operation. Tumor very vascular and nearly solid.  |
| 48  | April 17, 1881. | Carney Hospital.         | M.         | 29   | 4 1/2 in.           | Strong and old; anterior.  | Do.   | 42 1/2 lbs.      | Recovery. | Both ovaries removed.  |
| 49  | May 5, 1881.    | Carney Hospital.         | M.         | 24   | 4 in.               | None.  | Do.   | 26 lbs.          | Recovery. |  |
| 50  | May 22, 1881.   | Free-Hospital for Women. | M.         | 39   | 5 in.               | None.  | Do.   | 12 lbs.          | Recovery. | Much ascitic fluid.  |
| 51  | May 26, 1881.   | Carney Hospital.         | M.         | 42   | 7 in.               | Very vascular; anteriorly and to omentum.  | Do.   | 15 lbs.          | Recovery. | Considerable hæmorrhage during operation.  |
| 52  | June 8, 1881.   | Carney Hospital.         | M.         | 40   | 4 1/2 in.           | None.  | Do.   | 10 lbs.          | Recovery. | Cyst dark blue, very vascular. In appearance resembling the fetal side of a placenta.  |
| 53  | June 9, 1881.   | Boston.                  | M.         | 42   | 4 in.               | None.  | Do.   | 13 lbs.          | Recovery. |  |
| 54  | June 11, 1881.  | Carney Hospital.         | M.         | 51   | 4 in.               | None.  | Do.   | 34 1/2 lbs.      | Recovery. |  |
| 55  | June 21, 1881.  | Boston.                  | S.         | 18   | 4 in.               | Anteriorly and to omentum.   | Do.   | 25 lbs.          | Recovery. |  |
| 56  | June 20, 1881.  | Carney Hospital.         | W.         | 55   | 6 in.               | None.  | Do.   | 13 lbs.          | Recovery. | Tumor cancerous.   |
| 57  | July 1, 1881.   | Carney Hospital.         | S.         | 39   | 4 in.               | None.  | Do.   | 8 lbs.           | Recovery. | Pedicle slipped from clamp before it was burnt off, and in order to pick it up and secure it the incision had to be enlarged. Cyst of broad ligament.  |
| 58  | July 11, 1881.  | Carney Hospital.         | M.         | 23   | 4 in.               | None.  | Do.   | 11 1/2 lbs.      | Recovery. |  |
| 59  | July 25, 1881.  | Carney Hospital.         | S.         | 14   | 3 in.               | None.  | Do.   | 11 1/2 lbs.      | Recovery. |  |
| 60  | July 27, 1881.  | Boston.                  | S.         | 19   | 3 in.               | None.  | Do.   | 12 lbs.          | Recovery. | Both ovaries removed.  |
| 61  | Sept. 1, 1881.  | Carney Hospital.         | S.         | 24   | 3 in.               | None.  | Do.   | 2 1/2 lbs.       | Recovery. | Cyst of the left broad ligament.   |
| 62  | Sept. 8, 1881.  | Carney Hospital.         | S.         | 25   | 7 in.               | None.  | Do.   | 13 lbs.          | Death.    | Cause of death, acute mæmia on eighth day. A careful autopsy, by Dr. W. W. Gammett, showed everything healthy and going on well in the peritoneal cavity. Hereditary insanity in the family. Dermoid cyst. |
| 63  | Sept. 11, 1881. | Carney Hospital.         | M.         | 41   | 5 in.               | Anteriorly to parietes and to uterus.  | Do.   | 33 lbs.          | Recovery. |  |
| 64  | Sept. 18, 1881. | Carney Hospital.         | W.         | 51   | 3 1/2 in.           | Anteriorly to parietes.  | Do.   | 39 lbs.          | Recovery. |  |
| 65  | Sept. 27, 1881. | Frampton, Mass.          | M.         | 60   | 5 in.               | None.  | Do.   | 10 lbs.          | Recovery. | Some ascites.  |
| 66  | Oct. 1, 1881.   | Boston.                  | M.         | 41   | 7 in.               | Universal anteriorly and laterally.  | Do.   | 80 lbs.          | Recovery. | Considerable ascites, which is counted in the weight.  |
| 67  | Oct. 5, 1881.   | Boston.                  | W.         | 15   | 6 in.               | None.  | Do.   | 22 lbs.          | Recovery. | Both walls of bladder incised. No ill effects.   |
| 68  | Oct. 21, 1881.  | Merrimack, Mass.         | S.         | 57   | 6 in.               | Intestinal.  | Do.   | 5 1/2 lbs.       | Recovery. | A portion of the adherent to bowels left behind.   |
| 69  | Oct. 21, 1881.  | Boston.                  | M.         | 48   | 4 in.               | Slight lateral and anterior.   | Do.   | 40 lbs.          | Recovery. |  |

| No.  | Date.           | Place of Operation.       | Condition. | Length of Incision.           | Adhesions.                             | Treatment of Pedicle.                           | Weight of Tumor. | Result.   | Remarks.  |
|------|-----------------|---------------------------|------------|-------------------------------|--|---|------------------|-----------|---|
| 70   | Nov. 15, 1881.  | Boston.                   | W.         | 47 3½ in.                     | None.                                  | Tied and burnt off with Paquin's thermocautery. | 25½ lbs.         | Recovery. |   |
| 71   | Nov. 19, 1881.  | Concord, N. H.            | W.         | 73 6 in.                      | To peritoneum, omentum, and intestine. | Do.   | 29 lbs.          | Recovery. | The age of the patient did not prevent a very rapid recovery, 20.4° F. being the highest temperature.                             |
| 72   | Dec. 1, 1881.   | Provincetown, Mass.       | M.         | 62 6 in.                      | Burst cyst.                            | Do.   | 35 lbs.          | Recovery. | Abdomen filled with gelatinous material, — colloid, — which had originally come from a burst dermoid cyst.                        |
| 73   | Dec. 18, 1881.  | Free Hospital for Women.  | S.         | 30 7 in.                      | To intestine and pelvic peritoneum.    | Do.   | 10 lbs.          | Death.    | Both ovaries removed. The outer surfaces of the tumors of a brown color, and beginning to decay.                                  |
| 74   | Jan. 30, 1882.  | 15 Louisburg Sq., Boston. | M.         | 27 umbil. to pub.             | Omental.                               | Tied and burnt off with Paquin's cautery.       | 13 lbs.          | Recovery. | Dermoid cyst.   |
| 75   | Mar. 14, 1882.  | Boston.                   | S.         | 43 8 in.                      | Omental and peritoneal.                | Do.   | 25 lbs.          | Recovery. | Died two months later of a recurrent tumor.   |
| 76   | Mar. 19, 1882.  | 15 Louisburg Sq.          | M.         | 50 5 in.                      | None.                                  | Do.   | 15 lbs.          | Recovery. |   |
| 77   | Mar. 20, 1882.  | 15 Louisburg Sq.          | W.         | 45 —                          | Parietal and rectal.                   | Do.   | 45 lbs.          | Recovery. | Sixty pounds of cystic fluid removed by tapping a few days before operation in order that the patient could be moved to the city. |
| 78   | Mar. 25, 1882.  | 15 Louisburg Sq.          | M.         | 45 6 in.                      | None.                                  | Do.   | 14 lbs.          | Recovery. | Dermoid cyst.   |
| 79   | April 4, 1882.  | 15 Louisburg Sq.          | M.         | 25 4 in.                      | To uterus.                             | Do.   | 13 lbs.          | Recovery. |   |
| 80   | April 4, 1882.  | Lancaster, Mass.          | S.         | 32 3 in.                      | None.                                  | Do.   | 32 lbs.          | Recovery. |   |
| 81   | April 10, 1882. | Boston.                   | S.         | 15 3 in.                      | None.                                  | Do.   | 9½ lbs.          | Recovery. | Dermoid cyst.   |
| 82   | April 12, 1882. | Carney Hospital.          | M.         | 32 6 in.                      | Omental and parietal.                  | Do.   | 10½ lbs.         | Recovery. | Whether the tumor was ovarian or uterine was not ascertained till after the abdomen was opened.                                   |
| 83   | April 19, 1882. | 15 Louisburg Sq.          | S.         | 23 3½ in.                     | None.                                  | Do.   | 24½ lbs.         | Recovery. | Cyst of the right broad ligament.   |
| 84   | April 20, 1882. | 15 Louisburg Sq.          | S.         | 28 3½ in.                     | Anteriorly to peritoneum.              | Do.   | 24 lbs.          | Recovery. |   |
| 85   | April 22, 1882. | 15 Louisburg Sq.          | M.         | 59* From above umbil. to pub. | None.                                  | Do.   | 23½ lbs.         | Recovery. | Tumor a semi-solid myxoma.  |
| 86   | April 22, 1882. | Jamaica Plain.            | M.         | 30 Do.                        | Parietal.                              | Do.   | 14 lbs.          | Death.    | Of heart disease on fifth day. Tumor semi-solid sarcoma.  |
| 87   | April 23, 1882. | Carney Hospital.          | M.         | 48 4 in.                      | None.                                  | Do.   | 22 lbs.          | Recovery. |   |
| 88   | April 29, 1882. | 15 Louisburg Sq.          | M.         | 60 From above umbil. to pub.  | To ascending colon and to parietes.    | Do.   | 11 lbs.          | Recovery. | Adhesions between colon and cyst separated with difficulty.   |
| 89   | May 5, 1882.    | East Boston.              | M.         | 47 3½ in.                     | None.                                  | Do.   | 39 lbs.          | Recovery. | Cyst of the left broad ligament.  |
| 90   | May 13, 1882.   | 15 Louisburg Sq.          | M.         | 41 6 in.                      | Omental, intestinal, and pelvic.       | Do.   | 12 lbs.          | Death.    | Seventy pounds ascitic fluid. Drainage tube put in. Died on the tenth day.  |
| 91   | June 5, 1882.   | 15 Louisburg Sq.          | M.         | 64 4½ in.                     | Pelvic.                                | Do.   | 7 lbs.           | Recovery. |   |
| 92   | June 12, 1882.  | 15 Louisburg Sq.          | S.         | 24 4½ in.                     | None.                                  | Do.   | 24 lbs.          | Recovery. |   |
| 93   | June 14, 1882.  | 15 Louisburg Sq.          | M.         | 51 4 in.                      | None.                                  | Do.   | 26 lbs.          | Recovery. |   |
| 94   | June 15, 1882.  | 15 Louisburg Sq.          | S.         | 14 3 in.                      | None.                                  | Do.   | 6½ lbs.          | Recovery. | Dermoid cyst.   |
| 95   | June 19, 1882.  | 15 Louisburg Sq.          | S.         | 42 3½ in.                     | None.                                  | Do.   | 25 lbs.          | Recovery. |   |
| 96   | June 22, 1882.  | Carney Hospital.          | S.         | 22 6 in.                      | None.                                  | Do.   | 5 lbs.           | Recovery. | Dermoid cyst.   |
| 97   | June 27, 1882.  | Atausquam, Ms.            | M.         | 37 5 in.                      | Parietal and omental.                  | Do.   | 5 lbs.           | Recovery. | Twenty pounds of pus in cyst. Temperature 101° F. before operation.   |
| 98   | July 8, 1882.   | 15 Louisburg Sq.          | M.         | 22 4½ in.                     | Omental.                               | Do.   | 16 lbs.          | Recovery. |   |
| 99   | July 10, 1882.  | 15 Louisburg Sq.          | M.         | 29 6 in.                      | Universal.                             | Do.   | 30 lbs.          | Recovery. | Two arteries near aorta in left lumbar region were with difficulty tied.  |
| 100† | Aug. 16, 1882.  | 15 Louisburg Sq.          | S.         | 24 3½ in.                     | None.                                  | Do.   | 25 lbs.          | Recovery. | Cyst of the left broad ligament.  |

CEREBRAL ANEMIA AND EXHAUSTION.<sup>2</sup>

BY S. G. WEBER, M. D.

AMONG the conditions of the brain most difficult for diagnosis are those in which there is irregular blood supply. Irregular supply of blood necessitates irregular or deficient nutrition. A badly nourished brain is irritable. Jaccoud states this well: "Under the influence of anæmia and of insufficient nutrition the excitability of the nervous elements is diminished, that is to say, its effects are less energetic, and exhaus-

tion is more rapid; but by reason of the diminished vitality of the cells this excitability is aroused by very slight causes, which in health produce no reaction. The abnormal condition is, then, double: on one hand the reaction is weak and of short duration; on the other it is produced by impressions which ought to have no effect. This double condition can be well expressed by the term irritable or excitable weakness."

This condition is found in all cases of illy nourished brains, whether the defect is due to a blood supply deficient in quantity or in quality, or whether it may arise from an excessive supply of blood interfering with the nutrition; the same condition may also arise from exhaustion due to overwork of the nerve cells, the supply of blood being nearly normal, normal I mean in

<sup>1</sup> Total 100 ovariotomies: 87 recoveries; 13 deaths. This is about as well as I can, unless I refuse the desperate cases. J. H.

<sup>2</sup> Read before the Boston Society for Medical Observation, March 6, 1882.

comparison with the work required of the brain. As all these conditions lead alike to defective nutrition of the brain, it is to be expected that many of the symptoms to which they give rise will be the same in one as in another condition. Thus the headache, vertigo, nausea, found in congestion is also found in anæmia; the excitement, delirium, hallucinations, etc., found in hyperæmia are also seen in anæmia. Also these same symptoms may be the expression of exhaustion or of poisoning of the blood.

I do not expect to consider all the conditions to which I have alluded above, but desire to call attention to a few cases in which the symptoms have arisen from a combination of depressing agencies, and where, apparently, the result is due to anæmia and malnutrition from deprivation and exhaustion. Much has been written about hyperæmia, and great stress has been laid upon too much blood flowing to the brain. Perhaps there are patients in whom this condition exists, and yet in by far the majority of patients I believe the explanation of the symptoms is to be found in malnutrition from insufficient supply of food, or from inability to assimilate the food taken, or from exhaustion due to over-use, with too short periods of rest, or from the inferior quality of the blood.

In such cases as I propose to relate I have been in the habit of referring the symptoms to anæmia, though they are probably not caused by simple anæmia; sometimes there is probably anæmia as the ordinary condition; the irritable brain may temporarily receive a relatively increased supply of blood, though its nutritive quality or its amount may be below that appropriate for health; owing to the abnormal irritability of the brain this excess over the usual supply is sufficient to cause excitement. This would be only a temporary and perhaps local increase of blood supply in an anæmic brain, and should not influence either the diagnosis or treatment.

From what has just been said it is easy to explain the periods of excitement succeeding and followed by seasons of great depression. There is not time to give examples of all classes of cases which might be included among those of anæmia and exhaustion.

The following illustrate some of the effects of insufficient feeding and privation.

**CASE I.** The first was Hannah M., about thirty-five years old. She was found on examination to have phthisis far advanced; she had suffered from insufficient food, had been confined two weeks previous, and had lost considerable blood. She had been somewhat delirious, and the night before she was seen had tried to beat her husband with a chair. She had headache, and felt cold. Little or nothing could be learned from the patient, as she seemed decidedly stupid and uncommunicative. She had had several loose, greenish stools daily. The pulse and temperature were both high, as might be expected from the advanced phthisis from which she suffered. She was fed frequently, the direction being given that she should have all the milk she would take, and in a short time she was given solid food. A bad diarrhoea somewhat retarded recovery, but she finally recovered from the maniacal excitement.

**CASE II.** The next case, A. E. M., was a married woman, about thirty-five years old, who had had charge of an extensive business. Once she had been in the habit of using morphia, but had given it up. Shortly before entrance to City Hospital she had been greatly

overtaxed by business and other cares, had made long days, eating sparingly, taking much less food than she needed, and had used strong liquors to keep her up; sometimes she took as much as a pint of brandy a day. For three or four weeks she had been noticed to act queerly at times, and for a week before entrance was under the care of a homœopath, who, it was said, allowed her only water Indian gruel for nourishment. On entrance she had delusions, heard and saw imaginary persons, was in communication with spirits and mediums, listened to the statements of a dying girl, then fell back on the pillow speechless and motionless when the girl died. She had not slept for some nights. Bromide of potassium and chloral, thirty grains of each, were given, and she had a good night's rest, though the dose was repeated at midnight. She objected to food, as the "medium" had told her to take nothing but the water gruel, but on the next day after admission the house officer persuaded her that the medium was mistaken, and she ate a hearty meal, saying that she had been hungry for a week. Under feeding and quinine she rapidly lost her delusions and hallucinations, and in a week could talk sensibly about them, slept all night without a hypnotic. She was very weak, and regained strength only slowly.

In this case, if the statement in regard to the strict dieting previous to admission can be depended upon, it is quite likely that hyperæmia was suspected, and she was treated accordingly, with very unfortunate result in causing a decided aggravation of the symptoms. The symptoms were entirely unlike those of delirium tremens.

**CASE III.** Mary R., aged twenty-nine, was deserted by her husband, and had very little to eat for some months, going sometimes two days without eating. She was in the fifth month of pregnancy. One week before entrance she felt sick, and began to act queerly. She had some convulsions before entrance, and about fifteen minutes after entrance had one; the spasm was most in the upper part of the body, and bilateral; legs were only slightly affected; head and eyes were drawn strongly to the right; arms were drawn across the body, and fore-arm flexed; once the mouth was drawn to the left; respiration was quiet and natural; pulse normal; temperature 98.5° F.; no albumen in urine. Her face was slapped sharply, and the convulsions ceased; she was taciturn.

Two grains of valerianate of zinc three times a day, and a plentiful supply of food were ordered. In a few days she was entirely natural in her appearance, but a headache persisted for a few days. She was discharged well in about a month.

These three cases are sufficient for illustration. The first patient had been in an unfavorable condition for a considerable time. The loss of blood at confinement seems to have been sufficient, with the other depressing influences, to give rise to such cerebral disturbance as would not have arisen in a patient otherwise healthy. It was virtually a case of acute anæmia of which hæmorrhage was the last ætiological condition. This was the only case in which there was a rise of pulse and temperature above the normal. The phthisis was the cause of this rise. In the other cases the pulse and temperature were either normal or just below normal.

The second case was not one of delirium tremens, though indulgence in spirit may have been one element in the production of the disease. There was no

tremor, no vision of repulsive objects, no terror; the case was considered outside as one of mania, and it was thought that it would be necessary to send her to an asylum. Yet here there was deprivation, voluntary, not enforced; she taking only a little tea and toast irregularly for meals, and keeping herself up by stimulants. Stimulation was probably one element in the ætiology, but not to such an extent as to justify calling the patient's condition alcoholism.

The third case was one in which similar causes acted, but there were convulsions of an hysterical character. The patient recovered under the same course of treatment. As the patient's condition of life and circumstances were those of great privation, and while pregnant and needing a generous supply of food she had insufficient, it is reasonable to include it under the same head with the others. Call it hysteria if it seems best; then it is hysteria due to cerebral anæmia.

This third case illustrates well the necessity of inquiring into the patient's previous history before forming a diagnosis.

All these patients had been suffering from depressing influences, and finally, for a comparatively short time, from an increase of these, either a hæmorrhage or an enforced abstinence from food; they were suffering from a comparatively acute anæmia resembling that seen after severe hæmorrhages or starvation in persons previously entirely well.

Another class of patients are met who are for a longer period exposed to depressing influences; who are overworked, underfed, who finally exhibit nervous symptoms of a most varied type. Many of these patients have such a combination of symptoms referable to the head and brain that they are seriously concerned for their mental integrity, fear apoplexy, etc. Once in a while the patients with such symptoms seem to have hyperæmia of the brain, but much the larger number whom I have seen are simply suffering from insufficient nutrition of brain, owing either to general anæmia combined with overwork, or to overuse of the brain, and consequently such exhaustion that the brain has been unable to recover its normal vigor. In these the morbid condition arises from a more slowly acting cause, and, as might be expected, the symptoms differ from those found in such cases as the above. There is less excitement, more evidence of depression and exhaustion. The following summary of such a case may serve by way of illustration:—

A clergyman had been overworked with the care of a large church and congregation, holding extra meetings; during this feeling of depression no anxiety nor despondency were noticed. Notwithstanding a vacation and partial rest he had several attacks of headache, could not study well, was dissatisfied with his work, and obliged to give it up. His brain was easily fatigued, and refused to work. There was no flushing of face, no vertigo, no symptoms excepting those briefly sketched. There was here chronic exhaustion.

## REPORT ON PROGRESS IN THERAPEUTICS.<sup>1</sup>

BY FRANCIS H. WILLIAMS, M. D.

### THE ACTION OF SALINE CATHARTICS.<sup>2</sup>

THE most complete and exhaustive work which has thus far been attempted on this subject is undoubtedly that of Dr. Hay. The whole of his paper is not as yet published, but there is sufficient to indicate the excellent way in which the work has been done, and to warrant a brief outline of the portion which has been printed.

After indicating at some length what has been done by previous investigators the author divides his experiments into the following series:—

"Series A. The effect on purgation of the administration of the salt (sulphate of soda) by the mouth in a state of concentration and of dilution; and the elimination of the salt by the kidneys and the alimentary canal.

"Series B. The effect of the salt on the intestine when injected directly into the viscous, after the method of Colin and Moreau, with analyses of the fluid as to the salt it contained, and to its digestive and other properties.

"Series C. The effect of the saline purgative on concentration of the blood.

"Series D. The effect of the salt on the alimentary canal and its absorption from the canal, as ascertained by killing the animals at stated intervals after the administration of the salt by the mouth, and measuring the fluid in the canal, and estimating the quantity of salt present.

"Series E. Its purgative effect when injected into the blood.

"Series F. Its purgative effect when injected subcutaneously.

"Series G. Its effect on the secretion of the urine."

Under Series A is an account of the various experiments done on rabbits, cats, and dogs. It is shown that in an animal fed without water a given dose of sulphate of soda in a concentrated, twenty per cent. solution, will not cause purgation when the same dose in two and one half per cent. solution will do so, and the more dilute the solution the more quickly is the action produced. Experiments done on rabbits, cats, and dogs show that if given in a concentrated form, and if for a single day only previous to the administration of the salt little or no water is taken with the food, sulphate of soda will not produce catharsis. "This seems to warrant the deduction that sulphate of soda acts neither by peristalsis nor by increasing the intestinal secretions, but merely by uniting with the water in which it is dissolved, and with the fluids which it meets in the alimentary canal, preventing the absorption and preserving the fluidity of the intestinal contents until the ordinary peristaltic movements have carried them to the rectum."

It may be urged that by a restriction of water in diet the water in the blood is diminished, and the blood being concentrated the usual amount of intestinal secretions are not poured out.

Vulpian has asserted that a purgative salt acts chiefly by exciting an inflammatory irritation of the alimentary mucous membrane, and consequently creates an exudation such as we observe in mucous catarrh.

<sup>1</sup> Concluded from page 392.

<sup>2</sup> Journal of Anatomy and Physiology, vol. xvi.

— At the public exercises in connection with the bi-centennial anniversary of the old Manor Hall at Yonkers, part of which was erected in 1682, the mayor, Dr. Samuel Swift, who was a partner of the late Dr. J. Foster Jenkins, presided, and made the opening address.

Experiment shows that croton oil does purge when the conditions are such that sulphate of soda does not. The conclusion is that sulphate of soda does not act in a manner similar to croton oil, which is probably by irritating the mucous membrane with which it comes in contact. We now get an insight into the careful and thorough methods of this experimenter; arrived at a stage of his work where many would have considered their task ended, he announces the theory which he seems nearly to have established only to admit that further experiments have led to its abandonment.

In the experiments the feces and urine were carefully collected, and the amount of sulphate of soda present was determined by chemical analysis. Nearly all, though never the full amount of, the salt given was recovered from the urine and feces. When the salt was administered well diluted, from one half to one third of the salt excreted appeared in the urine, and the more pronounced the purgation, the less the quantity of the salt in the urine. When the salt was given in a concentrated form nearly the whole of it passed into the urine. As regards the analyses of the feces the most remarkable feature was the considerable increase in their inorganic constituents apart from the purgative salt present.

"Series B. The experiments included in this series are largely of physiological interest only.

"Series C. The effect of the saline purgative on the concentration of the blood."

The concentration of the blood was ascertained by counting the number of corpuscles in a given quantity of it by the method of Hayem. When the number of corpuscles in a certain quantity of blood was greater than normal it was inferred that the fluid of the blood had been diminished.

To a man, the normal number of whose corpuscles had been determined, 21.3 grammes (three fourths of an ounce) of sulphate of soda in a *twenty per cent. solution* were administered. The number of corpuscles in a given quantity of the blood was very much greater during the two hours following the administration of the purgative, the normal number was found to be present after about four hours, and after nine to ten hours there was a second concentration of the blood as shown by increase in the number of corpuscles in a given quantity of blood. Evacuation of the bowels occurred fourteen hours after administration, and a second fluid dejection three hours after this.

In a second experiment on the same individual 21.3 grammes of sulphate of soda were given in a *five per cent. solution*. This dilution caused no immediate concentration of the blood, but there followed the second or remote concentration exactly as in the first experiment. About two hours after administration purging occurred. The second thickening of the blood may be explained by the diuresis which is set up by the absorbed salt in the process of its elimination by the kidneys. A larger quantity of urine is evacuated during this period.

If an animal is allowed no water for two days the fluid portions of the blood are diminished, and a dose of sulphate of soda causes no further concentration nor any purgative action. This explains how in the first series of experiments a strong solution of sulphate of soda did not purge an animal which had received no water for two days previously. By the restriction of water in the diet the alimentary canal is emptied of its

fluids and those of the blood are greatly lessened. The author believes that the concentration of the blood plays a more important part in preventing purging than the absence of fluid in the alimentary canal. It is thought that when the blood becomes concentrated it no longer yields secretion to the stimulus of a saline purgative applied to the mucous membrane of the alimentary canal.

"Series D. The effect of the salt on the alimentary canal, and the absorption of the salt from the canal, as ascertained by killing the animals at stated intervals after its administration by the mouth, and measuring the fluid in the canal, and estimating the quantity of salt present."

It had been observed that in cats which had taken neither food nor drink for twenty-four hours the amount of fluid in the small intestine was practically *nil*. It was under these conditions that the experiments of this series were done. Five grammes of sulphate of soda in a *five per cent. solution* were given to a cat. The animal was killed after one hour, and the contents of the intestine were examined. The amount of liquid had neither increased nor diminished during the hour it was in the alimentary canal, yet half of the salt had disappeared, proving that absorption must have been active, but equaled by secretion. The quantity of inorganic salts apart from the purgative was greatly increased.

To a smaller animal four grammes in a *ten per cent. solution* were given and the animal killed one hour afterwards. The quantity of solution in the intestine had nearly doubled, and more than one third of the salt had been absorbed.

In a third animal five grammes of sulphate of soda were given in a *twenty per cent. solution* and the contents of the intestine examined at the end of an hour. The quantity of solution had much more than trebled itself.

The absorption of the salt was nearly equal in all the experiments.

The increase in the amount of fluid with the concentrated solutions was due to the fact that secretion takes place as with dilute solutions, but the stronger solutions prevent absorption, and thus the quantity of fluid is greater in the case of the stronger solutions.

By other experiments, an outline of which want of space forbids, it is shown that the salt remaining within the intestine withdraws fluid from the blood through exciting secretion in the intestinal glands and in this way purges.

The great rapidity with which the salt solution increases in volume in some of the experiments is remarkable, and precludes the supposition that it is due to the osmotic power of the salt.

"Series E. On the effect of the salt when injected into the blood."

In conjunction with previous observers he finds that sulphate of soda is incapable of inducing its usual purgative effect when injected into the circulation. On the contrary, a degree of constipation appears usually to follow.

In this sketch justice has hardly been done the original.

#### ABSORPTION OF MERCURY. ITS USE IN SYPHILIS WITH OTHER REMEDIES.<sup>1</sup>

It has been found by experiments on animals that when mercurial ointments are rubbed on the skin the

<sup>1</sup> Dr. Furbringer, Practitioner, January, 1882.

globules of mercury are pressed into the sebaceous and hair follicles. The sebaceous matter there converts the metal into a soluble mercurous compound which is then absorbed. Mercury cannot pass in its metallic form or in vapor directly into the skin or mucous membrane.

In an article by Dr. Fox on the Use of Mercury and other Remedies in Syphilis,<sup>1</sup> much is mentioned that is of value to the general practitioner. Mercury is considered to be our most valuable remedy; at the same time it is believed to be much overrated. Great stress is put on the value of hygienic and tonic measures, and mercury is not thought essential to the cure of syphilis, as the author has treated several patients for two or more years without mercury, and they seemed to do as well as other patients treated in the usual manner.

As regards the administration of this drug the internal method is preferred; local irritant effects should be avoided, which may be accomplished by reducing the size of the dose, and, if necessary, giving it oftener. He has found the green iodide one of the best preparations, and has never observed any benefit result from a combination of various salts or by a frequent change from one preparation to another, and believes the amount of mercury given to a syphilitic patient is unnecessarily large. The duration of the mercurial treatment should vary according to the severity of the case, and no absolute rule can be laid down that every case requires so many months or years of treatment. The best practice is to give mercury during the existence of any symptom of the disease, and continue it six months after the last symptom has yielded; if symptoms reappear mercury should be used again and continued for two or three months after their disappearance.

Iodide of potassium is believed to have a curative effect on syphilis, and there is no stage of the disease when both remedies are not calculated to do good. Iodide of potassium is a remedy which should not be continued for any length of time, as it may do harm, especially in large doses.

Iron is of great value in the treatment of syphilis, and should be ranked with mercury and iodide of potassium, since its power to combat anemia, which is invariably present in the early stage of syphilis, renders it a most valuable adjunct to mercury. The tincture of the chloride is the best preparation, since it counteracts the slight diarrhoea which often results from very small doses of mercury.

Cod-liver oil is not unfrequently of service in the treatment of syphilis in connection with mercury or iodine in individuals with a decidedly strumous diathesis. In addition to the above there are many hygienic measures which are of value in the treatment of this disease.

#### ON THE USE OF BELLADONNA IN CERTAIN CASES OF HERNIA.<sup>2</sup>

In the case of a patient who had ruptured himself one week previously, and on whom, after consultation, it was decided to operate, except that his consent could not be had, tincture of belladonna in half-drachm doses every hour was given. After six doses the pupils were largely dilated and the rupture passed up easily. Two weeks later, his truss not being properly adjusted, the rupture came down. Reduction again failed, but three

half-drachm doses of tincture of belladonna overcame the difficulty.

In a second case, a youth of nineteen, whose hernia was not reduced after a hot bath, taxis, and chloroform, the tincture of belladonna was again used with success. The use of this drug was suggested from a knowledge of its action in obstruction of the bowels and its physiological action thereon.

#### BEEF-TEA. LIEBIG'S EXTRACT. EXTRACTUM CARNIS AND URINE.

Dr. Neale<sup>3</sup> calls attention again to the proper uses of these substances. He refers to some analyses which show that the most carefully prepared beef-tea does not contain more than one and one half to two and one quarter per cent. of solid matter, and that such matter resembles very closely the animal constituents of the urine, except that there is but a trace of urea. From this it may be seen that however good a stimulant beef-tea may be it cannot compare in nutritious properties with milk. It is not only in chemical composition that beef-tea resembles the urine, but its stimulating effects are similar. In South America the urine of small boys is spoken highly of as a stimulant in small-pox, and among the Chinese and Malays of Batavia urine is very freely used as a stimulant and general pick-up. He has frequently seen a glass of a child's or young girl's urine tossed off with great gusto and apparent benefit.

#### NAPELLINE.

Laborde and Duquesnel<sup>4</sup> have investigated the physiological and therapeutical actions of napeiline, the soluble amorphous alkaloid of aconitium napellus. It is free from irritating properties, is less toxic and more hypnotic and anodyne than aconitine. Therapeutically it is reported useful as a substitute for morphia in the opium habit and as an anodyne in neuralgia. A centigramme (one sixth of a grain) may be given at a dose, and repeated every four or five hours. No bad effects follow its use, and it is free from a tendency to disturb digestion.

#### SALICYLATES IN RHEUMATISM.

In a discussion on the treatment of acute rheumatism by the salicylates before the Medical Society of London,<sup>5</sup> a very large number of cases were brought forward, and the opinions of those who have had a wide experience in the treatment of this disease were elicited.

Dr. Coupland in a very careful analysis of eighty-four cases treated with the salicylate of soda finds, in general, a very marked amelioration produced by the drug in the severity of the joint affection, and, as a rule, its influence over the pyrexia is even more striking. His conclusions are: (1.) That in the majority of cases salicylate of soda speedily reduces the pyrexia and articular pain of acute rheumatism. (2.) That unless the administration be long continued relapses both of pyrexia and of joint affection are liable to occur. (3.) That such relapses are not wholly prevented from arising during the administration of the drug, and that in some cases they are distinctly due to the lack of proper precaution in matters of diet and rest, owing to the freedom from acute symptoms en-

<sup>3</sup> Practitioner, November, 1881, 343.

<sup>4</sup> Tribune Méd., October, 1881. New York Medical Journal, March, 1882.

<sup>5</sup> Lancet, January 7, 1882.

<sup>1</sup> New York Medical Journal, March, 1882.

<sup>2</sup> Batten, British Medical Journal, July 15, 1882.

joyed by the patient. (4.) That the best method of its administration is in regulated doses, gradually diminished both as to amount and frequency. (5.) That no definite influence upon the cardiac or other complications can be observed. (6.) That the toxic effects are serious in proportion to the largeness of the dose, and perhaps to the state of impurity of the drug. (7.) Salicylate of soda is certainly "*anti-pyretic*," and to a considerable degree "*anti-rheumatic*." That its employment does not appreciably diminish the time necessary to keep the patient at rest more than under other methods of treatment, but that the immense relief given by its use in the abatement of pain and fever renders it by far the most valuable remedy for the disease at present known.

It was agreed by those who took part in the discussion that the fever and joint affection are relieved by the administration of the salicylates; as regards the questions of cardiac complications, relapses, and the dose of the drug, there was great divergence in opinion. According to Dr. Gelbart-Smith it is not to be disputed that this remedy has the power to reduce temperature, to subdue pain, and to diminish and prevent arthritic inflammation. While it is not to be doubted that by the use of salicylate the patient may be made more comfortable, it is not certain that the duration of the disease is shortened, or that the danger of cardiac complication is lessened. A very large number of cases taken before the salicylate treatment was in vogue were compared with a large number treated by that drug, with reference to the frequency of cardiac complication. So far as hospital statistics go there is nothing to show that the salicylate treatment has led to any diminution in the amount of cardiac complication in acute rheumatism.

Dr. Broadbent thought salicylic acid had no influence on the course of pericarditis, and in several instances he had been able to recognize the imminence and probable existence of pericarditis from the persistence of a comparatively high temperature in spite of the drug.

As regards the dose of the drug, Dr. Isambard Owen shows that with different dosage there is no difference in the total duration of the disease. Dr. Coupland endeavors to give as small an amount of salicylate of soda as possible, while Dr. MacLagan regards acute rheumatism as a malarial fever, and maintains that the salicylates must be given in full and frequently repeated doses. He prefers salicin to salicylate of soda, as it causes none of the deleterious effects of the salicylates, and is equally powerful.

Dr. Broadbent had seen very few unfavorable symptoms attributable to its action, and these he is inclined to believe are due to impurity contained in the drug.

Dr. Fowler confirmed this view, and held that no toxic symptoms occur in patients treated with the acid obtained from the oil of wintergreen. It was his experience that when salicylic compounds failed to control the disease at once nothing was gained by their continued administration.

#### AGARICUS IN THE TREATMENT OF NIGHT SWEATING.

Dr. Wollenfend,<sup>1</sup> after extensive trial, finds that atropia in doses of one-seventieth of a grain yields excellent results. Its use is, however, accompanied with some danger on account of its poisonous properties. For this reason agaricus is to be preferred, since ten

grains too much or too little produce no toxic effects. It is a light, bulky powder, having a bitter taste, and is best given with a little jam. Twenty grains at bedtime are usually sufficient, though thirty may be necessary. The only objection to the large doses is their great bulk; the bitter taste is not objected to by patients when they find how much benefit is derived from the drug. It has been used in about forty cases of night sweating with complete success, and is believed to be a most useful and powerful as well as harmless drug. The only ill effects of a large dose are sickness, which stops on diminution of the dose, or diarrhoea, which may be averted by combination with one or two grains of Dover's powder.

Dr. Young<sup>2</sup> found this drug very efficacious against night sweating, but when given with honey considerable nausea or even sickness was found to result. A tincture of the strength of ten grains to the drachm was found to produce equal effects. After the administration of the tincture complaints of sickness were made in only one case, diarrhoea was occasioned only once, and that in a case where this symptom recurred at intervals independently of the drug. Its laxative action was noticed by some patients as very satisfactory. A few grains of the principle, crystallizing in long needles, were afterwards extracted, and given in pill form, in doses of one twelfth of a grain. This was found to be the most acceptable form in which to give the drug, and therapeutic effects were practically the same.

It was used with excellent results not only in phthisical night sweating, but also in cases of sweating not dependent on phthisis.

Like atropine it acts quickly, and the effect is not permanent. It is necessary to repeat the drug every night, and its continued use does not lead to any lasting result. The action of the drug against sweating is not more marked than its effect in promoting sound sleep, and relieving troublesome cough, especially of phthisis.

## Reports of Societies.

### PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL OBSERVATION.

BY MAURICE H. RICHARDSON, M. D., SECRETARY.

MARCH 6, 1882. DR. BOWDITCH reported briefly a case of

#### SEVERE DISEASE OF THE HEART, WITH PLEURITIC EFFUSION ON BOTH SIDES.

The patient has been tapped in all eleven times during six weeks, with great advantage to the condition of the heart. At first there was orthopnea. Now, after treatment by aspirating the pleura, he has become more comfortable, and may recover in part his health and live for some years, instead of dying during the present attack. He still has valvular disease of the heart, of course. One of the most striking points in the case now is diminished dullness over heart, with diminution of the strong impulse which existed at first. By relieving him of the effusion by operation we have made him a different man. In a similar case it seems important to aspirate as often as necessary, and on both sides on the same day.

<sup>1</sup> Medical Times and Gazette, October 8, 1881.

<sup>2</sup> Glasgow Medical Journal, March, 1882.



DR. WEBBER read the regular paper on

CEREBRAL ANÆMIA.<sup>1</sup>

DR. DENNY said: Not only may cerebral anæmia be symptomatic of general anæmia, or the principal phenomenon of some disease, as in post febrile delirium of convalescence, and thus involve the whole brain, but it may be confined to a limited portion of that organ.

The following is a case of cerebral anæmia due to valvular lesion of the heart.

A lady, sixty years of age, with mitral insufficiency and loud regurgitant murmurs, was under my care several years previous to death from heart disease. The symptoms for which she sought advice were vertiginous attacks, confusion of mind, inability to fix attention, and great depression of spirits, although throughout manifesting no real diminution of intelligence. The ophthalmoscope showed an anæmic condition of retinal vessels.

An impoverished state of the blood may constitute a condition of cerebral anæmia.<sup>2</sup> Chemical analysis of the urine of a man who had delusional mania, with hallucinations and epileptic attacks, who was under my observation, showed a much diminished excretion of urea and phosphoric acid, with pus, albumen, and blood.

I have seen insanity, during the war, among prisoners of war, resulting from cerebral anæmia due to scorbutus and inanition from lack of food.

Circumscribed cerebral anæmia may follow embolism plugging the vessels supplying the convolutions about the fossa Sylvii, resulting in aphasia, and such loss of speech may be ascribed fairly to a local anæmia in certain phases of epilepsy.

I have several times witnessed the symptom of epileptic aphasia, unattended with spasm, when the patient could resume the thread of his thought after momentary interruption.

Nothnagel<sup>3</sup> regards this symptom as due probably to localized vascular spasm in the region of fossa Sylvii, and this view is largely supported.

Epileptic vertigo, "*petit mal*," and certain epileptoid states, are with much probability due to similar local vaso-motor nerve disorder.

The occasional occurrence of transitory hemiopia in hemierania, associated with vertigo and nausea, is best explained by the assumption of localized cerebral anæmia suddenly produced, as a vaso-motor spastic neurosis, limited to the origins of the optic nerve, namely, the corpora quadrigemina, corpora geniculata externa, etc., whose vessels are innervated by the fifth pair. This is the solution proposed by Galezowski<sup>4</sup> in treating of ophthalmic migraine, four cases of which he reports.

I have met with three similar cases: I. A very intelligent lady, sixty years of age, subject for many years to severe attacks of hemierania associated with flashes of light, vertigo, and nausea, had at rare intervals sharply defined hemiopia, lasting but a few minutes. The first attack occurred at the age of fourteen, and was usually precursor to headache lasting several days, and often occurring at about the menstrual period.

There never was any sign of hysteria. Usually the right half of any object would be blank, although some-

times it would be the left. This would be followed by a dazzling luminosity on the same side, as the temporal half of the right eye and nasal half of the left. Following these symptoms would be headache and nausea.

These attacks occurred between fourteen and twenty-five and then ceased, but recurred with greater force at the menopause in form of right hemierania. A milk diet, with iron, quinine, etc., resulted in dispelling the trouble.

II. A music teacher, forty-two years of age, very energetic and successful, subject for many years to occasional hemierania, had well-marked brief attacks of hemiopia, followed by zigzag light. A correction of irregular refraction by proper glasses, with rest, resulted in recovery.

III. A lady aged twenty-five, while pregnant, had well-defined hemiopic attacks. She said, "Everything I looked at would be only one half." Hemierania, nausea, and vertigo followed such phenomena. At such times she had photopsia in form of zigzag light sensations. Uncomfortable feelings in the occiput were complained of also. Rest, diet, and tonics produced a very marked alleviation of all symptoms, which is still increasing.

In partial epilepsy where the spasm is confined to a single limb, as in epilepsy Jacksonia, it would also seem most probable that local cortical anæmia, resulting from a circumscribed vaso-motor neurosis, was induced.

The two following cases occurred under my observation:—

I. A young man aged eighteen, who in early life had had hemiplegia, with subsequent epilepsy, exhibited at length the symptom of epilepsy confined to one arm only, followed by temporary paresis of that member. Treatment with bromides produced an amelioration of symptoms.

II. A young man, twenty-six years of age, presented the symptom of slight shaking of an arm, with subsequent brief paresis. On one occasion I tested the strength of the hand just after an attack, and found it very much reduced, by the manometer. Full strength recurred within ten minutes.

This man worked in a foundry, and was troubled by dropping his tools during such attacks.

DR. EDES asked whether any demonstration had been made that these cases are due to cerebral anæmia. It is an ingenious supposition.

DR. WEBBER. The supposition may be made from the patient's general condition. Anæmia of the brain may exist just as anæmia of the rest of the body. It is so with local anæmia. The idea of local anæmia has, however, been questioned.

DR. EDES. There has been a good deal said about local anæmia of the spinal cord, but this theory seems to be destitute of foundation. The anæmic theory with regard to the action of drugs is not as strong as it used to be. Such a theory of the action of bromide of potassium, for example, has very small foundation. This was a favorite idea of the action of many drugs which diminish the irritation due to contraction of arterioles.

DR. WEBBER. These symptoms are due, probably, more to exhaustion than to anæmia. To a brain which is in a state of exhaustion a temporary increase of blood flow may act as an irritant, while on a healthy brain it would have no such effect. A slight increase

<sup>1</sup> See page 415 of this number of the JOURNAL.

<sup>2</sup> Grasset, *Traité pratique des Mal. du Syst. Nerv.*, 1881.

<sup>3</sup> *Handbuch der Spec. Path. und Therapie*, v. Ziemssen.

<sup>4</sup> *London Lancet*, February 4, 1882.

of blood supply is felt immediately by an exhausted brain.

DR. PARKS asked whether bromide of potassium is contra-indicated in these cases.

DR. WEBBER. In some cases, especially when combined with chloral, bromide of potassium acts well, with temporary relief where there has been loss of sleep. The main reliance is nourishment. Many patients can take but a small amount of food. We must therefore feed at short intervals in small quantities. In a large number of these cases the supply of food is less than is desirable, and that is one of the elements that cause trouble. In chronic cases the patients are so interested in what they are doing that they neglect themselves, have less appetite, and less inclination for food. Sleep is also interfered with. The patient gets into such a state that it is impossible for him to become sufficiently quieted down to sleep. These two elements, insufficient food and loss of sleep, affect the brain unfavorably, and finally the patient becomes insane. Food and sleep are, therefore, the most important points in treatment. Bromides with chloral are the best drugs.

DR. PARKS. Suppose a chronic case where the most important thing is sleep, would it be good practice to give large doses of bromide of potassium?

DR. WEBBER. In many cases bromide of potassium is not so good alone as when combined with chloral. In some instances quinine is the best agent when the patient is worn out. Perhaps a little whiskey would be better.

In reply to DR. JELLY the reader said that, as a rule, in his experience, sleep comes after giving sufficient nourishment, more readily in acute cases than in chronic. Hypnotics are necessary for a short time. The paper was written to illustrate the fact that loss of food and sleep may cause a condition like mania, — hardly to be dignified by the name of insanity, — and not to treat the whole subject of chronic conditions caused by long-continued exhaustion.

DR. CHANNING asked whether in general cases of nervous exhaustion the reader thought cerebral anæmia to exist.

DR. WEBBER said more than any other special condition. With lack of nutrition we are more likely to have anæmia than hyperæmia.

DR. CHANNING thought this condition sometimes caused by hyperæmia.

DR. WEBBER said from all we can learn the symptoms may arise from both conditions of anæmia and hyperæmia. An English authority has lately said that there is no such thing as cerebral hyperæmia. The cerebral blood-vessels are more full at some times than at others. There being an excess of fluid in one system of cerebral vessels (cerebro-spinal, lymphatic, and blood), the contents of the others give place to it, and the balance is thereby kept up.

DR. OLIVER, with regard to the use of bromide of potassium in nervous exhaustion, related a case. The patient, a lady, afflicted with the disease, traveled extensively in Europe without benefit. She suffered severely with wakefulness. Her physician gave her fifty to sixty grains daily of bromide of potassium in hot milk for a week. During the following week the dose was diminished one half. She became very drowsy; could not write her name. She seemed like a person with an overdose of the drug. After the third week she began to take some food, and after that she recovered very rapidly.

In response to DR. CHANNING's request to explain the action of bromide of potassium, DR. EBES said that its action was a direct one over the nervous elements; it may be through interference of blood-vessels. Five or six times as much is given at a dose now as formerly.

DR. BOWDITCH said he could not help saying that we have used words in this connection for which we have no exact authority. It seemed to him unfortunate that prostration of nervous power should be considered as anæmic condition. He did not think we have any proof of that. Can there be an anæmic condition of the brain with flushed face and general fullness of the body? Does that seem like anæmia? Is anæmia a good name for these cases? So in the case spoken of by Dr. Denny he would like to know what proof there is that shaking of the arms is due to a local anæmic condition of the brain.

DR. WEBBER said, in reply, that in the first case he reported the patient was in a poor condition generally, having phthisis, and being badly nourished. She had been recently confined, and had had severe pulmonary hæmorrhage. Then the symptoms came on of loss of mental balance, with excitement similar to an attack of acute mania. In speaking of this case he thought himself justified in using the term anæmia.

DR. BOWDITCH. What proof existed of anæmia of the brain more than of the rest of the body?

DR. WEBBER. When we have cases of bleeding in the lower animals after the loss of a certain amount of blood we observe symptoms of excitement and spasm. It has been considered that this spasm and excitement are due to a diminution in the blood supply. Similarly in human beings improperly nourished, the brain may get into a state of irritability from lack of blood supply. Dr. Webber therefore thought that in the cases reported where there was great loss of blood he was justified in using the term cerebral anæmia. We have here a badly nourished patient, with symptoms similar to those existing in cases of bleeding to death. He considered it a fair inference that there was anæmia, and not an excess of blood in the brain.

The second case was not a case of hæmorrhage, but a case of insufficient supply of food, the patient having taken stimulants and living on tea and toast. The same chain of symptoms existed as in the other case, some of the symptoms being nearly identical. As far as he could judge Dr. Webber thought that the condition of the brain was the same in both cases.

DR. BOWDITCH still believed that the condition of this patient was one of anæmia of the whole body.

DR. WEBBER considered Dr. Bowditch's criticism good in many cases, but in two of the cases reported, from analogy and by inference, he considered the diagnosis of the anæmia of the brain a good one.

DR. BOWDITCH briefly described a case which he thought would prove that hyperæmia of the brain does at times exist.

The patient, a male, was troubled by some giddiness of the head, and for a long time had had some slight trouble with the kidneys. Excepting the giddiness and consequent discomfort he was very well, and continued to be so till a week before he died. On the Sunday before his death, while at church, he was seen to have some difficulty in finding or reading the hymn, which seemed to his wife very singular. He was able to walk home, ran up two flights of steps to his room without difficulty. At two P. M. he had some symp-

toms of drowsiness, and in the night some delirium, followed by somnolence. In the afternoon, before Dr. Bowditch saw him, he had slight convulsions, and at his visit seemed unwilling to let the light get to his eyes. His face was flushed to the last degree. His head seemed full of blood. His pulse was like whip-cord, full and hard. There was no paralysis; he could use both legs, and there was evidently no effusion into the brain. Dr. Bowditch said to the attending physician that the symptoms meant that the patient's head was full of blood, and that our fathers would have bled the man at once, and he believed that ought to be done now. This course was agreed upon, but, being resisted by the patient, leeches were used instead, and strong cathartics given, with irritating applications over the kidneys where there had been pain. A previous examination of the urine had shown the presence of pus, but no casts. He considered the case one of nephritis with some chronic trouble. Theory may say there is no such thing as hyperæmia of the brain, but clinical examination proves conclusively that this man had a head full of blood which was pressing on the brain.

The idea of denying the existence of such a thing seemed to him absurd clinically, however it may be theoretically.

Dr. WEBBER suggested a possible stagnation of blood in the brain. He thought there might be hyperæmia and congestion of the brain. The balance between the different cerebral fluids was not maintained in a state of health. He thought Dr. Bowditch's case had some interference with the circulation of the blood, something preventing the return of blood to the heart. One with an undue amount of blood in the head may really be anæmic because there is too much blood in the veins.

Dr. BOWDITCH asked to be informed as to the probable condition of the kidneys in the patient spoken of. Though there was considerable albumen in the urine there were no casts. There was some slight pain in the back. Is it necessary to find casts in cases of acute nephritis? May this case not have been acute nephritis?

Dr. WEBBER responded by saying he did not remember ever having seen a case of acute nephritis in which there were not also casts as well as albumen.

Dr. DENNY: I should add in farther explanation that fully developed epileptic symptoms, with general spasms and loss of consciousness, had been fully developed previously in each case, and both improved under bromide treatment very markedly. I refer to these symptoms only as fairly attributable to, and best explained by, localized cerebral anæmia.

Dr. SABINE spoke of cerebral anæmia due to hæmorrhages, and asked how the amount of blood can be diminished at all in experimental bleeding of the lower animals.

Dr. WEBBER replied that the amount of blood can be diminished within the cranial cavity, but its place has to be supplied by a corresponding increase in the quantity of lymph or cerebro-spinal fluid or serum. There is a change in the relative proportion of these fluids, an interchange between them or between the brain and the spinal cord.

Dr. SABINE assented, but thought this interchange must be very rapid, which Dr. WEBBER said was the fact.

## THE AMERICAN PUBLIC HEALTH ASSOCIATION.

### SECOND DAY'S PROCEEDINGS.

A RESOLUTION for a standing committee of five on the National Museum of Hygiene was adopted.

### TEXAS CATTLE.

Dr. RAUCH, of Illinois, read a paper on Observations in Regard to the Relative Size of the Liver and Spleen, and the Normal Temperature in Texas Cattle, by Dr. Joseph R. Smith, surgeon United States Army and medical director of the department of Texas. The paper was mostly taken up with the record of exact observations. The author thinks no danger to Northern cattle can result from the transportation of Texas cattle apparently healthy at the commencement of their journey North.

Dr. E. E. HOLMAN, of Chicago, read a paper on

### STOCK TRANSPORTATION.

He stated that stock in transit are often allowed to go one hundred hours without food and water. The story of the cruelties practiced on animals in transportation was almost incredible. The writer thought it almost if not quite as bad to kill these bruised, maimed, and crippled animals for food as to use those that had themselves died under such treatment. No amount of cooking is adequate to restore diseased tissue to health. The speaker recommended the use of stock cars, which will allow the stock to lie down, and also the use of refrigerator cars to transport meats. The greatest point to be gained is the education of the consumer up to the point of demanding healthy meat.

Dr. VARDI, of Washington, gave an interesting description of the abattoir at Turin, Italy, where a veterinary surgeon is employed to examine stock before and after killing. The meat is classified. All animals dying in the hospital are buried.

Dr. T. P. WILSON, of Ann Arbor, Mich., read a paper on

### LIFE ON WHEELS.

He estimated that from 1,000,000 to 1,500,000 people are on the cars in this country daily. The first want is fresh air. Fifty or sixty persons in a car exhaust the oxygen in a few minutes. Sleeping cars are a little worse, and the lower berths are worst of all. Heating arrangements are defective. "I have long since ceased drinking water from tanks in cars."

Dr. JAMES E. REEVES, secretary of the West Virginia State Board of Health, made a statement of sanitary progress in that State, claiming that it possessed one of the most perfect sanitary systems in the Union. The Board does not confine itself to sanitary work, but also controls and regulates the practice of medicine in the State.

### USES AND ABUSES OF ANIMAL VACCINATION.

Dr. SAMUEL W. ABBOTT, of Wakefield, Mass., read a paper on the Uses and Abuses of Animal Vaccination, which provoked much subsequent discussion.

He announced that the object of the paper was to present for consideration the advantages which are offered by animal vaccination in preference to the older and, until the beginning of the past decade, the more common method of vaccination by humanized virus.

Until the occurrence of the great epidemic of small-

pox in 1871-1873, throughout the United States, vaccination had been performed almost exclusively with humanized virus. There were some few exceptions. During the late war of the rebellion large quantities of crusts were supplied to the surgeons of the army for the purpose of vaccinating soldiers, these crusts having been obtained by the process of retrovaccination, that is, the vaccination of cattle with humanized lymph. This mode of propagation failed to win confidence, and the importation of animal virus in 1870 by Martin has introduced a new era.

The practice of animal vaccination is reasonable, and is preferable to any other mode. It is also a matter of the highest importance that every safeguard should be afforded, both by legislation and by private practice, to render its performance perfectly safe and efficient.

Reasons for its use:—

The impossibility of obtaining a supply of virus from humanized sources in sufficient quantity and with requisite promptness for use in times of epidemic.

The populous throngs of our large cities, and the occasional advent of small-pox among them, renders the production of large quantities of virus in a short space of time an absolute necessity.

To supply humanized virus in sufficient quantity would be almost, if not quite, an impossibility, and if it were possible to find a sufficient number of children it would not be safe to pronounce even one half of them a trustworthy source of virus. On the other hand, the virus obtainable from any bovine animal susceptible of vaccination is almost unlimited.

The possibility of the transmission of other diseases than vaccinia by inoculation with human vaccine virus was long denied, but the evidence of such transmission is to-day too overwhelming for denial.

The introduction of vaccination with direct bovine virus obviates the whole objection, and also disarms the opponents of vaccination in general of the most potent argument thus far urged by them.

The hypothesis of the transmission of bovine diseases has been urged. If this doctrine were tenable facts would have been adduced in its support, for the vaccinations with bovine virus in the United States alone within the past ten years may be estimated at not less than three or four millions.

A careful search in the records of vaccination and of anti-vaccination literature fails to reveal a single authentic case of such transmission.

The writer claimed that bovine virus was at least as efficacious as humanized, but he was not inclined to think with some that it was of any greater potency than well-selected specimens of the other variety. The importance of care in the culture of the virus was dwelt upon, especially with reference to cleanliness and selection of healthy animals. He prefers adults to calves and cows to bulls. The most satisfactory form in which to keep the virus is upon ivory points. The use of crusts and of capillary tubes was deprecated. Certain frauds in the preparation of the ivory points were referred to, notably the use of egg-albumen and of mucilage to charge the points in whole or in part.

#### CONTAGIOUSNESS OF TUBERCULAR CONSUMPTION.

Among the papers of the afternoon was one by Dr. COGSWELL, of Flint, Michigan, on the subject, Is Tubercular Consumption a Contagious and Parasitic Disease? He maintained the affirmative of the question, and dwelt upon the possibility of infection of

the human body by the flesh and the milk of tuberculous animals. The experiments of Professor Bollinger, of Munich, were cited in this connection. The recent discoveries by Koch were set forth as proving the parasitic nature of the disease.

#### COMBINED SEWERS.

A paper by DR. COMPTON, of Evansville, taking ground against combined sewers, and urging separate disposal of storm water and foul-house sewage, was followed by a general discussion of the question, in which opposite views were expressed, some members favoring the combined system and others thinking that the separate system was to be preferred, especially when the topographical conditions permitted the storm-water to be carried off by surface drainage.

A discussion, by assignment, followed, on the use of bovine or humanized virus, in which the customary arguments were adduced on each side.

#### NATIONAL BOARD OF HEALTH.

The evening session was occupied with a communication by DR. J. L. CABELL on the subject of the National Board of Health, which contained a vigorous protest against the action of Congress in withholding the pecuniary aid necessary to carrying out the policy of the Board. In support of his remarks on the value of the work which the Board had accomplished, he gave the following sketch of its achievements:—

(1.) Aid to State and local boards of health in the execution and enforcement of their rules and regulations to prevent the introduction of contagious or infectious diseases into the United States from foreign countries. (2.) Aid to the same parties in maintaining sanitary inspection on the Mississippi River. (3.) The inspection of immigrants with reference to the protection of the people of the United States from the introduction of small-pox by said immigrants. In connection with the above branch of the operation, Dr. Cabell cited the following passage from a report made to the Senate of the United States at the late session of Congress from the select committee to investigate and report the best means of preventing the introduction and spread of epidemic diseases. In this report the following statements are made with the unanimous approval of the committee:—

"The epidemic of 1879 at Memphis and New Orleans made its appearance before the National Board had been able to perfect its plans of prevention; though it is, in the opinion of the committee, doubtful whether that epidemic could have been prevented, as it is not certain whether it originated from germs of the epidemic of 1878 which had survived, or in fresh importation of the disease. But, under the rules and regulations adopted by the Board to deal with it, it was actually stamped out in New Orleans, and confined to the limits of Memphis; and, instead of the general demoralization and panic, with suspension of business, trade, and commerce, which pervaded the country in 1878, commerce and communication with the infected cities were regulated, not stopped, or even retarded to any considerable extent, and the general business of the country went on in its usual methods, and through its usual channels, without serious interruption. Instead of panic and alarm, confidence and a sense of security pervaded the country. The great transportation companies of the South, both river and rail, are unanimous in their approval of the action and methods of

the National Board in dealing with such cases, because experience has shown that they give the necessary security against the spread of disease, without stopping or retarding to any considerable extent commercial intercourse. They have learned, from their own experience, that the certificate of the National Board of Health as to the sanitary condition of any city or place is accepted by other cities and States as testimony coming from a strictly impartial and well-informed authority, independent of all local interests or influences, commercial or otherwise. In the opinion of the committee, it has accomplished much, and is capable of accomplishing highly important results of great benefit to the country, — results which can be accomplished by no other agency."

A number of speakers confirmed Dr. Cabell's view of the value of the work of the Board, and resolutions were adopted memorializing the authorities at Washington on the subject of preserving the organization and continuing its duties, instead of allowing them, as was claimed had been done, to be assumed by the Marine Hospital Service.

### THIRD DAY. MORNING SESSION.

At a business meeting officers were elected. Among them DR. EZRA M. HUNT, of New Jersey, is President.

### VENEREAL DISEASES.

A long majority report was presented by eight out of nine members of the committee appointed to consider this subject, containing the draft of a proposed bill for restraining the spread of infectious and contagious diseases by severe penalties against those who knowingly communicate such infectious maladies. One member of the committee dissented from the report, on the ground that such legislation would tend to bring about as the next step the registration of prostitutes. After some discussion the whole subject was laid on the table.

### COMPULSORY REPORTS OF CASES OF INFECTIOUS DISEASE AND DEATHS.

DR. O. W. WIGHT, Health Officer of Detroit, read a paper on The Law requiring Medical Men to Report Cases of Infectious Disease and Deaths to the Authorities, in which he said: —

"The obligations of physicians to furnish the public health authorities with death certificates and reports of contagious diseases in their practice not only pertain to the higher plane of legal duties, which is above and beyond mere property considerations, as viewed in the amendments of the Federal Constitution and in provisions of the constitutions of various States, but may be construed as in the nature of a license. Every lawyer, when admitted to the bar, must pay a fee in order to be enrolled in the list of attorneys. The State, in the exercise of its police power, may impose any reasonable condition on the practice of medicine. It may require an annual license fee, or it may allow any man to practice physic or surgery only upon the condition that the practitioner shall furnish the public with certificates of death and information of the existence of infectious diseases within the sphere of his professional work. It is hardly necessary to say that the State may invest its municipalities with so much of its sovereign power as is necessary to impose the same conditions. If medical men, in any particular locality, wish

to test the validity of statutes and ordinances requiring them to make death certificates and report cases of infectious diseases, my sincere and earnest advice to them is, that they proceed by a courteous demand for compensation, and not by a defiant refusal to obey law. They will thus secure the sympathy, if not the cooperation of the health authorities. The public, for its benefit and protection the State uses its almost unlimited police power, will in that case be more inclined to treat the claim with consideration."

In the afternoon further discussion took place on the vaccination question, following a paper by Dr. HUBBARD, of Richmond, in which the ground was taken that compulsory vaccination was impracticable.

Among the evening papers was one on

### CREMATION OF HOUSEHOLD REFUSE AND EXCRETA.

by COLONEL J. M. KEATING, of Memphis, taking strong ground in favor of such cremation. Sewage of necessity pollutes bodies of water into which it flows and poisons the fish. Every family should have its own offal crematory. Rockdale, England, has a public crematory that works well. Fire destroys utterly; water assimilates and recreates.

There was also a paper on the need of open areas in large cities, by D. T. NEWHALL, of Providence, R. I.

The usual votes of thanks were passed, and after an announcement that the next annual meeting would be at Detroit, the society adjourned.

— Professor Rossbach (Berlin klinische Wochenschrift) recommends apomorphia as an expectorant. He says that it will convert a hard, dry cough into a moist, easy one, and will increase the expectoration. It may be given with or without morphia, and should always be kept in a black bottle. He recommends this prescription: —

|   |                |
|---|----------------|
| R. Apomorphia hydrochlor. . . . .                             | 0.003-0.05 gm. |
| Acid. hydrochlor. dil. . . . .                                | 0.50           |
| Aq. distillate . . . . .                                      | 150.00         |
| S. Dose a teaspoonful, repeated every two hours if necessary. | M.             |

— Differences are reported between the local Board of Health at Pensacola and the Marine Hospital Service, on account of the establishment by the latter of a cordon. It is claimed that this cordon is maintained by civilians who are simply sanitary agents of the hospital service. Yet it is denounced by the Pensacola Board as a military interference on the part of the central government. The National Board of Health is reported to side with the local board as against the action of the Marine Hospital Service. As to the rights of the case we have no information beyond the daily press.

The Mayor of Boston has issued an appeal for contributions for the suffering city, in which he says that they can hardly look for relief from the disease by frost before the middle of November.

— Lest any of our readers may misunderstand a statement in the daily press that a specimen of *Bubo Virginiana* was lately seen in Pemberton Square, we take occasion to explain that this is merely the expression of the scientific reporter for the great horned owl which lately appeared in that locality.

# Medical and Surgical Journal.

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NO. 4 PARK STREET, BOSTON, MASS.

## DR. OLIVER WENDELL HOLMES'S RESIGNATION OF THE PARKMAN PROFESSORSHIP OF ANATOMY IN HARVARD UNIVERSITY.

SEVERAL weeks since we announced the report that Dr. Oliver Wendell Holmes had sent his resignation of the Parkman Professorship of Anatomy in the Medical Department of Harvard University to the University authorities. This report has since been confirmed and the resignation made public, and we therefore feel at liberty to take fitting notice of an event, which marks not merely an approaching change in an important professorship of a foremost centre of medical instruction, but also a retirement from a professorial service of thirty-five years, and therewith from direct connection with the medical profession, of one who has succeeded in performing the, to many, somewhat dry and prosaic duties of a teacher of anatomy, whilst devoting much time to the demands of general literature, and producing, both in prose and verse, some of the most delightful and original contributions which have been made to English literature on this side of the Atlantic.

After graduating from Harvard, Dr. Holmes first applied himself to the study of law, but this proving un congenial he turned his attention to medicine, devoting himself to its study at home and abroad from 1834 to 1836. In 1838, two years after receiving his medical degree, he was elected to and accepted the professorship of anatomy and physiology in Dartmouth College, which he exchanged for the same position in the Harvard Medical School in 1847, succeeding Dr. John C. Warren. He has taught and lectured through successive years since, his instruction being given more especially in anatomy. Physiology was made, a few years ago, a separate department under another professor.

Dr. Holmes has been careful, industrious, and punctual in the discharge of his duties,—brilliant he is sure to be in what he undertakes,—and has made anatomy interesting to his classes, and something more than a mass of dry bones, ill-smelling muscles, long names, and musty relations, which is too apt to be the light in which it is regarded by the average student. His personal qualities and acquirements—his broad views, his clear, incisive well-chosen English, his nervous, animated delivery, his wit even—have unquestionably, as we have said, increased the reputation of the School with which he has been connected, and rendered the branch which he taught more attractive

to its students; but, on the other hand, it is only fair to say that we think there can be no question that the studies and duties of the professor have been of no little profit to the author, and that possibly a certain tendency to wander among metaphysical speculations has been modified by the acquisition and imparting of a branch of learning based, as anatomy is, upon observed facts and analogies deduced therefrom.

Dr. Holmes practiced medicine for some years, but withdrew from its practice in 1849; he was also for a time connected with the Massachusetts General Hospital as a visiting physician, and was a member of various medical societies. His relation to Medicine, apart from his duties as a teacher, will be best seen by a glance at a list of what he has written and published on medical subjects.

In 1838 his Boylston Prize Dissertations for 1836–37 were published. That for 1836 was on *Indigenous Intermittent Fever in New England*. In 1837 the two prizes for the two subjects proposed were taken by his essays, one being on the *Nature and Treatment of Neuralgia*, the other on the *Utility and Importance of Direct Exploration in Medical Practice*. A review of these essays appeared in the *North American Review* for July, 1838; the first one, that for 1836, on *Intermittent Fever in New England*, retains very considerable interest and importance for professional and general readers at the present moment.

Two lectures on *Homoeopathy and its Kindred Delusions* were addressed to the Boston Society for the Diffusion of Useful Knowledge, and appeared in 1842, and a report on *Medical Literature* was published in the *Transactions of the American Medical Association* for 1848. An essay on *Puerperal Fever as a Private Pestilence* should not be omitted from this list, for it manifested much sound scientific judgment and reasoning; this was first printed in 1843, and reprinted with additions in 1855. *Some More Recent Views on Homoeopathy* appeared as a contribution to the *Atlantic Monthly* for December, 1857.

When the old custom of delivering formal introductory and valedictory lectures to the students at the opening and closing of the winter's work at the Harvard Medical School still obtained, several of these were given by Dr. Holmes, and published by the classes who were privileged to hear them in pamphlet form. The introductory lecture delivered before the medical class of Harvard University in November, 1861, after some slight revisions, was published in book form in 1862, under the title of *Border Lines of Knowledge in Some Provinces of Medical Science*. In March, 1858, Dr. Holmes delivered a valedictory address at the annual commencement to the graduating class of the Harvard Medical School.

This lecture and the essays and papers previously referred to, except the Boylston Prize Dissertations and the report on *Medical Literature*, were published together in book form in 1861, the volume becoming well known and widely read under the title, *Currents and Counter-Currents*.

The productions hitherto referred to are all of a professional character. An address entitled *Mechan-*

ism in Thought and Morals, delivered before the Phi Beta Kappa Society of Harvard in 1870, has a semi-professional character, and has gone through six editions in book-form, with notes and afterthoughts, as a separate publication. The chapter on the History of Medicine in Boston, in the Memorial History of the city, published in 1880 on the two hundred and fiftieth anniversary of its founding, was written by Dr. Holmes and Dr. S. A. Green.

Several shorter communications on medical subjects and biographical notices from Dr. Holmes's pen are scattered through the pages of this journal, to which he has been a frequent and ever-valued contributor, a warm and constant friend and supporter.

But several more important contributions within the last few years, which have not yet been republished, deserve especial mention. The dedicatory address at the opening of the new building and hall of the Boston Medical Library Association, of which Dr. Holmes is the president, was a scholarly and characteristic production on the congenial subject of books and libraries, offered to a congenial audience of old friends and associates. It was read December 3, 1878, and was published in this journal.<sup>1</sup> His reply, in the same official capacity as president of this Association, on the occasion of the presentation of the portrait of Dr. J. B. S. Jackson, also appeared in these columns;<sup>2</sup> and in the same volume,<sup>3</sup> a little later, the poem written for and read at the Centennial Anniversary of the Massachusetts Medical Society, June 8, 1881. Dr. Holmes's last contribution to the JOURNAL, and almost his latest appearance in print, was a lecture on Medical Highways and Byways.<sup>4</sup> This lecture was delivered before the students of the Medical Department of Harvard University, May 10, 1882, and in some respects was an outgrowth and amplification of his lectures on Homeopathy and Kindred Delusions thirty years earlier before another audience.

Dr. Holmes resigned his professorship that he might have more leisure to devote to literary work of an especially congenial nature, and not, we are glad to understand, from any consciousness of decreasing strength. If we are correctly informed, a finally revised edition of his works will be prepared under his personal supervision, than which there can be no more agreeable or suitable occupation for the green years following the threescore and ten of an author who, though having written much, has given nothing to the world of which he has cause to be ashamed.

Although Dr. Holmes has severed the chief link connecting him directly with the medical profession, we still hope he may long be spared to us as an eminently happy and characteristic type of the best products of New England.

—The President has appointed George E. Waring, of Newport, R. I., a member of the National Board of Health in place of Dr. Charles F. Folsom, of Massachusetts, resigned.

## ANNUAL REPORT OF THE SURGEON-GENERAL, U. S. A.

THE Report of the Surgeon-General of the United States Army is always an interesting document, but more for its allied interests than for the figures of casualties and sickness in our present army. It deals in reminiscences to a certain extent. The severest work of the Department has grown out of the war of twenty years ago, and the portions of the report of most general interest refer to the Pension Department and the literary labors now being accomplished under the direction of the Surgeon-General.

In the Record and Pension Division information has been sought in regard to 61,630 cases during the year embraced in the report, which was an excess of 6590 in excess of similar applications the previous year. Answers have been furnished in 61,079 cases.

Reference is made in this connection to a progressive increase in the difficulty of search for record of the hospital treatment of soldiers who served in the late war. As time elapses claimants appear to be more than ever unable to furnish definite information concerning the date and place of their treatment. There is much evidence at hand to establish the fact that this difficulty does not arise from defective memory alone. It is to be regretted that there is too often a manifest failure on the part of those preparing declarations for pensions in pressing inquiries upon these important points, as it is the cause of much of the delay hitherto charged to this Office.

The detail of any sufficient number of clerks upon the very important work of copying the large number of worn and mutilated records now on hand, and rapidly accumulating, has been prevented by the increasing demand for replies to the Commissioner of Pensions. With the prospective addition to the clerical force, it is intended that this work shall at once be taken up, and the preservation of evidence contained in these important volumes be made secure by their duplication, so far as may be practicable and consistent with the object for which the increase of force is provided, namely, the final adjudication of all pension claims within a limited number of years.

The idea of a complete alphabetical index of all names borne on the records of the office has been considered and abandoned as impossible of accomplishment without a suspension of all ordinary business. A special examination, with the view of enumerating the names borne on records-in-chief, has been undertaken. On these registers-in-chief there already have been enumerated seven million four hundred and thirteen thousand eight hundred and forty-seven (7,413,847) names of sick, wounded, and deceased soldiers; and when it is considered that these are contained in less than one fourth of the number of volumes known to be on file, the magnitude of the work projected will be more justly appreciated.

The use of the library by the medical profession throughout the country is steadily increasing. Over three hundred requests for information were received during the year, coming from all parts of the United

<sup>1</sup> Vol. xcix., page 745.

<sup>2</sup> Vol. civ., page 560.

<sup>3</sup> Page 577.

<sup>4</sup> Vol. cvii., page 505.

States, and the total number of letters sent from this branch alone was over one thousand.

The manuscript of volume iv. of the Index Catalogue, which will include the letter E and part of F, is nearly ready, and the first part of it is now going to press.

An estimate has been forwarded for printing volume v., and it is specially desirable that this appropriation be granted in order that no delay may occur in the issue of this work, the practical value of which becomes more and more apparent as successive volumes are published.

The manuscript of the third surgical volume of the Medical and Surgical History of the War is now sufficiently advanced to allow the volume to be completed during the coming session of Congress, if no unforeseen delay in the printing occurs.

The great necessity of a fire-proof building suitable for the accommodation of the Army Medical Museum and Library, and their preservation, still exists. We have yearly noticed the annual statement of the Surgeon-General in regard to this matter, and we again join him in the hope that Congress may be induced to appreciate the great value of the museum, and provide for the fire-proof building required to place the collections beyond the chance of loss or injury.

#### THE MEDICAL BENEVOLENT SOCIETY.

The dinner of the Medical Benevolent Society, of which we have spoken in another place, and to which we called attention some time ago, was a most agreeable and noteworthy occasion. The funds of the Association are not large, the recipients of its bounties are not numerous, nor are the sums bestowed large in amount, but its charities are as unobtrusive as the strictest obedience to the scriptural injunction could require, and its object is one of special interest to the readers of the JOURNAL.

No exact account of its origin was given, but the act of its founders in establishing such a society before its charities were required showed the wisest foresight. They had already learned that the life of a physician from a financial point of view was one of little promise, and took steps which should lighten somewhat the burden of poverty, not for themselves or theirs, but for any needy among their fellows in the State.

The growth of their funds from the small annual contributions and occasional donations shows most careful hoarding. Nor does their charity seem open to the reproach of taking away the pride of self-support by fostering dependence. The small number of beneficiaries and the inconsiderable amount bestowed forbid such an unfortunate result.

The accounts of the financial results of the busy lives of medical men as given at the dinner were sufficient to make the most careless and the most prosperous realize the propriety of providing for the future of those left dependent by failure of health or sudden death. That life is the highest which is a conscious

voluntary sacrifice; but if, worn out by the self-sacrifice, it becomes dependent on the charity of a forgetful and ungrateful world it may be one of the most miserable, and we know no object more worthy the contributions of medical men than the alleviations of the misfortunes of their fellow-workers.

One of the results of the anniversary of the Society will be, we doubt not, a more careful attention to the necessary provision for old age on the part of its individual members; but a result we hope to see will be an enlargement of the usefulness of the Society by a notable increase in its funds.

#### MEDICAL NOTES.

— It is said that the heaviest brain ever weighed in the United States was taken from James H. Madden, who died in Leadville, Colorado, last July. The weight was sixty-two and a quarter ounces. The man was a professional gambler.

— Some of the druggists of Philadelphia have of late got into trouble by substituting in prescriptions ingredients of their own devising for what physicians have ordered. Two of the proven cases are in the practice of a veterinary surgeon, who in one case wrote for sulphate of quinine for a dog, and obtained sulphate of cinchonidia, and in the other received borax instead of boric acid which he had ordered. A third druggist dispensed eserine sulphate for the eserine bromide that the prescription called for. The local press have been showing up these acts, and the apothecaries have received an advertising more extensive than complimentary.

#### NEW YORK.

— Thirteen women were graduated at the training school for nurses at Charity Hospital, Blackwell's Island, on the 26th of October. The exercises, at which ex-Mayor Wickham presided, were held in one of the large wards of the hospital, and addresses were made by Mr. Wickham, the Rev. Dr. Colyer, and Commissioner Isaac H. Bailey. Two essays on nursing and a valedictory address were read by the graduates, and a number of prizes were presented.

— At the meeting of the Board of Estimate and Apportionment held October 26th, the Department of Charities and Correction was voted an appropriation of \$1,621,847.50 for the ensuing year, an increase of \$309,347.50 over last year. The commissioners desire to obtain more efficient service in the institutions under their charge, and in order to do this have asked for this increased appropriation to pay the larger salaries necessary for the purpose. The Board of Health was allowed an additional amount of \$10,000 for an increased summer corps of physicians, \$20,000 for contingent expenses, and \$13,000 for hospitals.

— There will be no lack of opportunities for post-graduate instruction in New York this winter. On the 7th of November the first course of lectures will commence at the New York Polyclinic, which has been organized for the purpose of teaching purely



clinical medicine and surgery, didactic lectures forming no part of the plan of instruction at the institution. A portion of the college building, which is located in East Thirty-Fourth Street, is occupied by a free dispensary under the management of the Faculty, and the class, which will be divided into sections of a limited number, will, in addition, receive bedside and operating-room instruction in the various hospitals and other medical institutions with which the members of the Faculty are connected. There will be five sessions of six weeks each during the season, and thirty-six clinical lectures will be given on each subject during each session. In order to enable students to attend at whatever time will be most convenient to them they will be admitted at any date, and each ticket will be good for six consecutive weeks. Among the directors are Drs. J. Marion Sims, Frank H. Hamilton, Fordyce Barker, T. A. Emmet, Alfred L. Loomis, and Leonard Webber; and among the members of the Faculty are Dr. James K. Leaning, Professor of Diseases of the Chest; Dr. John H. Ripley, Professor of the Diseases of Children; Dr. E. Darwin Hudson, Professor of General Medicine; Dr. Louis Esberg, Professor of Laryngology and Rhinology; Dr. Landon C. Gray, Professor of Diseases of the Mind and Nervous System, and Electrotherapy; Dr. Andrew R. Robinson, Professor of Dermatology; Dr. John A. Wyeth, Professor of General and Genito-Urinary Surgery; Dr. Paul F. Mundé, Professor of Gynecology and Obstetrics; Dr. David Webster, Professor of Ophthalmology; and Dr. V. P. Gibney, Professor of Orthopedic Surgery. There are also adjunct professors in nearly all of the departments. Dr. Leaning is the president, and Dr. Wyeth the secretary, of the Faculty.

On the evening of Thursday, November 2d, Drs. J. Marion Sims and Harry Marion Sims will give a large reception at the Hotel Brunswick, in honor of Prof. Samuel D. Gross, of Philadelphia.

### Miscellany.

#### THE MASSACHUSETTS MEDICAL BENEVOLENT SOCIETY.

THE meeting of the Medical Benevolent Society took place on Thursday evening, October 26th, at Young's Hotel. The guests who sat down to the long tables filled the dining room of the hotel. The menu was excellent, and the company were appreciative.

DR. WILLIAMS, the President of the Society, presided with accustomed grace, and after the clatter of forks and spoons had grown somewhat less energetic, and the smoke of the fragrant Havana was being wafted upwards like the incense of a thank offering, he called upon Dr. Langmaid to illustrate the perpetual youth of music.

In response to toasts to the State and city, letters were read from Governor Long and Mayor Green.

To the third toast, "As an offshoot and auxiliary of the State Medical Society, this Association offers its salutations to the Commander of the Faithful, Alfred

Hosmer, President of the Massachusetts Medical Society," Dr. Hosmer responded, speaking of the necessary association of medicine and benevolence. The practice of medicine requires the practice of charity both in a pecuniary and moral sense. The votary of science is more likely to be generous than he is to be rich.

DR. WILLIAMS then gave the following account of the Society from its foundation:—

Twenty-five years ago a few physicians of the Boston Medical Book Club united in organizing this Massachusetts Medical Benevolent Society.

Not, however, as a Mutual Insurance Company, to secure, for its members only, future benefits in a time of distress. Its assistance is extended to all such of the profession or of their families as may need and deserve its aid; and, in fact, thus far but one member has become a beneficiary; all the other recipients of the Society's charity have been from outside its ranks.

Few of the public are aware how scanty is the recompense received from their toilsome labors by the major part of the medical profession in Massachusetts. Some acquire a moderate competency; many obtain a comfortable support during their term of full activity, but can make little provision for disability or waning age; whilst many others have a life long struggle, without being able to secure a hopeful future for those they leave behind them.

Unlike most other corporations, even those organized for benevolent objects, we have no expenses. Our treasurer has kindly served, year after year, as the almoner of our modest bounty, so that the whole amount of our income can be distributed, in all parts of the Commonwealth, in unobtrusive help to those stricken down by infirmity, in comforting the widow, and aiding the fatherless. It is but little we have been able to bestow, but, as we shall be told by our treasurer, even so small a sum as sixty dollars yearly has lightened many a heavy burden and called forth warm thanks from grateful hearts.

The amount of our own contributions has been increased, and our efforts have been encouraged by legacies with which the Society has been endowed by benevolent persons, physicians and others, who have become acquainted with its work. For ourselves, we have not only the pleasure of rejoicing with those whom we have caused to rejoice, but, in our association for these unselfish ends, we have knit still more closely the bonds of professional fellowship. It was thought that this twenty-fifth anniversary should be celebrated in a manner to bring together a large number of the Society, and make the occasion pleasantly remembered, and in order that by an announcement of the results already accomplished the members may see that they have not labored and contributed in vain.

The treasurer, Dr. MINOT, then gave some account of the finances of the Society. During the twenty-five years of its existence its property has slowly but steadily increased, and now amounts to \$21,000. The income from this, aided by the annual assessments, enables us to distribute about \$1000 annually among sixteen regular beneficiaries, and a few others who receive occasional aid. The allowance to regular beneficiaries has been raised from \$10 to \$60 yearly, as the state of our funds permitted. The Council has now decided to increase it to \$80. Small as this amount is, it is most gratefully received by the beneficiaries, all of whom are in narrow circumstances. It should be remembered that

the objects of our assistance do not belong to that great class whose misfortunes are mainly due to intemperance and vice. All of them are respectable, some of them are people of refinement and cultivation, who have become reduced, through no fault of their own, almost to want. They are chiefly composed of the widows and children of medical men who died before they were able to lay up anything for their families. It is on this account that we appeal with confidence to those who are more fortunately situated for means to help us in the furtherance of our object.

DR. WILLIAMS then called upon Dr. Cotting in the following words: I now call upon the very youngest member of the Society, though for years one of its most active members, to whom acts of charity are "no more difficult than to a blackbird 't is to whistle."

DR. COTTING gave several instances of physicians who, in spite of busy lives, had died in comparative poverty.

Most interesting speeches were made by COL. HENRY LEE and MR. HENRY P. KIDDER.

As one of the founders of the Society, DR. LYMAN gave an amusing account of its first meeting, at which he had presided, with Dr. Holmes on one side and Dr. Bigelow on the other.

JOHN C. ROPES, Esq., was called upon by an allusion to the memory of his brother, Dr. Francis C. Ropes, late surgeon of the Boston City Hospital, "too soon snatched away from the duties he was fulfilling with an ardent zeal and faithfulness."

Many other speeches were made, and music was not omitted. The meeting broke up at a late hour, the importance of the occasion and the objects of the Association being none the less appreciated because they had been means of so enjoyable a gathering.

#### INTRA-VEINUS INJECTIONS OF AQUA AMMONIE FORTIOR IN A CASE OF SEWAGE-POISONING.

DR. J. T. ESKRIDGE publishes in the *Philadelphia Medical Times* the report of a case interesting for several reasons. The patient, who had worked for five years as a sewer-cleaner without ever having experienced any unpleasant effects, and who was a muscular fellow thirty-six years old, went into a deep privy after having made the customary test of lowering a candle, which continued to burn brightly. Instantly on reaching the bottom he fell, overcome by the gas, which was believed to be either sulphide of ammonium or of hydrogen. At all events it was not carbonic acid gas, and the instance seems to show the danger of trusting to the light test in determining on the safety of entering such vaults.

As he fell his body became almost entirely covered by fecal matter, his mouth pointing upwards, but still so close to the foul matter by which he was surrounded that some of the more liquid contents of the well could easily gain access to his air-passages during labored efforts at inspiration. He remained in this situation half an hour, when a rope was passed around his body, and he was hoisted from the well in an apparently lifeless condition. His rescuer was also very near losing his life, having just time to throw the rope round his companion, when he himself became insensible.

The patient was taken to the hospital, where he was

found to have a high feeble pulse, great cyanosis, and frequent convulsions. Digitalis, brandy, atropia, and morphia were all injected hypodermically without effect, except that after the last two had been injected in the left arm the convulsions became nearly limited to that side, but were still very violent. At the end of one and a half hours he was apparently moribund, the respirations being sixty to the minute, of a puffing and jerking character, with tracheal râles, the pulse 200 and very irregular in volume, the convulsions and cyanosis intense and increasing. It occurred to the attendant that in view of the state of the capillary circulation, the cardiac frequency might be due to clotting of the blood in the heart, and that if anything could be gotten into the circulation to change the condition of the blood and rouse the man's vital powers for a short time, he, being naturally strong, might be able to throw off the noxious influences of the poison. For this purpose intra-venous injection of ammonia seemed to be indicated. One of the superficial veins at the bend of the arm was exposed, raised with the forceps, and there was gradually injected into it thirty-five minims of the undiluted stronger water of ammonia. (It was supposed at the time to be the diluted aqua ammonia.) The pulse was almost immediately lessened in frequency and increased in volume, but the stimulating effects soon began rapidly to pass away. Ten minutes after the first injection thirty-five minims more were injected into the vein, and this was repeated every ten minutes until one hundred and forty minims of the ammonia solution had been introduced into the blood. The character of the pulse was improved by each injection, the respiratory efforts becoming deeper and less frequent. The convulsive movements had by that time nearly ceased. Following the same indication the injections were then continued every fifteen minutes, with careful watching of the effect. After the tenth injection the pulse was 128 per minute, and did not again rise. After the twelfth and last he was able to swallow stimulants and food, and in ten hours after his attack was apparently conscious, though he had no subsequent recollection of anything that happened that day. The next day he was walking about, feeling quite well, and had no further symptoms except slight nausea and occasional diarrhoea for a few weeks. There was a small abscess at the seat of the injection.

The author concludes that the action of the ammonia was twofold, preventing the tendency to heart-clot and stimulating the respiratory centres in the medulla. In a similar case again he would dilute the stronger water with two parts of distilled water at a temperature of 110° F.

#### TREATMENT OF FRACTURE OF THE CLAVICLE.

DR. HARVEY L. BYRD, of Baltimore, in the *Medical News*, describes, figures, and advocates a new form of apparatus whereby he claims more certain results in fracture of the clavicle than can be gained by other means. Its object is especially to secure extension and counter-extension of the fragments. The apparatus is composed of two metallic plates of sufficient size to cover the scapula of an adult person. These are connected together by means of a flat steel bar, to which is attached a lever, extending over and fronting the anterior apex of the shoulder, through the distal ex-

tremity of which passes a thumbscrew from before backwards, and to the end of which a concave metal plate is attached, with its concavity looking to the anterior apex of the shoulder. This lever is adapted for transference to either shoulder. Screws are used for keeping the several parts in their proper places, and to allow of the adjustment of the apparatus to persons of different sizes. All parts of the instrument that come in contact with the surface of the body of the patient are nicely padded. All the necessary leverage for reducing the fracture and keeping the broken ends of the bone in apposition is obtained by means of the two plates in their action upon the inferior angles and dorsi of the scapula, which serve as fulcrums for drawing and keeping the shoulders backwards, and for the at-

tachment of the special lever for action, as necessary, upon the shoulder of the fractured side. Thus the shoulder-straps, attached by buckles to the superior and inferior lateral margins of the plates, may be so adjusted as to meet all the requirements of a majority of cases, without bringing the special lever for the shoulder into requisition at all; and when the ordinary sling is added for the comfortable support of the elbow and forearm, the usual bandage, axillary pad, etc., become entirely superfluous and unnecessary. Any amount of leverage that might be desired, however, can be readily added to the apparatus by attaching buckles to the inferior lateral margins of the plates, for securing and properly adjusting a piece of webbing around the front and sides of the chest.

## REPORTED MORTALITY FOR THE WEEK ENDING OCTOBER 21, 1882.

| Cities.                          | Population by Census of 1880. | Reported Deaths in each. | Deaths under Five Years. | Percentage of Deaths from       |                |                       |                |                     |
|----------------------------------|-------------------------------|--------------------------|--------------------------|---------------------------------|----------------|-----------------------|----------------|---------------------|
|                                  |                               |                          |                          | The Principal Zymotic Diseases. | Lung Diseases. | Diphtheria and Croup. | Typhoid Fever. | Diarrheal Diseases. |
| New York.....                    | 1,205,590                     | 630                      | 231                      | 20.00                           | 12.48          | 4.32                  | 2.88           | 8.48                |
| Philadelphia.....                | 846,984                       | 303                      | 88                       | 13.20                           | 4.29           | 6.27                  | 3.96           | —                   |
| Brooklyn.....                    | 566,689                       | 245                      | 98                       | 23.80                           | 14.36          | 7.63                  | .45            | 9.43                |
| Chicago.....                     | 503,304                       | 183                      | 95                       | 33.31                           | 7.10           | 6.00                  | 8.19           | 10.37               |
| Boston.....                      | 362,535                       | 155                      | 53                       | 23.90                           | 7.75           | 5.81                  | 5.81           | 9.69                |
| St. Louis.....                   | 350,522                       | —                        | —                        | —                               | —              | —                     | —              | —                   |
| Baltimore.....                   | 332,190                       | 202                      | 91                       | 45.54                           | 9.90           | 22.77                 | 3.96           | 4.45                |
| Cincinnati.....                  | 255,708                       | 100                      | 46                       | 19.00                           | 6.00           | 4.00                  | 2.00           | 6.00                |
| New Orleans.....                 | 216,140                       | 103                      | 20                       | 20.39                           | .97            | .97                   | —              | 2.91                |
| District of Columbia.....        | 177,638                       | —                        | —                        | —                               | —              | —                     | —              | —                   |
| Pittsburg.....                   | 156,381                       | 61                       | 27                       | 31.16                           | 11.48          | 8.20                  | 6.56           | 11.48               |
| Buffalo.....                     | 155,137                       | 75                       | 34                       | 46.66                           | 1.33           | 24.00                 | 1.33           | 11.99               |
| Milwaukee.....                   | 115,578                       | 36                       | 21                       | 16.66                           | 8.33           | 2.77                  | —              | 13.88               |
| Providence.....                  | 104,857                       | 36                       | 12                       | 19.44                           | 2.77           | —                     | 8.33           | 8.33                |
| New Haven.....                   | 62,882                        | —                        | —                        | —                               | —              | —                     | —              | —                   |
| Charleston.....                  | 49,999                        | 40                       | 13                       | 10.00                           | 2.50           | —                     | 2.50           | —                   |
| Nashville.....                   | 43,461                        | 20                       | 10                       | 35.00                           | —              | —                     | 5.00           | 15.00               |
| Lowell.....                      | 59,485                        | —                        | —                        | —                               | —              | —                     | —              | —                   |
| Worcester.....                   | 58,293                        | 16                       | 9                        | 37.50                           | 12.50          | 6.25                  | 6.25           | 12.50               |
| Cambridge.....                   | 52,740                        | 19                       | 9                        | 36.82                           | 26.30          | 10.52                 | —              | 10.52               |
| Fall River.....                  | 49,006                        | 14                       | —                        | 78.56                           | 7.14           | 14.28                 | 14.28          | 42.85               |
| Lawrence.....                    | 39,178                        | —                        | —                        | —                               | —              | —                     | —              | —                   |
| Lynn.....                        | 38,284                        | 10                       | 2                        | 20.00                           | —              | —                     | 20.00          | —                   |
| Springfield.....                 | 33,340                        | —                        | —                        | —                               | —              | —                     | —              | —                   |
| Salem.....                       | 27,598                        | 12                       | 3                        | 24.99                           | —              | —                     | 16.66          | —                   |
| New Bedford.....                 | 26,875                        | 12                       | —                        | 24.99                           | —              | —                     | 8.33           | 8.33                |
| Somerville.....                  | 24,985                        | 5                        | 3                        | 20.00                           | —              | —                     | —              | 20.00               |
| Holyoke.....                     | 21,851                        | 8                        | 1                        | 25.00                           | 25.00          | 12.50                 | 12.50          | —                   |
| Chelsea.....                     | 21,785                        | 4                        | 2                        | 50.00                           | —              | 50.00                 | —              | —                   |
| Taunton.....                     | 21,213                        | 6                        | —                        | 33.33                           | —              | —                     | 16.66          | —                   |
| Gloucester.....                  | 19,329                        | 4                        | 2                        | —                               | —              | —                     | —              | —                   |
| Haverhill.....                   | 18,475                        | 5                        | 1                        | 20.00                           | 20.00          | —                     | 20.00          | —                   |
| Newton.....                      | 16,995                        | —                        | —                        | —                               | —              | —                     | —              | —                   |
| Brookton.....                    | 13,608                        | 3                        | 1                        | 33.33                           | —              | —                     | —              | 33.33               |
| Newburyport.....                 | 13,537                        | 5                        | 1                        | —                               | —              | —                     | —              | —                   |
| Fitchburg.....                   | 12,405                        | —                        | —                        | —                               | —              | —                     | —              | —                   |
| Malden.....                      | 12,017                        | 3                        | 1                        | —                               | —              | —                     | —              | —                   |
| Fifteen Massachusetts towns..... | 116,553                       | 28                       | 7                        | 7.14                            | 10.71          | —                     | —              | 3.57                |

Deaths reported 2343 (no reports from St. Louis, District of Columbia, and New Haven); under five years of age 881: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and fevers) 569, consumption 331, lung diseases 170, diphtheria and croup 164, diarrheal diseases 159, typhoid fever 86, scarlet fever 36, malarial fevers 30, small-pox 26, whooping-cough 17, cerebro-spinal meningitis 12, measles six, puerperal fever five, typhus fever one. From scarlet fever, New York nine, Brooklyn and Philadelphia five each, Philadelphia and Buffalo four each, Chicago three, Boston and Baltimore two each, Pittsburg and Worcester one each. From malarial fevers, New York

and Baltimore six each, Brooklyn five, Chicago four, Charleston and Nashville three each, Buffalo two, Taunton one. From small-pox, Baltimore 20, Chicago four, Philadelphia two. From whooping-cough, New York six, Brooklyn three, Philadelphia, Chicago, and Cambridge two each, Baltimore and Buffalo one each. From cerebro-spinal meningitis, New York three, Chicago two, Cincinnati, Providence, Worcester, Cambridge, Fall River, Salem, and New Bedford one each. From measles, New York and Pittsburg two each, Chicago and Cincinnati one each. From puerperal fever, Boston two, Philadelphia, Brooklyn, and Weymouth one each. From typhus fever, New York one. Ninety-three cases of small-pox were reported in Baltimore,

Chicago four, Cincinnati two; diphtheria 23, typhoid fever 35, and scarlet fever 13 in Boston.

In 32 cities and towns of Massachusetts, with a population of 898,186 (population of the State 1,783,086), the total death rate for the week was 17.20 against 20.32 and 21.17, for the previous two weeks.

For the week ending September 30th, in 171 German cities and towns, with an estimated population of 3,521,990, the death rate was 23.4. Deaths reported 3538; under five years of age 2018; consumption 468, lung diseases 252, diarrheal diseases 240, diphtheria and croup 169, scarlet fever 108, typhoid fever 76, whooping-cough 65, measles and röteln 26, puerperal fever 21, small-pox (Benben one) one. The death-rates ranged from 9.4 in Metz to 43.4 in Posen; Königsberg 30.5; Breslau 30.6; Munich 26.9; Dresden 21.3; Berlin 25.4; Leipzig 19.7; Hamburg 18.6; Cologne 22.3; Frankfurt a. M. 21.2; Strasburg 21.9.

In the 28 English towns, with an estimated population of 8,469,571, for the week ending October 7th, the death-rate

was 19.9. Deaths reported 3228: acute diseases of the respiratory organs (London) 253, diarrhæa 132, scarlet fever 119, fevers 78, whooping-cough 70, measles 52, diphtheria 30, small-pox (London three) seven. The death-rates ranged from 12.6 in Halifax to 32 in Sunderland; Plymouth 15.4; Portsmouth 17.3; London 19.1; Newcastle-on-Tyne 20.1; Leeds 22.1; Liverpool 22.2; Manchester 26.8; Birkenhead 27.7. In Edinburgh 18.6; Glasgow 24.5; Dublin 19.9.

For the week ending October 7th, in the Swiss towns, population 494,390, there were 32 deaths from consumption, lung diseases 18, diarrheal diseases 15, diphtheria and croup seven, typhoid fever five, scarlet fever three, whooping-cough one, puerperal fever one. The death-rates were, at Geneva 16.5; Zurich 24.8; Basle 15.5; Berne 14.9.

The meteorological record for the week ending October 21st in Boston, was as follows, according to observations furnished by Sergt. O. B. Cole, of the United States Signal Corps:—

| Date.            | Barometer. | Thermometer. |             |          |          | Relative Humidity. |            |             |             | Direction of Wind. |            |             | Velocity of Wind. |            |             | State of Weather. <sup>1</sup> |            |             | Rainfall.             |                   |
|------------------|------------|--------------|-------------|----------|----------|--------------------|------------|-------------|-------------|--------------------|------------|-------------|-------------------|------------|-------------|--------------------------------|------------|-------------|-----------------------|-------------------|
|                  |            | Daily Mean.  | Daily Mean. | Maximum. | Minimum. | 7.23 A. M.         | 3.23 P. M. | 11.23 P. M. | Daily Mean. | 7.23 A. M.         | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.        | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.                     | 3.23 P. M. | 11.23 P. M. | Duration, Hrs. & Min. | Amount in inches. |
| October, 1882.   |            |              |             |          |          |                    |            |             |             |                    |            |             |                   |            |             |                                |            |             |                       |                   |
| Sun., 15         | 30.121     | 53           | 61          | 47       | 87       | 57                 | 80         | 75          | N           | NE                 | NW         | 8           | 10                | 11         | F           | O                              | C          | —           | —                     |                   |
| Mon., 16         | 30.149     | 55           | 59          | 48       | 77       | 93                 | 100        | 90          | N           | NE                 | N          | 8           | 6                 | 4          | O           | T                              | R          | —           | —                     |                   |
| Tues., 17        | 30.016     | 61           | 67          | 52       | 100      | 87                 | 97         | 95          | NW          | SE                 | SW         | 3           | 1                 | 5          | G           | F                              | S          | —           | —                     |                   |
| Wed., 18         | 29.966     | 65           | 79          | 58       | 100      | 92                 | 94         | 95          | SW          | SE                 | SW         | 4           | 4                 | 1          | G           | F                              | O          | —           | —                     |                   |
| Thurs., 19       | 29.900     | 58           | 65          | 51       | 100      | 93                 | 86         | 93          | NW          | SE                 | NW         | 6           | 4                 | 8          | G           | R                              | O          | —           | —                     |                   |
| Fri., 20         | 30.228     | 42           | 52          | 45       | 80       | 69                 | 83         | 77          | NW          | NE                 | NE         | 15          | 16                | 2          | F           | O                              | C          | —           | —                     |                   |
| Sat., 21         | 30.346     | 46           | 56          | 41       | 92       | 71                 | 83         | 82          | NW          | E                  | NE         | 8           | 11                | 4          | O           | O                              | C          | —           | —                     |                   |
| Means, the week. | 30.104     | 55           | 63          | 49       |          |                    |            | 87          |             |                    |            |             |                   |            |             |                                |            | 37.43       | .80                   |                   |

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; X., clearing.

# OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM OCTOBER 20, 1882, TO OCTOBER 27, 1882.

**WILLIAMS, JOHN W.**, surgeon. To proceed to Vancouver Barracks, W. T., and report, upon arrival, to the commanding general, Department of the Columbia, for assignment to duty in that department. S. O. 168, Military Division of the Pacific, October 13, 1882.

**KASE, JOHN J.**, assistant surgeon. The leave of absence, granted October 9, 1882, Department of the Missouri, is extended two months. S. O. 247, paragraph 3, A. G. O., October 23, 1882.

**OWEN, WILLIAM O., JR.**, assistant surgeon, is relieved from duty at Fort Townsend, W. T., and assigned to duty at Vancouver Barracks, W. T. S. O. 148, paragraph 1, Department of the Columbia, October 6, 1882.

**TERRELL, HENRY S.**, captain, assistant surgeon. Assigned to duty at Fort Omaha, Neb. S. O. 112, paragraph 3, Department of the Platte, October 23, 1882.

**WILSON, GEORGE F.**, assistant surgeon, is relieved from duty at Vancouver Barracks, W. T., and assigned to duty at Fort Townsend, W. T. S. O. 148, paragraph 1, Department of the Columbia, October 6, 1882.

**BAXISTER, JOHN M.**, first lieutenant, assistant surgeon. The leave of absence granted by paragraph 3, S. O. 203, Department of the Missouri, October 10, 1882, is extended one month. S. O. 113, paragraph 2, Military Division of the Missouri, October 23, 1882.

**BRISNELL, GEORGE F.**, first lieutenant and assistant surgeon. Leave of absence extended one month. S. O. 244, A. G. O., October 19, 1882.

**BRISNELL, GEORGE F.**, first lieutenant, assistant surgeon. Extension of one month's leave of absence is revoked. S. O. 247, paragraph 2, A. G. O., October 23, 1882.

**WYLLIE, M. C.**, first lieutenant, assistant surgeon, will be relieved from duty at Fort Meade, D. T., upon his return from detached service, and will proceed to Fort Yates, D. T., and report to the commanding officer of that post for duty. S. O. 172, Department of Dakota, October 19, 1882.

**APPOINTMENT.**—Dr. H. A. Gilman, who for the past sixteen years has been assistant physician to Illinois State Hospital for the Insane at Jacksonville, Illinois, has been appointed superintendent of the Iowa Hospital for Insane at Mount Pleasant, Iowa. Dr. Gilman is a native of Gilmanton, N. H., where he studied medicine with Dr. Nahum Wight.

**BOSTON SOCIETY FOR MEDICAL OBSERVATION.**—A regular meeting of the Society will be held at the Medical Library, 19 Boylston Place, on Monday, November 6, 1882, at eight o'clock p. m. Reader, Dr. M. H. Richardson. Subject, Tracheotomy, with a Report of Three Cases. Drs. George W. Gay and C. B. Porter will open the discussion. Dr. M. H. Richardson will also show a specimen of a Subcoracoid Dislocation of the Humerus. Election of new members. Balloting at nine o'clock. C. M. JONES, Secretary.

**BOOKS AND PAMPHLETS RECEIVED.**—The Question of Contagion in Leprosy. By James C. White, M. D., Professor of Dermatology in Harvard University. (Reprint from the American Journal of the Medical Sciences.)

On Slight Afflictions: Their Nature and Treatment. By Lionel S. Beale, M. D., F. R. S. Second Edition, Enlarged and Illustrated. Philadelphia: P. Blakiston, Son & Co., 1882.

Studies in Pathological Anatomy. By Francis Delafontaine, M. D., Adjunct Professor of Pathology and Practical Medicine, Visiting Physician and Curator to Bellevue Hospital. Vol. I. Plates i-xciii. New York: William Wood & Co., 1882.

Alcoholic Anaesthesia. By Lewis D. Mason, M. D. Read before the American Association for the Cure of Inebriates. 1882. Hartford, Conn. (Reprint.)

Medical Electricity: A Practical Treatise on the Applications of Electricity to Medicine and Surgery. By Roberts Bartholow, A. M., M. D., LL. D. Second Edition, Enlarged and Improved. Philadelphia: Henry C. Lea & Co., 1882.

Subjective Traumatism of the Eye. Its Importance when the Question of Sympathetic Irritation or Sympathetic Ophthalmia Arises. By W. S. Little, A. M., M. D. Philadelphia. 1882. (Reprint.)

## Lectures.

### INTRODUCTORY CLINICAL LECTURE ON DISEASES OF WOMEN.<sup>1</sup>

DELIVERED AT THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK, OCTOBER 6, 1882,

BY PROF. T. GAILLARD THOMAS, M. D.

PROFESSOR THOMAS, on the occasion of his first appearance before the class after resuming the professorship of clinical gynecology, was received with great enthusiasm, and having explained the condition of health which led to his resignation of the chair, and expressed the very great pleasure which he felt in returning to his old place, he proceeded as follows:—

"In the olden time, on account of the shortness of the course, I was obliged to do a thing which I disliked very much, and that was to hurry over my cases in order to present to my classes as great a variety of different conditions as was possible in the limited time at our disposal. But now, thanks to the change in the college system, which has extended the term of lectures to seven months, I shall be enabled to go on more leisurely, and so will have abundant time to investigate each case with thoroughness, an improvement which I trust will prove as beneficial to you as it is satisfactory to myself. I shall, therefore, endeavor to introduce as few cases as I can at each of our sessions, and will devote the most careful attention to every one that I bring before you.

"The clinic will be worked upon an honest basis, and my purpose will be to teach you all that I can about the methods of studying gynecology, so that when you go out into actual practice you may at least have a reliable foundation for your future studies. It will only be a rudimentary foundation at best, however, for the most that any of you can expect to learn here will be how to study. But that is a great deal, I assure you, and there will be need of honest application on your part in order to acquire it. In what I say to you I shall try to teach you only what I really know, and talk very little about what I do not know. The one great subject of all my instructions will be diagnosis, and my main object will be to teach you how to examine cases. In a course like this, treatment must necessarily be a secondary consideration, and you will have plenty of time and opportunity to study that when you leave the college.

"In the practice of a gynecologist in a large city most of the cases come from the country, and why? Because the great mass of country physicians have not paid enough attention to the subject to be able to make a diagnosis in the diseases peculiar to women. Yet the diagnosis is all important. When such a case presents itself, too many a medical man will say to himself, 'I don't like gynecological practice, and I will send the patient away.' Patients are thus frequently put to the expense of time and money involved in a visit to some, perhaps, distant city, and consulting a specialist, which might all have been spared if the family physician had known what he ought to have known. In no field, I assure you, can you afford more relief from suffering, and in none (to put the matter on the lowest footing) can you do more lucrative work, than in gynecological practice. I would advise all of you, therefore, to try to meet with

all the difficult cases that you can, and to go away from the college with the idea of always making an honest attempt, at least, to find out the nature of the difficulty. As I remarked before, all that you can be taught here is how to study. If you will learn this, when you go into practice, and are called into consultation with older physicians, you may very likely make a mistake in diagnosis, but they will at all events acknowledge that you know how to investigate a case, and confess to themselves that you will probably succeed in your profession.

"General practitioners too often, as I have said, do not make diagnoses in these cases. Let me illustrate this by an example. A woman comes to a physician with a tumor hanging down into the vagina. This may be either a fibroid polypus attached to the cervix uteri, or it may be an inverted uterus, as I now show you by a couple of rough diagrams on the blackboard. If it were the former it would be right to put the wire of an écaréneur around its neck and remove it; but if it were the latter, the most disastrous results would, of course, be likely to ensue. Now the general physician, all for the want of a little attention to such matters, often cannot tell the difference between a fibroid polypus and an inverted uterus, and visions of suits for malpractice and ruined reputation rising before his mind, he sends the patient off to some noted gynecologist. Yet see what an opportunity for making reputation he has lost, for the fame of his skill, if he had undertaken the case, might have spread far and wide through the neighborhood. Very likely when such a case presented itself this physician would put his finger up the vagina and feel the tumor, but not knowing how to pursue his investigations any further he could not decide as to its character. Now if you were to confine me to a digital examination per vaginam I would not be able to make out the nature of the case any more than he could, but with the other means for investigation at my command I can make a positive diagnosis in any such case. If the general physician has mastered these means, the only reason why he cannot find out what the tumor is is because he does not try. Yet if a gynecologist of high reputation should cut off an inverted uterus under the impression that it was a polypus, he would suffer much more severely than if a general practitioner should do such a thing. Both have to take the same risks. Now, as to the question of diagnosis. If the tumor were an inverted uterus we ought to be able by conjoined manipulation to detect an "abdominal ring," while there would be an entire absence of the body of the uterus in its ordinary position. In order to secure sufficient relaxation of the parts to make the examination satisfactorily it might, perhaps, be necessary to resort to anesthesia. Having found such a depression or "ring" we should conclude that it was probably an inverted uterus, although we should still not feel sure of the diagnosis. If, on the other hand, the tumor were a pedunculated fibroid we should certainly find another mass corresponding with the body of the uterus above. Furthermore, if it were a fibroid we ought to be able to pass the sound beside its neck up into the cavity of the uterus; while, if it were an inverted uterus, it would, of course, be totally impossible to pass the sound. Then we should naturally inquire into the history and rational symptoms of the case, and should, perhaps, be informed that the patient had been suffering from hemorrhage and pain for five

<sup>1</sup> Reported by P. Brynberg Porter, M. D.

years. In answer to our inquiry as to what happened five years before she would, no doubt, reply that she had had a child at that time, and had never had any since. The rational signs would thus be found to support the physical ones, and the conclusion at which we would finally arrive should be that the tumor was an inverted uterus, and not a fibrous polypus.

"The methods of investigation which I have here indicated should always be resorted to in every instance, and in this clinic I will try to show you how to begin in each case, and then how to conduct the examination until you can finally draw your deduction from the premises established. This is simply making a diagnosis, which may be defined to be a logical deduction from given premises, these premises being the rational and physical signs of the case. One point, however, I would wish you to remember always, and that is that a diagnosis is never certain. We draw the most logical deduction that we can from the premises in any given case, but even the most skillful and experienced of us are, of course, liable to make mistakes.

"Another thing that I want to teach you is, how to make gynecological examinations in your offices. In the first place have all your preparations made in advance, including a special table for the purpose, so that you will not at the time have to clear off all the papers from your writing table, and thus give your patient the impression that such examinations are made very seldom by you. Have everything arranged as comfortably as you can, and she will feel reassured, instead of being rendered nervous and apprehensive. I need hardly say that no man who is not a gentleman should undertake the practice of gynecology. In no department of medicine is it so essential that the physician should conduct himself so entirely beyond reproach, and guard his lips so carefully against the slightest suspicion of vulgarity. Another point of the greatest importance is, that you should be perfectly clean and neat in your persons. Want of cleanliness in gynecological practice is, in fact, a crime. Every particle of dirt under the finger nails carries danger and death with it, and whoever puts his hand up into a uterus to remove a placenta, for instance, or even a finger into the vagina to examine such a case as I have been supposing, is likely to give the patient septicæmia if his nails are not perfectly clean. You may say that these are small points to dwell upon; but certainly nothing is insignificant which is thus capable of producing disease and death.

"At the clinic I will show you very little through the specimen, for the reason that in a room like this it is utterly impossible to see anything at all in this way. At one time I tried the plan of letting a few come down and look; but aside from the disturbance which this occasioned in the lecture-room, it was worse than useless for the students, who were able to see just enough to so completely confuse and perplex them that they were much more liable to make mistakes than if they had never had any such opportunity. In all cases, therefore, where the abnormal condition present can be seen only inside the vulva I shall make no attempt to show it to you; but in all other instances, where the patient is willing to have the exposure made, I shall be happy to show you whatever I can."

#### FIBROID OF THE UTERUS.

"Having now said all that I wish in the way of preliminary advice, I will introduce our first patient, and you

will have occasion to notice to-day, as you will on many subsequent days, that I have a definite system by which I examine every patient that comes before me. This system I should like you to adopt also, because I believe it to be altogether the best that you can possibly use. It is not only here at the clinic that I resort to it, but also in my entire private and hospital practice.

"The patient's name is Helen McK. She is a native of the United States, thirty-five years of age, and unmarried. Judging from her appearance, she is evidently by no means a well woman. Her complexion, you notice, is of a light straw color, and she is apparently somewhat emaciated. Let us then proceed to get at the history. How long have you been sick? 'Ten years.' How have you suffered during that time? 'From pain in my back and sides, and, in fact, all over.' What else have you suffered from? 'Nothing else,' she replies. Well, you say at once, this is not a case for this clinic at all. Yet when we begin to cross-examine the patient in regard to the functions of the uterus, we find that this is her appropriate place. But why should we question her about her uterus when there is nothing in the symptoms to point towards that. I see but one reason why we should do so, and that is the pallor of her skin, indicative of anæmia. Let us, then, continue our questions. Are you regular in your monthly sickness? 'I lose too much blood.' How long does your sickness last? 'One week.' Do you ever have what is called a flooding? 'No.' But you do lose enough blood to make you feel wretched and weak? 'Oh, yes.' Here, therefore, is an important symptom, which she did not mention at all at first, menorrhagia. In answer to further questioning she states that the pain during menstruation is exceedingly intense; that it comes on one day before the flow, and ceases two or three days before the latter stops. She has no leucorrhœa. This case illustrates the method of examination very well. The patient gives us practically no symptoms whatever until she is drawn out; and this is frequently the case with those who have the most serious uterine disease, such as cancer in its advanced stages. Just before I went out of town for my summer vacation a lady came to me from a distance suffering from what she said was sciatica. I questioned her carefully about every organ, commencing with the head; and when I came to the uterus she told me that there was a most offensive discharge, which she said she had not happened to think of mentioning before. Then making a physical examination, I found that almost the whole substance of the uterus was eaten away by cancer, and nothing but a hollow shell left. Yet she had been under treatment for a whole year in the West, and had never said anything about the offensive discharge to her physician.

"I will now tell you what the examination by touch reveals in the case before us. The uterus was found to be pushed slightly to one side, but otherwise apparently perfectly normal, when the finger was passed into the vagina. By conjoined manipulation, however, a hard, movable mass, larger than an egg, was detected on the right side of the uterus. This is undoubtedly a fibroid, and it is this which occasions the patient's suffering. By disturbing the innervation of the uterus it gives rise to the hystericalgia, or uterine neuralgia, the pain of which is so intense. Then, again, the fibroid interferes with the circulation of the uterus,

and thus keeping the endometrium in a markedly congested state, causes the menorrhagia to which your attention has been directed. The pain in the right and left sides of which the patient complains is probably due to intercostal neuralgia, which no doubt results entirely from the bad blood state of the woman.

"This case serves to show, then, the method which I hope you will adopt in your examination of patients. In many instances where we would not expect to find any uterine disease it can be detected in this way. Begin, therefore, at the beginning, and inquire about every organ; just as a magistrate, in looking for the perpetrator of some murder, will make as many arrests as possible, in the hope of fixing the crime upon some one of the individuals.

"A word now in conclusion in regard to the condition of the endometrium. In cases of this kind we are exceedingly apt to have the lining membrane of the uterus covered with little fungoid growths, which give rise to very profuse hæmorrhages; and their existence has already been proved here by the use of the copper wire curette, an instrument with which I would advise that the whole cavity of the uterus be gently scraped, for the purpose of removing all these small excrescences. It is often astonishing to see to what an extent hæmorrhage can be controlled by this simple means."

## Original Articles.

### AUTOPSY OF A CASE OF TRANSPOSITION OF THE VISCERA.<sup>1</sup>

BY H. AUGUSTUS WILSON, M. D.,

*Pathologist to the Presbyterian Hospital and Ophthalmic and Aural Surgeon to St. Mary's Hospital, Philadelphia.*

THE comparatively rare occurrence of the phenomena, an instance of which I am about to relate, will be, I think, sufficient excuse for occupying the time of the College. I regret that I am not able to offer a more complete record of the case; but a careful dissection was impossible without taking an unwarranted risk of septic poisoning, as the abdominal cavity was filled with fetid pus.

Frank M., aged twenty-one, died at the Presbyterian Hospital of purulent peritonitis. I shall ignore in this paper the pathological conditions found at the post-mortem examination, inasmuch as they have no bearing upon the subject under consideration.

The patient had been aware since boyhood that his heart was misplaced, and upon one occasion a physician told him that that was the reason he was left-handed. He had never been very strong; but it does not appear that he ever had any serious affection; the cause of which could be assigned to his misplaced viscera.

In 1878, when he first came to the hospital, Dr. James Markoe, under whose care he was, noticed that not only was his heart perceptible in the fifth interspace of the right side, but also by percussion ascertained that this organ occupied the same relative position upon the right side that it should upon the left. He found also that the liver and spleen were transposed, but no further changes seem to have been noticed.

At the time I made the post-mortem examination, I found externally nothing to indicate the great changes in the positions of the internal organs, except that the

right testicle was suspended at a lower level than the left. When I had opened the thorax and abdomen and laid bare the organs contained therein, the appearance to me was as though I was looking at the body reflected in a mirror. It was like the photographer's negative.

The heart first attracted my attention, and was found to be normal in every respect, but occupying, as already noted, a position upon the right side. It looked as though it had been pushed over to its present position without changing materially its relations with other organs. The right side was the pulmonary side and the left the systemic side, and in this respect the organ performed its function in a normal manner. The aorta starting from the left ventricle followed a somewhat irregular course, crossing over the right bronchus and going from there to the right side of the vertebral column, along which it descended upon the right side. The branches given off from the arch of the aorta were the two coronary arteries unchanged, the innominate going up the left side of the neck and giving off the left common carotid and left subclavian. While coming from the right portion of the arch were the right common carotid and right subclavian.

The lungs were reversed. The right lung was found to be smaller, to allow space for the heart. It had two lobes.

The left lung corresponded in appearance to what is commonly the right lung, was shorter than its fellow, being pressed up by the liver, was broader, and had three lobes.

In the abdominal cavity the liver occupied the left hypochondriac and partly the epigastric regions, the large lobe to the left and the smaller ones to the right, the gall-bladder and everything else similarly changed.

The stomach and intestines were transposed. The stomach was partly in the right hypochondrium and partly in the epigastric region. The pylorus extended forward and downward toward the middle of the abdomen. The spleen was on the right side, and attached to the greater curvature of the stomach.

The cæcum was situated in the left iliac fossa, and the colon ascended on the left side and crossed from left to right side of the abdomen. From there it descended and terminated in the sigmoid flexure upon the right side.

As already stated, the man was naturally left-handed. Hyrd was the first, I believe, to advance the theory that we are normally right-handed because of the more direct flow of blood to the brain upon the left side. And this theory would be substantiated if all cases where the heart and great vessels were transposed were left-handed; but such is not the case. A few years ago a theory was advanced that right-handedness depended upon natural selection. But the easiest explanation is that from earliest infancy we are instructed to use the right hand always in preference to the left. When a person with transposition of the viscera is left-handed we may call it a coincidence. In any other view, it would be extremely difficult to account for the far larger number of persons whose organs are arranged normally and yet are left-handed. In the cases that are noted in the journals I have not been able to find statistics enough to draw any inferences, for, when this condition is noted, right-handedness appears to be as frequently met with as left-handedness in cases where the viscera are transposed.

Peacock, in his monograph on Malformations of the

<sup>1</sup> Read before the Philadelphia College of Physicians, October 4, 1882.

Heart<sup>1</sup> says that the most common of all the internal displacements is that in which the heart is placed upon the right side in a position corresponding to that which it should occupy upon the left, and that this displacement is almost always associated with more or less complete transposition of other viscera. Occasionally the heart is transposed while the other organs are unchanged.<sup>2</sup>

Among the earliest recorded cases are those of Servius and Schenklius in Rome in 1643,<sup>3</sup> and one by Riolan in 1652.<sup>4</sup>

The first case recorded in which the malformation was noticed during life appears to be that described by Morand<sup>5</sup> in 1666. This case seems to have attracted considerable attention at the time, and was said to have suggested to Molière the transposition of the heart and liver which he puts into the mouth of Sganarelle in his play of *Le Médecin Malgré lui*, published about the time this case was reported.

In cases of more or less complete transposition, the arteries, if they do not retain their natural positions, may be displaced in almost all conceivable ways.

Dr. Gamgee<sup>6</sup> reported a case in which the aorta arose from the right ventricle and the pulmonary arteries from the left ventricle. Mr. Abernethy<sup>7</sup> saw a child ten months old, where the portal veins terminated in the vena cava, the liver being supplied from an unusually large hepatic artery. Mr. Douglas Fox<sup>8</sup> reported the result of a post-mortem examination in a case where the heart was transposed, and the aorta, after crossing the right bronchus, passed behind the lower end of the trachea, over the vertebral column, and pursued its usual course from there down the left of the spine.

For a very complete account of a case similar to the one I now report, and for an exhaustive study of the histology of such malformations, I will refer to Dr. Allen Thompson's paper in the *Glasgow Medical Journal*, vol. p. 220.

As regards the practical application of this case, it would be well to bear such abnormality in mind as a possible condition in cases brought to a physician's notice in an unconscious condition. It will readily be seen that considerable difficulty might arise in forming a diagnosis. In surgical operations upon thorax or abdomen it would prove a serious complication, as, for instance, in colotomy, paracentesis abdominis, or pericardiitis.

#### REPORT OF A CASE OF HOMICHIDE.<sup>9</sup>

BY C. C. TOWER, M. D., MEDICAL EXAMINER, SOUTH WEYMOUTH.

On the evening of Thursday, July 7, 1881, I was notified by the selectmen of Braintree that the dead body of a person had been found in that town under circumstances which justified a supposition of violence.

<sup>1</sup> T. P. Greenck, *Malformations of the Heart*, 2d ed., 1866.

<sup>2</sup> Sur l'étopie de l'appareil de la circulation et particulièrement sur celle du cœur.—*Rep. Gen. d'Anat. et de Phys. Pathol.*, t. ii., 1826, p. 1.

<sup>3</sup> Thomas Bartholinus, *Hist. Anat. Cent.*, li. 29. Amstelodami, 1654.

<sup>4</sup> Allen Thompson, *Glasgow Medical Journal*, vol. i., 1853, p. 220.

<sup>5</sup> Méry, *Mémoires de l'Académie de Paris* for 1666.

<sup>6</sup> N. Lang, *Journal Med. and Surg.*, iv., 1815, p. 244.

<sup>7</sup> *Philosophic Trans.*, 1793, p. 59.

<sup>8</sup> *Trans. Med. and Phys. Journal*, vol. li., 1821, p. 474.

<sup>9</sup> Read before the Massachusetts Medico-Legal Society, at the Annual Meeting June 13, 1882.

I immediately proceeded to the place where the body lay, which I reached shortly after nine o'clock. The night was cloudy and quite dark, requiring the use of lanterns to inspect the remains.

The body was that of a man five feet five inches in height, and, as I learned on inquiry, of an average weight of one hundred and forty pounds. It was lying in a recently mown field of grass four feet west from a high stone wall and parallel to it, the head being directed towards the south. Ten feet distant, in a northerly direction, was a farm-gate which opened into the field from a public highway called Liberty Street. No missiles, weapons, or other instruments of violence were discovered in the vicinity of the corpse. The position was right dorsal, the head being slightly turned to the left, the face looking upwards. The right arm was bent at the elbow, the forearm being elevated at an angle of nearly ninety degrees. The left arm was slightly flexed, the hand resting on the left hip. The right leg was strongly flexed, the foot lying beneath the left knee-joint. The left leg was extended.

The clothing consisted of vest, pants, and white cotton shirt, the sleeves of the latter being unbuttoned, ripped at the seams, and turned backwards underneath the shoulders. The head and feet were uncovered, the soles of the latter soiled and hardened, indicating that the deceased had been traveling barefoot.

The body was in a considerably advanced state of putrefaction and emitted a strong stench. The features were swollen and distorted beyond recognition; the color blackish, resembling that of a negro. Numberless larvae in an active state covered the mouth and nostrils. The eyelids were wide open, the humors of the eye apparently coagulated and projecting in a spiral form from the cornea. The scalp, particularly over the left parietal region, was emphysematous and softened. The upper lip presented at one point a slight protuberance, but no solution of continuity on its outer or inner surface. The teeth were secure and the tongue entire. The forefinger of the right hand bore marks of previous amputation, which, with a scar on the left arm, were the principal signs by which the remains were recognized.

The clothing having been removed, the skin covering the chest and abdomen presented a greenish-brown color, the cuticle being separated in small patches from the underlying derma by bloody serous fluid and by bubbles of gas of putrefaction. The whole trunk was greatly distended, so that when the clothing was unbuttoned it snapped apart and could not easily be brought together again. The scrotum and penis were enormously swollen, the latter spirally twisted.

Not having with me my rubber gloves a short piece of lath was used to remove the maggots, and in a measure assist in the examination of the body. Every portion of the body externally was carefully inspected, the corpse being turned one way and the other to fully expose every part. The sphincter ani was relaxed, and considerable fecal matter covered the adjoining region. *No external mark of violence was anywhere found.* The skin was nowhere broken, and the examination thus far failed to reveal any fractured bones.

On inquiry, I learned that the dead body had been discovered about three hours before my arrival by a person walking along the street whose attention was directed to it by the offensive smell. I learned also that the remains were those of William McCormish, a laborer, employed up to Saturday night of July 2d at a



tannery in the village of North Braintree. McCornish was described as a man of intemperate habits and subject to periodical attacks of dipsomania, but he had been steadily engaged at his occupation of late, and was perfectly sober when paid off at the end of the previous week. Since that date, and up to the night of July 4th, he had been indulging his appetite for strong drink. He had been seen to pass along Liberty Street, within half a mile of the spot where his lifeless body was found, as late as ten o'clock on the evening of the national holiday. He was then barefoot, hatless, and otherwise dressed as above described, and evidently under the influence of alcoholic liquor. At a later hour he was believed to have been in the company of James McKenney and others, engaged in a midnight carousal. Such was the history, so far as I could ascertain it at the "view," of the last days and hours of the deceased. Although there were those present who, cognizant of these facts, were ready to declare "foul play," yet no evidence was presented to the medical examiner which was not perfectly consistent with the conclusion arrived at that death was the result of alcoholism. The remains were accordingly turned over to the undertaker for burial.

On Sunday, July 10th, James McKenney was arrested and held in custody on suspicion of having caused the death of William McCornish. On Tuesday, July 12th, I caused the body of McCornish to be disinterred, and made an autopsy in the presence of two men (not physicians) as witnesses. The putrefactive changes had advanced since the previous examination. The integuments were softer and more distended with gases.

On making the customary linear incision and dissecting the soft parts from the chest wall, the cellular tissues immediately below the left clavicle and the pectoral muscles on the left side were found to be infiltrated with particles of dark clotted blood. The second, third, fourth, fifth, and sixth ribs on both sides of the chest were fractured transversely at points parallel with the sternum, and about an inch from their attachment to the cartilages. The second and third ribs on the left side were also broken in a second place about an inch and a half outwardly from the first mentioned fractures and in an oblique direction. The fractured ends of the latter were somewhat splintered. The anterior surface of the left lung was extensively lacerated, and also infiltrated with dark clotted blood. The heart presented two ragged openings at its apex, one communicating with each ventricle. The pericardium contained little or no blood. The left pleural cavity contained by estimate three pints of clotted blood. On the costal surface of the liver were seen three parallel linear furrows, not penetrating the capsule, about three inches in length and three quarters of an inch distant from each other, corresponding in position to the edges of the adjacent ribs. The other organs of the chest and abdomen were sound and free from injury with the exception of slight pleuritic adhesions over the right lung. On examination of the head the skull was found to be uninjured, the dura mater normal, and the brain diffident.

On Monday, July 18th, an inquest was held by Justice Bumpus of the East Norfolk District Court, and the prisoner recommitted to the Dedham jail to await the action of the grand jury. The case was presented to this body on the 6th of September, and a bill of indictment for murder was found. The trial before

the Supreme Judicial Court for Norfolk, Justices Devens and Allen on the bench, commenced May 17, 1882, when James McKenney was arraigned for the murder of William McCornish. The prisoner was represented by John Eldridge and James J. Mahone as counsel. Attorney General Marston and District Attorney French represented the government.

The prosecution attempted to show that the injuries testified to by the medical examiner were produced by the prisoner, and that they caused the death. The line of defense went to show that the injuries described might have been accidental or made after death.

It is not my purpose to review in this paper the testimony produced in court except so far as it may be relevant to the medico-legal bearings of the case. Every government witness but one, who testified on this particular point, stated that no stones were lying near the body when discovered in the field. This witness stated that a stone as large as a spittoon, to which he pointed in the court room, lay within two or three feet of the head of the corpse.

Government witnesses described the wall as built mostly of rough split stone, three feet in thickness at the base, and two feet at the top, the height being four and one half feet on the street, and five and one half feet in the field. The face of the wall presented a plain perpendicular surface, the back of it being irregular, the stones projecting further into the field as they approached the base. These were mostly secure excepting a few small stones which had probably been placed on the jutting shelves after the wall was built. The wall was not cemented. The field was situated on the westerly slope of a hill, the inclination being gradual, and directed away from the wall.

Two undertakers and other government witnesses testified to the careful handling of the body in placing it in the coffin,—which was a large box, such as is usually employed to inclose caskets,—and to the subsequent care in transporting the remains to the cemetery, and in the burial and disinterment.

One witness for the defense testified to the thrusting of a stick by the medical examiner into the dead body; to the careless handling of the remains by the undertakers; and to seeing near the body as it was lying in the field quite a large boulder stone, weighing some fifteen pounds or more, which he subsequently picked up. This witness, on cross-examination, admitted that the stone was found several rods from the gate, while, as already stated, the body lay only ten feet from it!

In giving my testimony concerning the external appearance of the body, both at the "view" and at the autopsy, I stated that the chest and abdomen were greatly distended. I stated also that at the autopsy the ends of the fractured ribs were in apposition; that although broken there was no displacement of the bones, and no depression of the sternum, these parts being kept in their proper position by the inflation of the cavities beneath with putrefactive gases; and that there was no evidence of disease or injury in any part of the body except as already stated.

My opinion of the cause of the laceration of the lungs and heart was declared to be that forcible pressure on the sternum and ribs was exerted to a sufficient degree to break the latter, and thrust their fractured extremities into the underlying organs; that the injuries were produced by violence, the kind of violence being forcible and repeated acts performed by an assailant's knees, applied to the front of the chest, combined with

the weight of the assailant's body: or, possibly, that they were produced by the feet of a man in jumping; that death resulted in consequence of the injuries so inflicted, and that the breathing of the victim continued a few moments only after the receipt of the injuries.

Being interrogated by the district attorney as to the temperature of the atmosphere at the time of the "view," and for two or three days before, I answered that the highest temperature on July 7th, as recorded at the United States Meteorological Office in Boston, was 81° F.; that the temperature on the evening of that day, when the "view" was held, was 67° F.; and that during the three preceding days it had reached 80° F. every day except one.

During the cross-examination, the counsel for the prisoner elicited the fact that no mention had been made, in my description of the autopsy, of the condition of the pericardium. I then testified that I had made no memorandum in my note-book of the state of this organ, but that to the best of my recollection it was ruptured, and contained little or no blood. I was also questioned at some length by the defense concerning the condition of the liver; whether it was that termed "drunkard's liver." I replied that the liver of a drunkard presented no peculiar appearances by which it could be positively diagnosed from the livers of persons who were not drunkards; that I was familiar with that which is known as "drunkard's liver," and that the liver examined at the autopsy presented none of those appearances. I stated that it was my custom in making autopsies to slice the different organs in order to ascertain their condition throughout, and that I presumed I did so on this occasion, but did not remember all the details of the operation. I was also asked whether I found any trace of alcohol in the brain, and replied in the negative; that in my opinion, in the advanced state of putrefaction of that organ it would be impossible to determine the presence of alcohol.

Having given in substance the material points of medico-legal interest in my testimony, we will turn our attention briefly to that of the medical experts, four of whom testified at the trial, two being summoned by the government and two by the defense.

Medical Examiner F. W. Draper, lecturer on forensic medicine in Harvard University, having taken the stand, testified that he had listened to the description of the medical examination as given by Dr. Tower, and that, assuming his statements to be true, death was caused by shock and hemorrhage, the result of severe injuries to the heart and lungs by the application of violence to the front of the chest; that force applied externally to the thorax sufficient to break the ribs inwardly would subject the heart to great pressure, and the vessels of the lung would be torn, occasioning serious, if not fatal, hemorrhage; that the amount of blood in the left pleural cavity was not enough, by itself considered, to cause death by hemorrhage; that it would be impossible to give more than a guess as to the proportion of blood which escaped from the wounded parts before death, and that which oozed away after death; that in his opinion the injuries were inflicted before death; that the large amount of blood effused was useful in determining this point; that the splintered condition of the broken ribs on the left side of the body, the extent of the fractures of the bones and that of the rupture of the organs, indicated that these injuries were caused while the victim was still alive,

because fractures made on the dead body are usually transverse, and without splintering, and because an amount of violence sufficient to break the heart and lungs in a dead body would have left undoubted marks—solutions of continuity—on the surface, whereas it is not uncommon to have in the living body extremely severe lesions of viscera by external violence without leaving any external trace; that the injuries discovered could be best explained as having been caused by the knees of a man pressing on the front of the victim's chest, and the extent and nature of the injuries—the double fracture of the ribs and the double injury of the heart and lungs—rendered it probable that the blows with the knees were repeated, and not confined to a single act of pressure; that the relatively greater amount of injury on the left side of the thorax favored the view that the death was by homicide, since this corresponded with the position and greater force of the right knee of an assailant.

It would be impossible, according to the testimony of this witness, for a man to fall or roll from the top of a stone wall, five and a half feet high, or for a stone to roll from such a wall upon him, and cause fatal injuries, such as those described, without causing other injuries, such as wounds of the face or fracture of the bones of the arms or fore-arms, or of the clavicles, that would be manifest on post-mortem examination. The only circumstances of an accidental nature that would readily account for the fatal lesions would be these: The deceased might, by running rapidly toward the wall, gain a considerable momentum, so that if, in attempting to leap the wall, he tripped, he would fall heavily forward in such a manner that, his head and arms being thrown backward, his chest would come against a stone of a size and shape to fit nearly the whole front of the thorax. It would be impossible that the lesions found could have been caused by such handling of the body subsequently to its discovery as was described in the testimony.

Assuming that the heart, lung, and ribs were all fractured, as described by the medical examiner, it is probable that death was instantaneous; certainly McCormish must have been incapable of resistance or of voluntary locomotion after these injuries were received.

On cross-examination he testified that he did not feel ready to place much stress upon the existence of extravasated blood as a sign of injury received before death. Clotted blood indicates only a probability, not an absolute certainty, that it was effused before death. The large quantity of blood in the left pleural cavity seemed to him to show that it was set free before and not after death. He would not be able to distinguish, by the external appearances of a body, between emphysema by air from injured lungs and that by the gases of decomposition. Bruise marks would not be visible after three days if decomposition, as described, had taken place. The heart resists decomposition longer than most other internal organs. The injury to the left lung in connection with the amount of blood escaped into the left pleural cavity were sufficient, in his opinion, to cause death.

Dr. W. C. B. Field, surgeon to Boston City Hospital, corroborated the testimony of Dr. Draper in almost every essential point. He attributed the injuries to violence inflicted during life, the kind of violence to have been a crushing force applied somewhat unevenly to the anterior surface of the chest, such as might be produced by a man kneeling on the breast of

a person beneath him. More force, in his judgment, would naturally be used by the right knee than the left. Thus the multiple fractures on the left side of the chest, and the laceration of the lung on that side and not on the other, might be accounted for. From the description of the injuries he should say that the violence was frequently applied. He did not think it of much consequence in this case that the body should have been kept in the position in which it was found, in order to determine the cause of death, although it is of great importance in some cases. He did not consider that the conclusions as to the death reached at the autopsy were less valuable or correct because the body had been removed from the spot where it was first seen. From the description of the injuries death, in his opinion, was caused by laceration of the lungs and heart, as the result of outside pressure. He thought it impossible for the deceased to have received the injuries by falling from the wall. A stone falling from a great height *might* produce such injuries, but such height must be far greater than that of the wall described.

Dr. Henry G. Clark, surgeon, having heard the evidence of the medical examiner, testified that the injuries as described by him were sufficient to have caused death, but that they were not necessarily fatal, *limiting them to fractures on the right side of the chest and to hemorrhage into the right pleural cavity*; that if the injuries were fatal, taking into consideration all the facts (that the blood escaped from the lung and small vessels, and not from any large vessel), some little time, from a few minutes to half an hour, must have elapsed before death took place, because blood does not flow in any great quantity after death unless from a large artery or vessel; that three pints of blood is a larger quantity than could have flowed in this case after death; that rupture of the heart either did not exist, or was caused by the post-mortem; that it was possible for one act of violence to have caused the fractures; that if the blow was a violent one, given upon the sternum, or caused by a fall upon something hard like a stone, it would have been sufficient to produce the fractures by a single act; that the breast bone will resist much greater force than the ribs; that he should not attach much importance to the fact of the fractures being transverse as an indication of having been produced before or after death, but should regard the circumstance of the fractures of the ribs being in a line with each other as an indication that they had been caused by a single blow; that the rupture of the lungs must have been produced during life, and that the injuries might have been received from a fall from a wall five and a half feet high.

There would be no way of distinguishing, according to this witness, between the effects of a blow from a stone falling upon the chest, or thrown upon it, and those resulting on the chest of a man who, in falling, has struck upon a stone. He did not think the injuries could have been made by the wheels of a heavy team. In his judgment the position in which the body was found was not that occupied by the person when he was struck. He thought he lived long enough to have turned over.

Cross-examination: He considered it quite possible that the injuries might have been caused by the knees of a very heavy man using force. Jumping with the feet might also have caused them if the assailed party was lying prostrate. In reply to a question, he said

perhaps the heart resists decomposition longer than other organs provided there is no fatty degeneration. He further said there was no evidence of fatty heart in this case.

Dr. Thomas Waterman, assistant demonstrator of anatomy in the medical department of Harvard University, testified that death took place from laceration of the lung, from hemorrhage and shock, and that the deceased might have lived from fifteen to thirty minutes after the injuries were received, as, in his opinion, the hemorrhage was gradual by leaking from small pulmonary vessels. In the absence of positive evidence that the pericardium was torn, and understanding the medical examiner to testify that it did not contain blood, he should say that the wounds of the heart were made during the autopsy. He did not think it strange that no ecchymosis was found externally; he should not expect to find it where the force of the blow was spent, not upon the skin, but upon the internal organs, producing such extensive and serious internal injuries. Falling from a wall five and a half feet high could not have caused the injuries described. A stone of fifteen to forty pounds' weight falling from a wall of this height upon a man lying on the ground, four feet distant from the base of the wall, could not have caused the injuries, but a stone of one hundred pounds' weight might have done so. The injuries might have been received by a man, run crazy, running on the top of this wall, and purposely throwing himself from it, by striking a rough stone either attached to the wall or lying near it. The hypothesis, however, was rather improbable. Placing the body in a box, carting it two or three miles, taking it out and burying it, could not have caused the injuries. The laceration of the liver was not a mortal wound, and might have been recovered from.

This concludes the medical testimony. It will have been observed that while all the expert witnesses agreed that the injury to the lung, hemorrhage, and shock were sufficient to have caused the death, the witnesses for the government and the defense assumed opposite views as to the existence of the lesion of the heart and the pericardium, the medical examiner not having been able to swear upon the stand whether or not the latter organ was perforated. Obviously this uncertainty had an important bearing on the question of immediate death, or of its occurrence after a longer or shorter interval. The failure of the medical examiner to have observed closely at the autopsy the condition of the pericardium, or his failure to have recorded the circumstance of the inspection of this organ, proved in this case, so far as it had any important weight, to be a loop-hole for the defense. Fortunately for the ends of justice, the injuries to the lung alone were considered sufficient to have produced fatal results.

The matter of incising or not incising the liver would not deserve special remark were it not that it was called in question at the trial. Such a procedure would not ordinarily be incorporated in the record of an autopsy, inasmuch as it is the universal practice among medical men while conducting post-mortem dissections to make incisions into all internal organs, with a view of ascertaining their structural condition. The circumstance that the medical examiner was catechised upon this point only enforces the importance of what has been impressed upon us so ably by our president (in his address, What Constitutes an Au-

topsy?), of the utmost care in all the minutest details of an examination for medico-legal purposes, as well as of making a full and accurate record of the same. As the trial frequently does not take place for a long time, — in this instance nearly a year, — no reliance should be placed on the unaided memory.

One other point in this connection requires notice. It has been my hitherto invariable custom to invite medical gentlemen to be present as witnesses to an autopsy. By some unfortunate chance none were invited on this occasion. Two motives may have deterred me from so doing: First, from the conclusions arrived at during the "view" I had no reason to expect to find internal injuries or marks of violence; second, I did not feel like imposing on my medical brethren such a disagreeable duty, as I knew this would be, without adequate compensation. It was only made tolerable to myself by the free use of disinfecting solutions, and by thorough protection of my person. The views of the attorney general concerning the fees of witnesses at autopsies are pertinent to this point. "No compensation being fixed by law, they [witnesses] ought to be allowed such fees as, under the circumstances, are just. They may be, and in some cases ought to be, medical men, capable of sustaining the medical examiner in his view of the cause of death where it may require learning and experience. To ask a medical man to attend on such an occasion for the paltry fee of fifty cents is not only manifestly unjust, but unbecoming the dignity of such an inquiry."

The advanced state of putrefaction in which I found this body, considering from a knowledge of the facts that it could not have been dead more than seventy hours, was to me a matter of some surprise. According to authorities, from ten to twenty days usually elapse before the development of such putrefactive changes as were here present. It must be remembered, however, that a temperature of from 60° to 80° F. is that most favorable to decomposition. The body lay exposed to the direct heat of a blazing July sun nearly all the day-time — the heat being doubtless intensified by reflection from the wall — for three consecutive days, during which period there was no rain to cool the atmosphere.

This state of putrefaction rendered the discovery of marks of violence on inspection almost impossible. The tumid and discolored condition of the integuments completely obscured all marks of contusion if they had existed. Ecchymosis could not possibly be detected, and swelling could not be discriminated from distention post mortem. Moreover, according to Ogston, "putrefaction not only gives rise to appearances which imitate contusions, but it also, in a short time, obliterates all traces of them when actually existing."

To putrefaction I attributed also, in a great measure, the position of the limbs, especially of the right fore-arm, which was raised in nearly a perpendicular direction and without support. "It is well known," says the author already quoted, "that violent and painful diseases which prove suddenly fatal are favorable to the rapid formation of gases, which by agitating the limbs give rise to movements in the corpse mimicking those of life."

The absence of downward displacement of the sternum and attached portions of fractured ribs, which was described in my testimony, was attributed to the ex-

pansive force of gases generated within the body during the putrefactive process. Both at the "view" and the autopsy the anterior surface of the thorax was noticeably full and tense. Moreover, no mobility of the fractured bones was observed while moving the body or in making the primary incision at the autopsy. Only when revealed by the dissection was the existence of fractures made known. There is reason to believe that had the body been discovered soon after death the sternal region of the chest would have been noticeably depressed.

Concerning the opinion expressed by one of the expert witnesses that the rupture of the heart took place during the autopsy, or otherwise did not exist, no more need be said than that this opinion was based upon a misapprehension of the location of the injuries as described by the medical examiner. From an examination of the stenographer's report of the testimony given at the trial it appears that this witness took for granted that the injuries and the hemorrhage were in the right side of the chest instead of the left. Obviously it makes all the difference in the world whether the injuries were sustained in the right side or the left, for the heart lying chiefly in the left cavity of the chest could not be punctured in the manner described if the fractures were "limited to the right side." The cause and manner of death, as well as the length of time which intervened between the receipt of the injuries and death, were all, in the judgment of this witness, determined upon a basis which was erroneous. There was, moreover, no evidence presented at the trial to show that the post-mortem dissection was carelessly made. The fact that the heart resists decomposition longer than other internal organs, as testified to by one of the government experts, and virtually assented to by this witness, — with the proviso that no fatty degeneration or other pathological condition of the organ existed to account for its softening, — threw the burden of proof, that the heart was torn during the examination of the body, upon the defense, which was not established.

It is well known that while the external surface of a corpse may undergo rapid putrefaction under circumstances favorable for its occurrence, the internal organs, especially the parenchymatous organs of the chest and abdomen, are usually much less advanced in decomposition. Such was the condition of the internal structures witnessed at this autopsy. Not only were the solid organs — the liver, kidneys, heart, and lungs — in a tolerably firm state of consistency, but the organs were less soft than is often found in bodies dead of acute disease when no putrefactive change has occurred. The brain alone was in an advanced state of softening, a condition easily accounted for when we consider that the head was uncovered and directed towards the south, thus receiving the full force of the sun's heat, and that this is one of the organs which under ordinary circumstances earliest commences to putrefy. Not only "the heart" but also "the lungs," according to reliable authority, "resist putrefaction for a long period, and traces of disease are distinguishable in them long after other organs are quite decomposed." "The liver," too, it is said, "may remain firm and compact for some months after death." As a matter of fact the heart was not friable, but firm and contracted and containing two rents.

For the same reason that the internal organs of the trunk were found to be in a sufficiently good state of

<sup>1</sup> Published in Appendix to Transactions No. 2, vol. 13, of this society.

preservation to bear careful examination, so capillary hemorrhage into the areolar tissues and the pectoral muscles of the left thorax was clearly demonstrated, although ecchymosis externally could not be distinguished from post-mortem discoloration and tumefaction. That internal ecchymosis was discovered is proved by the fact that only on the left side, at the seat of the most extensive and severe injuries, was this appearance manifest. That the hemorrhagic infiltration of the tissues alluded to was not a cadaveric condition is shown by its location on the upper instead of the lower portion of the body, and where it would not be produced by gravitation.

The testimony other than medical, which was offered at the trial, was very conclusive as to the guilt of the prisoner. The case having been given to the jury, that body, after retiring over night, brought in a verdict of murder in the second degree. A sentence was imposed by the court of imprisonment for life, one day of which was to be solitary.

## RECENT PROGRESS IN THE MANAGEMENT OF LUNATIC ASYLUMS AND CARE OF THE INSANE.

BY WALTER CHANNING, M. D.

### OCCUPATION FOR THE INSANE.

THE school system at the Richmond Asylum was established several years ago by Dr. Lalor, the superintendent.<sup>1</sup> The daily average number of male patients is about four hundred and fifty, and they are grouped into five divisions, which may conveniently be designated the receiving, the farm, the epileptic and the suicidal, the school (so called because the more intelligent patients are in this division), and the hospital. School exercises are carried out in all these divisions with the exception of the hospital, which contains about forty-two patients.

The farm patients, numbering about eighty-four, work during the day in the garden, at smith work and carpentering. As many as seventy attend school for an hour after supper three evenings in the week.

The receiving division, composed of recently admitted patients, numbers fifty, and of these about thirty attend school, and sixteen work on the farm. A few generally do not take to the school at first, but finding themselves isolated, soon fall into the exercises.

In the epileptic and suicidal division there are one hundred and thirty patients; about ninety of these attend school, being divided into two classes. The remaining forty are employed at painting, mason, farm work, wire-basket work, chimney sweeping, shoe and mattress making.

The school division numbers one hundred and forty-four patients, and has about ninety in daily attendance at school. Fifty-four are engaged wholly in office, mason, farm work, tailoring, shoe-making, and plumbing.

It will be observed that there are a number of patients in each division who are employed at various industrial pursuits. This arrangement affords a convenient method of varying the occupations of patients, and at the same time keeps the patients within the in-

fluence of the school system. It is intended that the school system shall be brought to bear on every patient in the institution.

The mind, as a whole, being divisible into moral, mental, æsthetic, and physical faculties, the subjects selected for instruction must be such as will develop these faculties. The moral faculties are developed by religious instruction; the mental faculties by object lessons, lessons on color and form, reading, geography, and arithmetic; the æsthetic faculties by writing, drawing, and music; and the physical by drill and marching.

The object lessons are the most important, and have received great attention. Reading lessons are a favorite subject with the senior classes. Mathematical geography is an engaging feature. Drawing is also much liked, and the numerous sketches in the possession of the asylum are an evidence of the work done by the patients. Music might be termed the backbone of the system, for it interests the greatest number, and when all other means fail in engaging the attention of one suffering from an acute form of mental disease, the singing class is the first one to attract his notice.

Games and recreation form an essential part of the school system. Out-door games consist in cricket, lawn tennis, foot-ball, skittles, ninepins, etc.

Dr. Bowers<sup>2</sup> speaks of the great importance of occupation for the insane, and makes the surprising statement that in looking up what has been written in the *Journal of Mental Science* in its twenty-four numbers on this subject, if the index of Dr. Blandford is correct, there is but one paper, and that by a Frenchman! He says there is too little employment for the insane in private asylums. It consists, he is afraid, of a routine of regular and purposeless walks, with games interspersed. The idleness of patients in asylums materially retards recovery. The pent-up energy of patients must find some outlet, and often it is used in violent and destructive ways. Dr. Bowers has seen asylums for the wealthier classes where a continuous round of amusements was offered to the patients; still he felt it a disadvantage not to have some useful kind of work to offer, rather than a kind of dissipation which would tend to unfit them for the regular duties of life.

Dr. Bowers has in his private asylum seventeen male patients, and by degrees he has gradually introduced a system of compulsory employment for them, and they are now all at work out-of-doors when weather permits, with two exceptions, one being paralyzed, and one too old. In wet weather they work in the carpenter's, painter's, and engineer's shops.

To make a success of the "employment" system there are certain fundamental principles to be observed:—

First. That the work is not too hard.

Second. It must, for the upper classes, be free from any imputation of being menial.

Third. There must be constant variety.

Fourth. There must be abundance of recreation.

Fifth. There must be very good, nourishing food.

Woodilee<sup>3</sup> draws its patients from a large commercial and manufacturing class, receiving about two hundred new cases yearly, many of whom are suicidal and dangerous, yet a visitor may often go through the

<sup>1</sup> Employment in the Treatment of Mental Diseases in the Upper Classes. By David Bowers, M. D. *Journal Mental Science*, July, 1882.

<sup>2</sup> Report of the Barony Asylum for 1880. By Dr. Rutherford. *Journal Mental Science*, April, 1882.

<sup>3</sup> On the Education of the Insane and the School System as carried out at Richmond District Lunatic Asylum, Dublin. By John Fox, Schoolmaster. *Journal Mental Science*, April, 1882.

whole house without seeing any of the usual manifestations of excitement and fury so common among patients under the old form of restraint, confinement, and idleness. Work, chiefly out-of-doors, is what has accomplished these great results. One hundred and fifty of the men are regularly employed at out-door work in parties of eight or ten, each under the care of an attendant.

The proportion of attendants to patients is certainly not greater than would be required were the patients treated on the old system of confinement in airing courts, with locked doors.

Beside the one hundred and fifty men who work out-of-doors, under the care of ordinary attendants, about thirty are employed as tailors, upholsterers, storekeepers, shoemakers, bakers, plumbers, blacksmiths, painters, joiners, engineers, and stokers, under skillful artisans.

About five hundred of the patients take their meals together. They occupy about twenty minutes at dinner, and then wait in their places at table until the attendants finish their meals at separate tables in the same hall. At nine and two o'clock they are drawn up in line, and inspected by the medical officers.

The asylum has never had any airing courts or inclosed spaces of a like nature about it, and is the only one conducted entirely on the open-door system. Even in the so-called refractory part there is not a closed ward, yet the asylum is within ninety yards of the Edinburgh and Glasgow Railway, which passes for three quarters of a mile through the grounds, is fenced only by a light iron railing, and has daily one hundred and ninety-five trains passing over it.

The use of wines and spirits is gradually diminishing at the asylum, the actual quantity used during the last year being only four bottles of whiskey for the males, and sixteen bottles of whiskey and twelve bottles of wine for the females. Beer is not used. The actual number of patients who have received sedative and narcotic draughts does not exceed twelve. Insanity is a disease of diminished vitality, and the system demands essentially invigorating treatment. Experience proves that out-door air and employment are best for this purpose.

At the Barming Heath Asylum in Kent, Dr. Davies says the patients are more cheerful, less noisy, and work better without beer than with it. For beer the patients receive water. The attendants receive £4 per annum, the laundry attendants £3, and the female attendants and servants £2 instead of beer. Many have become total abstainers.

#### PROVISION FOR INSANE CRIMINALS.

Dr. Knecht,<sup>1</sup> who is the medical officer of the only institution for insane criminals in Prussia, that connected with the prison at Waldheim, gives an interesting account of the system of classifying this class in England. It was the philanthropist Howard who, a hundred years ago, first called attention to insane inmates in prisons in his book on the State of Prisons. He spoke of the trouble they occasioned, and that they also occupied room intended for the ordinary prisoners. In 1800 a law was made that persons who were insane at the time a crime was committed should receive appropriate treatment. In 1816 another law specified

that insane convicts should be sent to insane asylums. In consequence of this law a wing was set aside for insane criminals in the same year at the Bethlehem Hospital. In 1849 Fisherton House, a licensed or private asylum, began to receive this class. In 1849 Broadmoor was erected for both classes of insane criminals. Its capacity was to be four hundred and thirty-two men and one hundred and fifty women.

In 1868 the unconvicted insane at Broadmoor constituted one half the population. Many plots and attacks on the officials constantly occurred. The conclusion was gradually arrived at that the insane convicts were much the worse class of the insane, and accordingly when, in 1875, Broadmoor became overcrowded, an insane department was added to the Invalid Prison at Woking. More recently a similar department has been added to the Invalid Prison at Parkhurst, Isle of Wight.

The system as now arranged in England is this: Persons who committed crimes when insane go directly to Broadmoor. All convicts of both sexes becoming insane in prison go to the Millbank Prison in London as the first step. Here they are kept secluded, and carefully watched for any indications of feigning. They are then, after three to six months, transferred,—the men to Woking or Parkhurst, the women to Broadmoor. There were 60 men and six women discharged from Millbank during the year 1879–80, 58 of the men going to Woking.

In March, 1880, there were 99 insane convicts at Parkhurst. At Woking, in 1880–81, there were 150 to 160. Of the latter number 95 were generally occupied, the greatest importance being attached to work. A system of marks for good behavior and work has recently been introduced.

The convicts received the ordinary diet, and had no favors shown them, as at ordinary asylums; notwithstanding they were in good health and required little severe discipline. The universal testimony was that such discipline as was required for ordinary prisoners was absolutely injurious to this class.

At Broadmoor at the close of 1879 there were 368 men, of whom 54 only were convicts, and 115 women. Of these 173 men and 82 women were employed at various occupations.

The general system, it will be seen, is most excellent in England, but the great difficulty is that for a large portion it is only temporary, for many of the insane convicts after the expiration of sentence go to ordinary asylums. Some form of permanent care must be provided, but as yet no plan has been decided on.

Dr. Knecht thinks the system of having an insane department connected with an invalid prison a good one, but does not approve of having such a department connected with a prison for healthy convicts. As there are now no invalid prisons in Germany, he would have a special asylum for insane criminals, at present connected with an ordinary asylum. The manner of building should somewhat resemble that of a prison, but the form of treatment should be that of an ordinary asylum.

Dr. R. S. Dewey, superintendent of the Eastern Insane Hospital of Illinois, says<sup>2</sup> that insanity is sixteenth fold more frequent among convicts than in the population at large, or about 32 in 1000.

Many of the unconvicted insane belong, strictly

<sup>1</sup> Dr. Knecht, die Gegenwärtige Fursorge für ein Verbrecher in England. Allgemeine Zeitschrift f. Psychiatrie, vol. XXXIX., 1st and 2d vol.

<sup>2</sup> Differentiation in Institutions for the Insane. American Journal of Insanity, July, 1882.

speaking, to the criminal class. Belonging also to this class there are persons of entire respectability, and between the two extremes every shade of crime and lunacy. There are epileptic criminals, simulators, lunatics who know right from wrong, and lunatics who feign insanity. It is sometimes found that the most abandoned criminals are insane, and not infrequently it is difficult to determine whether a criminal is insane or only depraved.

There is a strong probability, however, that any insane person committing a crime is of an inferior moral organization.

It should be possible to find a proper place for each class of insane perpetrators of crime. All insane convicts, and the majority of the unconvicted, could go to a criminal asylum, and insane patients with dangerous homicidal tendencies should be added to this class. A proper tribunal should make the selection.

The United States might provide district criminal asylums, as is done in England and some of the European states.

At several of the recent meetings of the Société Medico-Psychologique this question has been very fully discussed. M. Christian stated that he did not believe criminal insane asylums a strict necessity. All lunatics are from the nature of their insanity irresponsible, and they may commit crimes at any time. Perverse instincts, also may be lost in insanity. You can never predict what an insane man will do from his past history. A good man, when insane, may become bad, or a hardened criminal may become a "sweet, good man."<sup>1</sup>

M. Motet said that although there might be no difference clinically between the criminal and the ordinary insane, the social side of the question should be considered. All men, sane or insane, committing crimes should render an account to justice. Because a crime was committed during an attack of insanity it does not cease to be a crime, and its perpetrator must always be a criminal; he cannot be classed as an ordinary lunatic. It will always be dangerous to set insane criminals at liberty, even when cured, as relapses are liable to occur. The best plan of treatment will be at asylums especially built for insane criminals.

M. Foville thought that law tribunals should have some responsibility in deciding on the insanity of criminals. If officials are ignorant of the subject they can learn from medical men, and their opinions will thus become of more value.

#### PUBLIC PROVISION FOR EPILEPTICS.<sup>2</sup>

Prof. F. Jolly, in Strassbourg, speaks of the tendency in medicine to specialties, as a result of which we see various hospitals erected for different classes of disease. Beginning with Moll at Württemberg in 1865, we find the subject of special institutions for epileptics brought up in Germany. In France, as long ago as 1834, Frenue spoke of it, and he has been followed by Delasiauve, Parrhappe, Lacour, Legrand du Saulle, and Lunier.

In considering the subject, the number of epileptics becomes of importance. Herpin, Oesterlen, and other old authors, gave a proportion of 50 to 60 epileptics in each 10,000 persons, but Moll reduces the proportion 10 to 10,000 in 1866, and in 1877 Lunier brought it down to nine in 10,000. If we take the population of

Germany as 45,000,000, following the estimate of Moll, we shall have 40,500 epileptics. It is extremely difficult to say how many of these will need care in special hospitals or divisions of hospitals. Lunier places the number of epileptics in France at about 33,000, and thinks that 15,000 of these should receive hospital treatment. Only about 5000 are so treated at present.

In considering what provision shall be made for epileptics the following classes present themselves:—

(1.) Epileptics who do not need hospital care, but for whom systematic and public treatment is desirable.

(2.) Those who need only temporary treatment.

(3.) Those who need hospital care for a long period.

(4.) Children who are the subjects of epilepsy.

Epileptics, when insane, should be treated in ordinary insane asylums. These places are, on the whole, the best adapted to them. Cases which demand temporary hospital care should be provided for in special divisions of general hospitals, and it is to be hoped that such divisions will become numerous. Combined with these there should be well-organized out-patient departments. Cases of long duration demand special buildings or separate divisions in existing public institutions.<sup>3</sup> Epileptic children should be cared for in separate divisions of idiot asylums when young; when older in public institutions for adults.

#### PROVISION FOR THE INSANE OF BERLIN.<sup>4</sup>

Dr. Schreier has considered this subject in a recent paper which is of interest in connection with the need of increased accommodation in the city of Berlin.

In 1879 the asylum at Dalldorf, which was to accommodate 1000 insane persons from Berlin, was finished. By the end of 1881 there were 1100 inmates, though 375 of the city's insane had been sent to private asylums. A larger number of inmates at Dalldorf than 1100 does not seem advisable. What then shall be done with the rapidly increasing number of the insane? A few can be taken care of by private families, but this means of provision can be availed of only to a limited extent in comparison with the requirements. Neither can the private asylums be utilized much further than has already been done, as they are not the best places for the care of the city's insane.

The best course would be to erect another asylum, but as public opinion at present is opposed to this, it seems most feasible to establish an insane colony after the fashion of Saxony. The city of Berlin owns a large amount of land, on some of which the plan might be tried for 500 to 600 persons. The cost would be small, as the land is already in possession of the city, and some of the small buildings which are to be found here and there could easily be altered to suit the needs of the patients. Buildings for the officers, cooking, washing, and a small central building, will be all that would be necessary.

Berlin contains about 1,150,000 inhabitants, and insanity increases yearly at about the rate of 200 persons.

<sup>3</sup> In Berlin the Charité has an epileptic department with thirty beds. In Paris there are eighty beds for males at the Bicêtre and one hundred and thirty-seven beds for females at Salpêtrière. In the Hôpital de l'Antiquaille at Lyons there are fifty-six beds.

<sup>4</sup> Allgemeine Zeitschrift f. Psychiatrie, April, 1882. Fürsorge f. die Irren der Stadt Berlin.

<sup>1</sup> Annales Médico-Psychologiques.

<sup>2</sup> Archiv für Psychiatrie und Nervenkrankheiten, xiii. Band, 2 Heft.

MECHANICAL RESTRAINT.<sup>1</sup>

Drs. Bannister and Moyer sent circulars to fifty insane asylums asking a great variety of questions about the use of restraint and seclusion, and twenty of the asylums responded. The circular desired the answers to be founded on statistics gathered during the month succeeding its receipt, which was February.

The percentage of sleeping draughts was found to range from nothing to over eleven per cent. of the population. The average daily percentage of patients restrained rose as high as six per cent., and of secluded to three per cent. The average percentage of restraint was one and one half per cent., which was not, in the authors' opinion, too high an average for all the asylums in the country.

It was considered advisable to repeat the comparison of the ratio of suicides between England and America which was made by Dr. Willbur in 1875. The comparison of these statistics was made for 1880. It was found from the Report of the Commissioners in Lunacy for 1880 that twelve suicides occurred in English public asylums which had a daily average of population of 40,737. Four of these occurred while patients were at home "on trial." Taking the reports of thirty-three American asylums for 1880, with a daily average population of a little over 17,000, twenty cases of suicide were found. According to these figures the ratio of suicides in American asylums has decreased from one in 500 in 1875 to one in 850 in 1880. But in England the ratio has decreased from one in 2000 to one in 3333 during the same period.

It cannot be claimed that this disproportion is entirely due to the non-restraint system in England. The significance of the fact is that the disuse of restraint in England is not accompanied by an increase of the evil for which it is largely employed in America. If this immunity in England from suicides is due at all to non-restraint, it must be from the increased watchfulness and care required when restraint is not employed.

Dr. Schlager,<sup>2</sup> of Vienna, describes the various forms of padded rooms now in use in insane asylums where non-restraint is used, and, after summing up the disadvantages, describes a form of "padded room" which he himself has used with success for six or seven years. He describes a room 468 centimetres high, 425 long, and 390 wide. In this he builds a frame-work 302 centimetres high, and which is fifty-three centimetres from the walls. Thus it will be seen that the frame-work stands free in the room with sufficient room for a person to walk between it and the wall. It is to be taken for granted, of course, that this frame-work is sufficiently strong. It is four-cornered, and the corner pieces are connected by a heavy hempen webbing, stretched vertically and horizontally, only small spaces being left between the webs. This webbing forms the first layer of the wall or side of the inner space. Inside of the webbing heavy sail-cloth or canvas is stretched which is thoroughly painted. The corner pieces are well padded, the floor is covered with linoleum, under which there is plenty of stuffing.

The heat comes from a register in the wall above the top of the frame-work, and light is admitted from a high window. The door to this "sail-cloth seclusion room"

is seventy-eight centimetres wide, well padded on the inner side, and opens outward. In the upper third is a little observation window (Beobachtungsfensterchen) of heavy glass. The sail-cloth room is 286 centimetres wide and 251 centimetres long. The sail-cloth walls can be easily cleaned both from the inside and outside.

## Reports of Societies.

## PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

T. M. ROTH, M. D., SECRETARY.

OCTOBER 23, 1882. DR. J. C. WARREN presided. DR. WILLIAM H. BAKER spoke on the subject of

## LACERATION OF THE CERVIX UTERI,

and exhibited carefully-prepared colored plates illustrating the various points which he discussed. He first remarked that little that is essentially new had been written on this subject since Dr. Emmet had given its name to the operation which he had instituted for this class of cases.

The reader then mentioned the different forms or classes of cervix in which the accident occurs: First, there is the undeveloped cervix, which is very apt to tear in labor, but the laceration is not so apparent as in the fully developed cervix on account of there not being so much eversion. Next there is the conical cervix, which is likely to cause sterility, but when pregnancy occurs tears more readily than the normal cervix.

Persistent and long-continued cervical disease, and, in fact, any neoplasm in the substance of the cervix evidently tends to laceration, and also where a first pregnancy occurs late in life, a certain amount of atrophy having taken place after the full stage of development has been passed.

Dr. Baker then mentioned the class of labors in which we are to expect laceration. In fully one half of the cases where it has occurred the labor has been a rapid one, and in such labors we are less likely to find symptoms of the accident at first than we are months afterwards. About one quarter of the remaining cases occur in tedious labors, and the rest from an early application of the forceps.

It is important to diagnosticate the lesion early, and to do this successfully a speculum should be used, as a digital examination may fail to detect it.

The reader then stated that there was no symptom or train of symptoms which were characteristic of the lesion. If the tear is extensive there may be considerable hemorrhage during the labor. The backache, leucorrhœal discharge, etc., are rather results of changes of position of the uterus or are due to a cervicitis than to the injury itself.

In the majority of cases the diagnosis is easily made, but exceptionally it becomes difficult, and can only be detected by means of the tenaculum.

In speaking of the extent of laceration which necessitates operative interference, Dr. Baker dissented from those writers who hold that in first labors laceration must necessarily occur, as he had seen a number of virgin cervixes after two or three labors. Generally speaking any laceration allowing eversion to take place necessitates operation. As to preparatory treat-

<sup>1</sup> On Restraint and Seclusion in American Institutions for the Insane. *Journal Nervous and Mental Diseases*, July, 1882.

<sup>2</sup> *Zeitschrift f. Psychiatric, Koenige Mittheilung*, vol. xxxix., Heft. I and 2.



ment, the first object is to get rid of the inflammation, as cellulitis is apt to accompany these tears, and the time will be well spent in getting rid of this condition before operating, thus differing from Goodell, who believes that the operation tends to cure the cellulitis.

If cystic degeneration is present, and the tear is only on one side, we can usually denude deeply enough to remove the cysts, and still have sufficient healthy tissue for the operation. The reader stated that the edges of the tear should be brought together as soon as possible, or before structural changes have occurred, thus aiding involution and avoiding septicæmia, saving the patient also months of suffering.

The operation should be performed from four to seven days after the menstrual period, as an earlier date may cause a recurrence of the flow, and a later one may bring it on too soon, before we have time to remove the sutures. As to the best manner of performing the operation, a want of free denuding often causes failure. All cicatricial and hyperplastic tissue must be removed. The method of operating adopted must vary with the character of the laceration. It is at times extremely difficult to roll back the everted portions, but this is best accomplished by making a V-shaped incision on either side, and there must be no strain on the stitches. A strip of healthy membrane should be left for the canal. It is well to operate under the spray.

Dr. Baker had found that it was better for the patient to remain quietly in bed after the operation for eight days, the stitches to be then removed, and at the end of two weeks the patient could get up.

During this period the patient was to be kept on low diet, milk and toast and tea, and the bowels were to be kept confined for about a week, until the stitches were removed, or just before this procedure. If the perinæum was intact there was no especial reason for using the catheter, but where it was torn, or where the vagina was large, it should be used, at the same time filling the vaginal outlet with a sponge. Douches were also used.

In certain cases of extensive laceration eversion does not occur when the uterus is retroverted. The reader explained the mechanism of this condition, and also that in those cases of incised posterior cervix from an enlarged uterus descending on the floor of the pelvis. He then spoke of the great benefit of the operation in comparison with the treatment by the cautery, and concluded by mentioning the importance of reducing the tendency to epithelioma, which exists in these cases.

Dr. MIXOT said that he had never seen any bad results in his cases from not keeping the bowels confined, and that he did not use the catheter excepting where the patient required it. He was accustomed to keep the patient in bed for a week. He had frequently detected a laceration by digital examination, and had often been surprised to find on using the speculum that the tear was not so large as he had supposed. The operation probably prevents abortions, which would otherwise take place if the laceration were allowed to remain untouched.

Dr. C. M. GREEN said that laceration of the cervix often occurred in a class of cases not referred to by the reader, namely, in cases of abortion and premature labor; in these cases the cervix, not having undergone complete preliminary softening, is much less dilatable, and if the delivery is rapid, or the membranes are

ruptured early (as would often be the case in criminal abortion), laceration is very likely to ensue.

Dr. BOARDMAN said, "I am gratified to have this subject brought up anew, for I am thoroughly satisfied as to the important relation which this lesion bears to the multifarious affections peculiar to women, and regret to observe the reluctance which physicians continue to show to appreciate its importance, and the benefits to be derived from Emmet's operation."

"Dr. Baker has presented the subject in so attractive and excellent a manner in all its details that there seems to be but little left for any one to say, yet I feel disposed to make a few remarks, partly to confirm some of his observations, and partly to differ with him in some particulars."

"The conditions which may be considered to predispose to this lesion he has enumerated quite thoroughly, but he made no mention of the passage of the shoulders in labor as a factor, and I am inclined to regard it as an important one in the production of this accident. In a paper which I read before one of our societies about one year ago I took occasion to suggest this as a not infrequent cause; and I am able to recall a case where the accident did occur in this way under my personal observation, at least the tear obviously took place after the head had passed safely through the cervix. A study of the ordinary action of the uterus during labor, I think, will give a full appreciation of the rôle which the shoulders play in occasioning the lesion."

"With regard to the infantile and the conical cervix, we may readily agree with Dr. Baker that these conditions would predispose to the production of a laceration, for it is easy to understand that, where there is defective development, the integrity of the part may be impaired. This point, however, would be difficult to determine, for, in my experience at least, we rarely have the opportunity to examine such a cervix except in cases of sterility. Yet women who have such a cervix are not always sterile, nor when conception takes place is labor necessarily attended by laceration of the cervix, and I will cite two cases in illustration. One of these I reported formerly to the Obstetrical Society. The patient had been married three years without having children, and consulted me in order to ascertain why she did not conceive. I found an infantile cervix, which was actually flexed posteriorly by means of a fibrous band. This was divided, and the neck kept in good position for a time by tampons. Two or three months later she became pregnant, and I attended her at her confinement at the full term, when the cervix remained intact."

"The other came under my care some time ago, and in the examination I ascertained that she had a conical, so-called, elongated cervix, the os barely admitting the bulb extremity of a large flexible sound. She had been confined at the full term, and yet there was not the slightest evidence of the fact to be gained from the appearance of the neck. This case will serve, also, to confirm the statement, made by Dr. Baker, that labor does not necessarily leave its traces in the form of some degree of laceration of the cervix."

"As to the diagnosis of this condition I quite agree with the reader that it is not always an easy matter to make out the existence of a laceration unless one examines in the proper manner, that is to say, with a Sims' speculum and two tenacula, and I am convinced it is because most physicians neglect to employ these that they

fail to recognize the lesion. I have quite recently performed the operation upon a patient from a neighboring State. Several physicians in the city where she resides had seen her, and all advised her not to submit to the operation. I think *all* of them told her that the cervix was not torn; at all events, one of them, who is said to have given especial attention to gynecology for thirty or more years, assured her that her cervix uteri was as perfect in form and appearance as that of a virgin. While his enthusiasm may have led him to employ extravagant language, yet I can readily conceive that he deceived himself, for, in this case, a cylindrical or bivalve speculum served to obliterate the grooves of the lacerations, and the eye would see only a smooth, rounded cervix, though considerably larger than one should find when no disease is present. I would merely add that this 'virginal' cervix was torn on both sides, and required seven sutures. I cannot agree with the reader when he advises that the operation should be done immediately after labor, whenever it is recognized at that time, for we know that some, at least, of them heal spontaneously; and I have seen many cases which show that even with an extensive tear there may be no evil results, for a long period at any rate, not until the uterus becomes prolapsed sufficiently to allow the lips to come into constant friction with the floor of the vagina, or to be forced apart by traction upon them occasioned by a prolapsed and retroverted uterus. Having had many such cases under observation I cannot understand the result which Dr. Baker states ensued in one of his cases, where eversion did not take place until after he had replaced and properly supported with a well adapted pessary a prolapsed uterus. On the contrary, I would repeat, that my observation has taught me that so long as the uterus maintains its proper position eversion will not ensue, no matter how extensive the lacerations may be.

\* The reader also states that he has had bad union resulting from operations done within two or three days of the menstrual period. If he admits that the menstrual fluid will interfere with the union of the flaps, I think he must allow that the lochial discharge would offer a still greater obstacle to the union of the parts by first intention, and, upon this ground alone, I should not advise the immediate operation. My practice is to wait until the commencement of symptoms which may fairly be ascribed to the lesion, and then to urge the necessity of the operation for the purpose of relieving present, and to avoid inevitable future, suffering.

\* In the use of spray in these cases I have had no experience, having never considered it necessary, though I can fully appreciate that it may be required in hospitals. My custom is to assure myself that no clots are allowed to remain between the flaps, to give a copious hot douche after the completion of the operation, and, finally, to pack the upper vagina, around the cervix, with absorbent cotton dipped in a solution of tannin. This packing serves to support the uterus as well as a disinfectant, and it is removed on the second or third day, when hot douches are given twice or thrice daily. By these means the swelling is kept down and reduced, the vagina is thoroughly cleansed, and danger from the contact of urine is avoided, so that I never employ the catheter, unless, of course, there is some exceptional indication for its use. The bowels, having been freely emptied before the operation, are made to act every two or three days afterwards by means of enemata or laxatives."

DR. WARREN said that the operation was not a trivial one, and that at times alarming symptoms occurred.

DR. GOSS mentioned a case in which there was quite extensive bilateral laceration successfully operated upon by Dr. Baker. Two years later the patient was confined prematurely at about the seventh month. A slight tearing in the cicatrix on the right side resulted.

DR. F. H. DAVENPORT said that he also had had an opportunity of observing a case of confinement subsequent to this operation. The patient had been operated on for bilateral laceration, with complete union. She very soon became pregnant, and at full term had a rapid labor, so rapid that the child was born before Dr. Davenport arrived. In spite of the quick labor, however, there was no laceration, as was shown by an examination six weeks later with the speculum.

DR. SABINE said, in regard to operating immediately after confinement, is it possible to discover the lacerations at that time? It seems to me not. Besides, is it not fair to suppose that a large proportion of them heal spontaneously, or at least heal so far as to become of slight importance. The reader spoke of operating at this time to diminish the susceptibility to septicæmia. Would not meddling with the uterus just at this time, when the woman requires to be let alone, rather increase than diminish this?

DR. DOE referred to the effects of subsequent pregnancies in cases where this operation had been performed, saying that Dr. Hunter, President of the New York Obstetrical Society in 1881, had attended, up to that time, three such cases, in each of which no rupture had occurred, and he thought there was no more liability to this accident in subsequent pregnancies than originally. Dr. Wylie has also reported three cases, Drs. Mundé and Mann two each, Drs. Peaslee, Watts, and Mackenzie one each, all remaining intact.

DR. VAN DE WARKER, on the contrary, reports four cases, in all of which the laceration recurred. Dr. Goodell also reports four cases, in three of which no laceration followed, but in the fourth a slight tear took place, but not sufficient to require any operative interference.

DR. DOE said that he had attended three cases, all of which had been operated upon by Dr. Baker. In the first two cases the rupture had been on the left side, and dilatation took place readily, the cicatrix softening equally with the remaining portion of the cervix. The third case was one of bilateral laceration, that on the left side being very irregular and deep. This case was seen soon after labor began. The os was soft, dilatable, and admitted one finger. The cicatrices on each side were distinctly felt. Two hours later the os was two thirds dilated, both cicatrices were thinner than the remaining portion of the cervix, that on the left side taking on a triangular shape, with the apex towards the vaginal junction; the anterior lip was slightly oedematous, and later became much more so and wedged in between the head and brim during the pains, so that it was necessary to push it up above the head. The cicatricial portions had become very thin.

In all of these cases the cervix remained intact up to the time when it receded over the head, yet in the first case there was a repetition of the laceration, though very slight, and also on the left side in the third case, though not so extensive as to require a renewal of the operation.

It would seem as if the rupture in these cases must

have been caused by the passage of the shoulders, inasmuch as the cervix seemed entire at the time when the largest diameter of the head passed through.

Dr. Doe added that he had recently attended a lady in her second confinement at the seventh month, where there was a thick, deep cicatrix which had naturally resulted from an extensive laceration produced by version in her first confinement at full term. Throughout the labor there was no softening or any tendency to dilatation of the cicatricial portion, and a repetition of the rupture took place, though not so extensive as originally.

### THE AMERICAN ACADEMY OF MEDICINE.

THE seventh annual meeting of the Academy of Medicine was held in Philadelphia October 26th and 27th, at the hall of the College of Physicians, the use of which had been tendered for the occasion, the first session commencing at three o'clock Thursday afternoon, and the second at nine on Friday morning, adjournment occurring at noon.

DR. TRAILL GREEN, of Easton, Pa., President of the Academy, occupied the chair, and on Thursday evening delivered his annual address, which was well received by a large audience. He discussed the objects sought after in the establishment of this organization, reviewed its progress, and indicated some of the changes in medical education which had been brought about since it was founded; in conclusion he read a number of laudatory expressions of opinion from many prominent American physicians upon the Academy of Medicine and its work.

#### FIRST DAY.

At the first session an election for members resulted in the addition of fifty-one new names to the list. A very interesting historical sketch by Dr. Benjamin Lee, of Philadelphia, was read, entitled the Advantages of a Liberal Education Preliminary to the Study of Medicine as illustrated in the Early History of Medicine in the Commonwealth of Pennsylvania, which was received with evident appreciation. The secretary, Dr. R. J. Dunglison, in the absence of the author, read a communication by Dr. Elisha Harris, of New York, On the Public Health Service in its Relations to thorough Preparation of the Physician, which with the preceding was ordered to be published.

THE SECRETARY read biographical notices of deceased Fellows of the Academy, Dr. H. Lenox Hodge, James A. Shearer, and Dr. Allan, the late President of Girard College.

DR. H. O. MARCY, of Boston, Mass., read a paper on the Antiseptic Treatment of Operation Wounds, and DR. L. H. STEINER, of Frederick, Md., read a Reply to a Recent Criticism of the College by a College Professor, which were also ordered for publication.

DR. GEO. M. BEARD read an abstract of his essay on the Medical Profession and Medical Education in Europe, which is shortly to appear in book form.

In the evening, after the delivery of the annual address by the president, a social entertainment was given by the resident members, which was not enjoyed the less because of being an innovation, it not having been the custom of the Academy to have social meetings.

#### SECOND DAY.

After the reading of the treasurer's report the Nominating Committee appointed yesterday presented the following list of officers for the ensuing year:—

H. O. Marcy, of Boston, Mass., for President. Drs. Geo. M. Beard, of New York, Wm. Elmer, of Bridgton, N. J., Cornelius R. Agnew, of New York, Thomas M. Drysdale, of Philadelphia, Vice-Presidents; and Dr. Richard J. Dunglison, of Philadelphia, for Secretary and Treasurer. Dr. Chas. M. McIntyre, of Easton, Pa., for Assistant Secretary.

The report was adopted, and the nominees declared unanimously elected.

Drs. Austin Flint, of New York, and Henry F. Campbell, of Augusta, Georgia, were elected honorary Fellows.

It was decided to hold the next meeting in New York city, on the third Tuesday of September, 1885.

The receipt of letters from the surgeons in attendance upon the late President Garfield was announced by the secretary, in response to resolutions adopted at the last meeting of the Academy.

A paper by Dr. Nathaniel Allen on The Influence of Medical Men was read by the SECRETARY, and ordered to be published.

The report of Drs. Dunglison and Marcy, Committee on Medical Legislation, was read and adopted, the Committee being continued until next year.

On motion it was resolved that an annual collation be given hereafter at the annual meetings.

DR. CHAS. MCINTYRE read a communication on The Academy and the Profession, which was accompanied by tables showing the number of men with college training in various medical societies, and also the very small proportion of graduates of classical institutions which adopts the practice of medicine as compared with the other professions of law and theology. The preponderance of A. B.'s in the Medical Department of Harvard University in comparison with other medical schools was very marked. From the professional schools in 1879 medicine reported 9522, with a percentage of 8.2 of those having a degree in arts and science; in 1880, 9876, with only 7.9 per cent. *Theology*, in 1879, 4362, with 30.6 per cent.; in 1880, 5093, with 26.4 per cent. *Law*, in 1879, 3018, with 25.2 per cent., and 1880, 3134, with 24.1 per cent. of those who had a classical degree.

Permission was given the author to publish the preceding valuable paper in some literary or scientific journal.

Dr. Benjamin Lee, of Philadelphia, and Dr. L. D. Bulkley, of New York, were elected members of the Council. The new officers being inducted to their positions, after the passage of a vote of thanks to the College of Physicians for the use of the hall, and to the resident Fellows for attentions received, the Academy adjourned. F. W.

—A circular from the Secretary of the National Board of Health has been brought to our attention, complaining of the position in which the Board has been placed, and calling upon the members of the Public Health Association for vindication of its course, and for help in reasserting the position which it has lost partly, at least, by its own faults.—an undignified proceeding, and not calculated to increase public respect for the Board.

## PATHOLOGICAL SOCIETY OF PHILADELPHIA.

E. B. SANCREDE, RECORDER.

THURSDAY evening, October 26, 1882. The president, Dr. JAMES TYSON, in the chair.

## HYPERTROPHY OF THE PROSTATE GLAND ACCOMPANIED BY PROFUSE AND FATAL HÆMORRHAGE.

Presented by DR. J. B. ROBERTS for Drs. J. M. Adler and Wm. Hunt.

The clinical history furnished by Dr. Adler is as follows:—

The patient, aged sixty-six years, of medium size, weighing one hundred and fifty pounds, of regular habits, had enjoyed good health until within one year past. On a number of occasions during the past year he has had slight hæmaturia. He passed his urine with ease, and only complained of slight perineal pain. On 12th of September last he arose in the morning in his usual health, but soon after breakfast he was attacked with sudden acute pain in the bladder, which he was unable to empty. Dr. Adler saw him in a short time, when the patient complained of great hypogastric pain, and was much prostrated, with a blanched, sallow, cold skin, and a rapid and feeble pulse. A well defined pyriform swelling occupied the hypogastric region, extending upwards to the umbilicus. After stimulants and morphia had been given about one pint of fluid blood was drawn off by the catheter, after which, this instrument becoming blocked, a double one was introduced by means of which injections of warm water were thrown into the bladder, and another pint of broken-down coagula was removed. A solution of alum, twenty grains to the pint, was then introduced into the bladder, and allowed to remain. Despite the internal use of *ol. terebinth* and *ol. erigeron*, with opium suppositories, the hæmorrhage continued, necessitating recourse to the catheter injections, etc., to free the bladder from coagula. Death ensued on the sixth day from exhaustion induced by the repeated hæmorrhages. The diagnosis arrived at by Drs. Hunt and Adler was carcinoma of the neck of the bladder.

*Sec'tio cadaveris.* The autopsy was a partial one, made in the undertakers establishment. Upon incising the hypogastrium the distended bladder was at once seen containing nearly a pint of clotted blood. This was removed by the hand through an opening in the viscus, when Dr. Roberts felt near the vesical neck, protruding into its interior, a pear-shaped mass about the size and shape of the adult uterus. This, as the members of the Society saw, was evidently a greatly enlarged middle lobe of the prostate gland covered by unaltered mucous membrane. The lateral lobes were also enlarged. The mucous lining of the viscus was smooth and congested, presenting at one point two small circular depressions, with cleanly cut edges. Owing to circumstances no further examination of the body was made.

Dr. ESKRIDGE inquired whether the blood removed from the bladder at the autopsy presented a urinous odor? He had treated recently an interesting case of recurring hæmaturia, supposed to be due to a varicose condition of the veins of the vesical neck. The patient was a man aged seventy-seven years, who five years ago, and at intervals since, had lost considerable blood. The former attacks had yielded readily to ergot, but shortly after the onset of the last one Dr.

Eskridge had found the bladder distended with a large clot which he had been unable to break down by injections of either alkaline or acid solutions. The secretion of urine was suppressed during the last twenty-four hours of the patient's illness, the blood drawn from the bladder presenting no characteristic odor. The man died apparently from uræmia, two or more severe chills preceding death, although no convulsions occurred, and he remained conscious to the last. Unfortunately no post-mortem examination was obtained.

Dr. FORMAD thought that the growth resembled rather a sarcoma than a carcinoma. He had seen two instances of round-celled sarcoma of the prostate. All growths starting from the epithelia of the genito-urinary tract, as well as from the cavity of the uterus, the kidneys, and supra-renal bodies, in short growths of all the organs arising from the middle layer of the blastoderm, macroscopically resemble sarcoma, and usually prove to be such when microscopically examined.

Dr. TYSON said that this specimen possessed a special interest for him, inasmuch as he had had his attention forcibly directed to the differential diagnosis of a simple hypertrophy of the prostate from malignant disease of that organ, by having lately under his care a gentleman where ergot at first proved of much benefit, but in whose case the catheter was soon demanded. This instrument was used with unusual skill and gentleness by the patient himself, notwithstanding which blood occasionally followed its use. Exceedingly severe pains next developed, radiating from the bladder to the testicles, groins, and inner aspects of the thighs. Emaciation soon set in, and he died at the end of fifteen months. At the autopsy malignant disease of the prostate was found, involving by infiltration the lateral aspects of the bladder and the neighboring parts, so as to compress the nerves, thus accounting for the radiating pains complained of. He would like to know from Dr. Roberts whether his case presented this symptom of radiating pains, and also the source of the hæmorrhage, as the smooth surface of the growth and the healthy condition of the mucous membrane of the bladder are such as to excite surprise.

Dr. ROBERTS, in reply to the various questions propounded, said that only having made the post-mortem examination he knew nothing beyond the facts given in the notes read. As to the source of hæmorrhage he would call attention to the two small erosions of the mucous membrane of the bladder as the probable source.

*Report of the Committee on Morbid Growths.* The specimen presented by Dr. Roberts, upon microscopic examination, is found to consist of the histological elements composing the prostate gland. There is no evidence of any neoplasm except a numerical hypertrophy of the structures of the organ. The specimen is a hypertrophied prostate gland.

## CASEOUS DEGENERATION OF THE KIDNEYS.

Presented by DR. J. B. ROBERTS for Dr. Dunmire.

Owing to Dr. Dunmire not having seen the woman until within a few hours of death, the history is of necessity imperfect. She was a married woman, thirty-nine years old, whose husband is said to have infected her with some form of venereal disease. The husband had been dead for about one year when the patient first came under treatment. There were no evidences of syphilis, so that the supposed venereal affection of the past had

been presumably gonorrhœa. When seen September 14, 1882, was exceedingly ill, gave a history of general ill health for the past few years, but dated the present trouble some weeks back when she had bathed in the surf while menstruating. This was followed by a chill, since when she had steadily grown worse. When Dr. Dunmire saw her, she complained of sore throat, difficult deglutition, anorexia, sick stomach, pain in the back, with sharp pain running towards the groin, especially on the right side, tenderness over the abdomen, and frequent scanty micturition. The pulse was 140, the temperature  $103^{\circ}$  F., and there was profuse leucorrhœa. An unfavorable prognosis was given, which was soon verified by her becoming unconscious, and dying six hours later.

*Autopsy.* The abdomen alone was allowed to be examined. All organs healthy except kidneys and bladder. The latter contained a little urine and mucus, its walls were much thickened, and its lining membrane was congested. The left kidney had little true kidney structure left, but was converted into a group of seven or eight cysts, containing a white cheesy material of a moderately firm consistence. The ureter was much dilated and thickened for about three inches from the pelvis of the kidney. The right kidney was normal in outline, but when incised revealed one large cyst with creamy contents, and also another small cavity containing a few minute calculi. Several of these could be felt through the walls of the normal ureter, thus accounting for the ante-mortem renal colic. The perinephritic structures were unaltered, as well as the capsules of the kidneys, although these latter were perhaps more adherent than normal.

#### LYMPHOMATOUS TUMOR OF MEDIASTINUM.

Exhibited by DR. W. S. LITTLE for Dr. G. C. Smith, of Rondout, N. Y.

The history of the patient from whom these specimens were removed is, in brief, as follows: A young man, aged twenty-four years, had been but a few days under Dr. Smith's care, having come from Boston, where his physician had pronounced him phthisical, and had recommended a sea voyage. During the past few months small nodular masses had developed in the muscular tissue of the right chest walls near the median line in front, and also posteriorly. The axillary and supra-clavicular glands were involved. Shortly after Dr. Smith first saw him he developed marked dyspœa, and died suddenly without any evidences of marked lung disease, except, perhaps, some symptoms of pleuritis. There was apparently mitral disease. Anasarca, especially of the lower extremities, gradually developed.

*Section cadaveris.* The skin was hard and friable; nodular masses were found disseminated through the muscular tissue of the chest walls, which had undergone some species of degeneration; the costal cartilages presented evidences of a degeneration similar to that seen in the muscles. On removing the sternum the subjacent tissues were markedly pigmented, and the anterior mediastinum completely obliterated by a mass of the size and shape of the half of a large lemon, which pressed against the heart. The large bronchi were involved in the growth, otherwise the lungs seemed healthy, and evidences of slight pleurisy were found. The pneumogastric nerves were both involved, chiefly the left, and on further dissection the disease was found to occupy all of the lower part of the pos-

terior mediastinum, involving the contiguous osseous tissues. The nerve involvement explains the sudden death. The diaphragm was also involved in the lower portion of the growth. The four portions of the growths shown to the Society are, first, one of the subcutaneous nodules; second, a small portion of left lung near its root; third, a portion of the anterior mediastinal growth with part of trachea, bronchi, and aorta; fourth, one quarter of the tumor which, involving the diaphragm, projected from the left thoracic wall into the chest cavity.

Dr. FORMAN inquired whether there were any other evidences of cancer in the remainder of the body.

Dr. LITTLE replied that none were detected.

Dr. FORMAN then said that he was unaware of any specimen of primary carcinoma of the mediastinum on record, and moved the reference of the specimen to the Committee on Morbid Growths, as it was probably a sarcoma.

*Report of the Committee on Morbid Growths.*—The mediastinal growths are found on microscopical examination to consist of a mass of hypertrophic lymphatic glands much pigmented. There are also seen adipose and fibrous tissues in a state of active proliferation."

#### CIRRHOSIS OF LIVER IN THE STAGE OF ENLARGEMENT.

Exhibited by E. T. BRUEN.

W., aged twenty years, colored, has worked on a farm since boyhood, and been much exposed to weather. His habits were temperate; he was free from either syphilitic or malarial taint. Father is still alive, mother died of phthisis. He was never robust, but had had only one severe illness, namely, typhoid fever, from which he convalesced perfectly, but he readily "took cold." He was first seen by Dr. Bruen at the University Hospital, in January, 1882, when he gave the following history: Abdomen began to swell two years ago with neither pain nor tenderness. Was obliged to rise at night to urinate. The abdominal swelling increased, and the previously regular bowels became constipated. Occasional sharp, shooting pains were felt across the chest when lifting weights, or working hard, and also slight, dull pain over liver, lasting for a few moments only. When seen, abdomen measured fifty inches. On 19th January he was tapped, nineteen quarts of fluid being removed, rendering plain a much enlarged liver, covered with smooth nodular elevations, with the apex beat of the heart displaced upwards into fourth interspace. March 18th five gallons more fluid were removed, after which pleural and bronchial complications arose, which soon subsided. May 6th paracentesis by capillary needle was resorted to, which was followed by much localized tenderness around the site of the puncture. Symptoms of peritonitis developed next day, which terminated life the same evening. During life the diagnosis was most difficult and interesting. The enormous size of the liver, the palpable vasellation of its surface giving a sensation like that of crepitating tissue, as though fluid lymph had been thrown out, and finally his abstemious habits, with absence of either syphilitic or malarial taint, suggested malignant disease. His age, the excessive rarity of primary carcinoma or sarcoma of the liver, with his family history, all negatived this view. He had had some dyspepsia. Enlargement of the liver connected with catarrh of the bile ducts would have presented symptoms of jaundice, and intermitting temperature, terminating by death

from cholesteremia. The case, then, was one of simple cirrhosis.

*Sectio-cadaveris.* The abdomen contained six gallons of purulent fluid. Both the parietal and visceral peritonaeum were covered with a thick coating of inflammatory lymph, tinged with blood, from multiple capillary hemorrhages. The abdominal veins were all replete with blood. The liver weighed nearly five and one half pounds, was of a nutmeg appearance, on section was indurated, and presented a vassellated nodular appearance. The gall-bladder was thickened and contracted about two thirds in bulk. The bile ducts were normal. The spleen was covered by a pseudo-cartilaginous capsule, but was otherwise normal, as were also the stomach, pancreas, intestines, kidneys, and supra-renal bodies. The abdominal lymphatic glands were slightly enlarged.

DR. SETLER remarked that, having seen the case during life, it was almost impossible to divest one's self of the idea of malignant disease. He thought that the projections were the unaltered portions of the liver, which had been impressed and squeezed out by the contracting interstitial tissue.

DR. BRUEN remarked upon the obscurity of the etiology.

DR. TYSON asked Dr. Formad, who had examined the specimen microscopically, whether he considered it to be in the first or second stage of the affection.

DR. FORMAD replied that he considered it to be in the commencing second stage, and detailed the microscopical appearances.

DR. TYSON, after briefly adverting to the causation of cirrhosis, said that his reason for asking Dr. Formad whether he considered that the organ was in the first or second stage of cirrhosis was that some few years since an important insurance case had been argued in our courts, where the defense was set up that the man had not a cirrhotic liver because it was enlarged. For his part he had no doubt that a liver could be in the second stage of cirrhosis and yet be enlarged; there might be enlargement from fatty infiltration concurrent with interstitial inflammation.

— There has been a great improvement in the sanitary condition of new buildings of all classes in New York since the Board of Health was given control of the plumbing business. Experience has shown that the cupidity of unscrupulous plumbers is at least as often to blame as their ignorance. A case is given wherein a plumber was paid in 1878 to remodel the plumbing of a first-class house, and he reported having put it in the best condition. During the next three years sewer gas was repeatedly noticed, and the plumber was requested to put in a fresh-air pipe in his main trap. He objected, and another plumber was employed, when it was discovered that there was no main trap, and the house had been utterly unprotected against sewer gas. The main pipe, too, was found to be in a very defective state. The first plumber was sued, and cast in substantial damages.

— The public charitable hospitals of the city of New York contain a total of 5108 beds, the largest being the Emigrant Hospital with 1200 beds, and Charity Hospital coming next with 970 beds. The various private hospitals have a capacity of 2302, and the lunatic hospitals of about 3000.

## Medical and Surgical Journal.

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### THE NATIONAL BOARD OF HEALTH AND THE AMERICAN PUBLIC HEALTH ASSOCIATION.

At the recent meeting of the American Public Health Association a delegation of the National Board of Health made to the Association a report recapitulating the influences hostile to it as follows:—

“(1.) The State Board of Health of Louisiana, backed by a portion of the press of New Orleans, in its repeated allegations that the National Board of Health has interfered with and obstructed the local authorities, instead of aiding them, as required by law. The interference consists in the National Board establishing an inspection service within the limits of New Orleans, being induced to take this action in compliance with the request of the health authorities of the Mississippi Valley States, including those of Louisiana itself. Nothing short of this will satisfy other communities having intercourse with that city, which would certainly be quarantined by its neighbors to a most inconvenient extent if it were not for the protection it derives from the certificates of the inspecting agents of the National Board.

“(2.) The powerful influence of the Treasury Department, which asserts a claim to the disbursement of all funds appropriated by Congress for the suppression of epidemics, and to the selection of its own medical officer, the chief of the Marine Hospital Service, as its agent in these operations, although an express provision of an existing Act of Congress repeals all previous acts conferring sanitary powers on that branch of the public service, and clothes the National Board of Health, which includes in its membership a detailed officer of that service, with all the power assumed by the general government in respect to quarantine and sanitary matters.

“(3.) As composed of medical men selected without regard to party affiliations, and wielding no political patronage, the Board finds no hearty support from politicians of either of the great parties of the country.

“In conclusion, we desire to say that, as the present membership of the Board was largely due to the unsolicited choice of the advisory committee of the Public Health Association, we abide its decision as to our longer continuance in these positions, preferring, if deemed consistent with the public good, to be relieved by the selection of others, who may, perhaps, command a larger share of public support.”

We have called attention, in these columns, more

than once to the value of the scientific work done by the Board, and we regret exceedingly that the appropriations have been so cut down as to make it necessary to abandon various important investigations already begun. With the rest of the medical press of the country we have appreciated the difficulties under which the Board has been laboring, and we have often withheld obvious criticism. But it is a question whether that course has not been pursued too long for the sake of the Board itself as well as in the interest of sanitary science and a permanent national health organization.

It certainly is true that the action of the Board in Louisiana has been in some of its features extremely unwise. It is not fair to intimate that personal motives, and not the efficiency of the quarantine service, governed those who have placed the money for the control of yellow fever in the hands of the Marine Hospital Service. At the expiration of the present quarantine law there is not a chance that it will be re-enacted, and general dissatisfaction, rather than politics, has been at the bottom of the failure to support the National Board of Health on the part of Congress, the executive and the treasury officials. This dissatisfaction, too, has become somewhat general in the medical profession, and in health boards, at least in this part of the country.

We are, therefore, very much misled, or else the resolutions of support presented by Dr. Azel Ames, the Secretary of the Public Health Association, and prepared by the executive committee, do not fully represent the general feeling of the country. It is our opinion that the organization of the Board must still undergo very great change before it will be acceptable enough to be perpetuated. It certainly was an avoiding of responsibility, if nothing more, for members of the National Board of Health to refer to the American Public Health Association the question of resigning their places or of keeping them.

#### MODIFICATIONS IN THE CALIBRE OF VESSELS IN THE STUMPS OF AMPUTATED LIMBS.

AN interesting study of the modifications of blood-vessels after amputations is the subject of a paper by Paul Segond, *Prosecteur de la Faculté*, in the August and September numbers of the *Revue de Chirurgie*. His studies were suggested by the work of Professor Verneuil on the same subject, and were carried on by comparisons of the vessels of the stump with the corresponding vessels of the opposite or unamputated limb. Injections were made, for the arms, from the arch of the aorta, for the lower limbs from the abdominal aorta. The studies themselves are too extended for a full account. We can concern ourselves in this brief notice only with the conclusions of the author drawn from his own work and such studies and observations of others as tend to throw any light upon the subject. The observations were made upon the dead bodies of individuals who had been subjected to operations of very different extent, from the partial amputa-

tion of the foot or hand to the removal of the upper arm or of the thigh. In all cases a notable diminution in the calibre of both arteries and veins was found, even when the part removed represented but a small portion of the limb. The diminution was not confined to the immediate vicinity of the operation, but included the vessels of the whole limb, and extended, in an amputation of the fore-arm, to the subclavian, and in an amputation of the leg to the iliacs. This diminution was found in every case submitted to careful comparative examination. The small number of vessels to be tied in a reamputation of an old stump is adduced as a clinical fact which confirms the result of the dissections, and observations are quoted which show the temperature of the amputated limb to be markedly below that of the corresponding member.

The observations were made on limbs after the lapse of very varying periods of time after amputations, and the diminution is shown to be a very early phenomenon too early to be considered an effect of the atrophy of the soft parts of the stump. In fact the diminution in the size of the blood-vessels probably plays an important pathogenic rôle in the atrophy of the limb. Direct experiment upon a dog showed that two months after the amputation of the thigh the gluteal muscles of the two sides were of equal weight, while the iliac and femoral arteries of the amputated limb were markedly smaller than those of the other.

One of the most interesting of the dissections was made in a case of amputation of the left fore-arm. The muscles of the shoulder of the amputated arm weighed three hundred and sixteen grammes less than the corresponding muscles of the other side. The skeleton also presented well marked modifications. The two clavicles were alike in dimensions, but the right weighed four grammes more than the left. These figures have only a relative significance, however, as the bones of the right arm weigh normally, in right-handed persons, more than the left. The proportion of compact and spongy tissue was not the same in the two sides — there was in the left clavicle a marked diminution in the compact tissue. In the same patient the scapula of the left side was twelve grammes lighter than that of the right. The axillary artery was diminished by one fifth; the radial at its origin had lost nearly one half of its diameter. The difference is always spoken of as a loss on the part of the amputated limb; the question very naturally arises how large a proportion of the difference is due to increase on the part of the limb which is obliged to do an increase of work because of the mutilation of its fellow.

#### THE CORPORATION WILL CONSULT THE MEDICAL FACULTY IN LEGISLATING FOR THE MEDICAL DEPARTMENT OF HARVARD UNIVERSITY.

IN the course of an editorial last April upon the discussion of the question of admitting women to Harvard University we mentioned that, as a result of a

protest then made by the Medical Faculty, a certain degree of direct interest in the management and regulation of the School under its instruction had been formally accorded the Faculty by the passage of a vote on the part of the Corporation, that no matters relating to medical education should be acted on in the future until the Faculty should have had a full hearing upon the subject at issue.

The text of this vote has just been made public among the official records of the Corporation in the *University Bulletin* for October, and reads as follows:—

*Voted*, that a standing committee of two members of this Board be appointed with whom the Medical Faculty may confer on any matters relating to medical education in the University.

The President appointed Messrs. Parkman and Agassiz as this committee.

*Voted*, that the president and Fellows deem it inexpedient to legislate in matters relating to medical education in the University without first offering to the Medical Faculty an opportunity of expressing its views.

Such an arrangement as that provided for in the above votes for consultation between those governing and those engaged in administering a very important and considerable department of the University certainly seems eminently proper and necessary.

#### PHYSICIANS INTERESTED IN THE BOSTON WATER-COMMISSION.

It is known to some of our readers that a Commission was appointed some weeks ago by the Mayor of Boston to investigate the causes of the present condition of the city's water supply, and suggest, if possible, some practical means for improving it.

Comparatively little interest seems to have been shown so far, we are sorry to say, either in the appointment or in the hearings of the commission, except as far as the hearings are concerned, by the Water Board itself, whose attendance thereat is pretty constant. It would be a mistake to suppose that this represents a lack of interest in the question under consideration or of desire for a purer drinking water on the part of inhabitants of the city, though such an inference would, perhaps, not be unfair. We believe it indicates rather a feeling on the part of the public that the Commission is not likely in any case to do anything, a feeling readily reciprocated by the members of the Commission with the impression that the public does not care to have anything done. An apparent indifference on the one side begetting a real indifference on the other, the result will be nothing at present, and an increased difficulty in the way of accomplishing anything in the future; for an absence of recommendation of action of some kind on the part of the Commission is equivalent to a confession that nothing can be done to ameliorate the present very uncertain, and, at times, really unfortunate position of the tax-payers and water-takers of Boston. For this

reason we are glad to note that the Boston Society for Medical Observation passed at its last meeting the following vote:—

The members of the Boston Society for Medical Observation, believing that the water supplied the inhabitants of the city of Boston falls far short of what a potable water should be, and that its condition ought to excite apprehension as it has already excited disgust, desire to express their gratification at the appointment of a Commission to investigate the subject, and to express to the gentlemen of the Commission the deep interest with which their deliberations are watched by physicians. They feel confident that in their consideration of the subject the Commission will recognize the gravity of the evil to be remedied, and hope that with the assistance of such experts as they may consult some remedy may be found for the unfortunate condition of affairs which has led to their appointment.

A copy of this vote was forwarded to the Water Commission. In the discussion of the resolution which followed its proposal a full appreciation of the difficulties attending the problem of supplying the city with a sufficiency of good water was shown, but it seemed to be the unanimous sentiment of the physicians present that mistakes had been committed in the past, and that more might be done than had yet been attempted to provide for the future.

The public doubtless has drunk up a good deal of the fermenting refuse contained in the new basins, and the amount of sewage entering Lake Cochituate is very likely inappreciable, but we should be glad, if possible, to be spared the rest of the dose, and to have suitable legal protection against the pollution of sources of water supply by sewage even in moderate quantities.

Some may think the problems of fermenting banks and beds of algae and of spouglie best solved by the expert aid of a civil engineer, and others that most is to be hoped for from a continued chemical and microscopical examination of the waters in question. That is for the Commission to decide, and they must also determine what is to be done to check the enormous waste.

At this present writing the drinking water of Boston is tolerably good; it has been execrable, and may very probably again be of a quality to excite apprehension, not necessarily of actual disease, but of great inconvenience and annoyance.

#### MEDICAL NOTES.

—Dr. George Johnson, F. R. S., of London, is now using picric acid for the detection of albumen in the urine. This test was suggested to him by his son, Mr. G. Stillingfleet Johnson, who has long labored at chemical research, and believes that the test is free from fallacy. A saturate solution of picric acid has a specific gravity of 1.003, and immediately coagulates any trace of albumen which may be present in the urine to which it is added. The delicacy of the test is strikingly demonstrated when slightly albuminous urine is poured on to the surface of nitric acid and the picric acid solution is added on the surface of the urine. An obvious advantage of the test is that the powdered picric acid may be so conveniently and safely carried in the pocket ready for the immediate



and efficient examination of any urine suspected of being albuminous. It is only necessary to throw some of the powder into the suspected urine while it is warm, and to agitate slightly, in order to produce an obvious cloudiness if any albumen be present.

— Copies of the Registration Report of the State of Massachusetts for the current year can be obtained by application to the Secretary of State's Office, inclosing postage for eight cents.

#### NEW YORK.

— A terrible tragedy has occurred in the family of Dr. E. C. Seguin, the well-known specialist in diseases of the nervous system. In his absence his wife took their three children, aged respectively six, five, and four years, up to an unoccupied room at the top of the house, and having blindfolded them and tied their hands behind their backs, deliberately shot them all; after which she took her own life in the same way. Strangely enough, the pistol shots were not noticed by any one in the house or in the neighborhood, and when the bodies were discovered life had probably been extinct for an hour or more. Mrs. Seguin was a sister of Dr. Seguin's junior partner, Dr. R. W. Amidon, and was thirty-two years of age. She had for some time been subject to temporary depression of spirits, for which there was no assignable cause; but, so far as can be learned, there was never before any reason to suspect the presence of actual insanity. The coroner's jury in this case, which was composed entirely of medical men, and of which Dr. Frank P. Kinnicutt was foreman, rendered a verdict to the effect that she killed her three children and herself during a fit of mental aberration; and there can be no doubt that she was suffering from acute melancholia at the time. For several days before the sad event she was much depressed, and it had been the intention of Dr. Seguin to take her the day following on a little trip for the change of scene. At the meeting of the Academy of Medicine held November 2d, a resolution was adopted which directed the appointing of a special committee to express the sympathy of the Fellows of the Academy to Dr. Seguin in this frightful calamity. It is understood that Dr. Seguin will sail for Europe in a few days.

— The commencement exercises of the Brooklyn Training School for Nurses, of which the wife of Mayor Low is president, were held November 2d in the lecture-room of the City Hospital. The mayor presided, and the address to the graduates, who were four in number, was made by Dr. J. C. Hutchinson.

— The reception given by Dr. J. Marion Sims and his son, Dr. Harry Marion Sims, in honor of the venerable Prof. S. D. Gross, of Philadelphia, was one of the most elegant and delightful affairs of the kind ever held in the city. It took place in the magnificent new ball-room of the Hotel Brunswick, along one entire side of which was spread a table loaded with all sorts of good cheer, and in the balcony Lander's orchestra played during the evening. The guests numbered three or four hundred, embracing the prominent medical men and a few distinguished lay-

men of New York, and no less than fifty representatives of the profession from Philadelphia, among whom were Drs. Samuel Gross, Jr., Agnew, Pancoast, John L. Atlee, Lewis, Horatio C. Wood, Hewson, Hunt, Thomas, Nancrede, Longstreth, and I. Minis Hays. There were also present Drs. Busey and Lincoln, of Washington; Drs. James G. and William H. Bailey, of Albany; Dr. Daley, of Pittsburg; Dr. D. B. Brown, of Baltimore; Dr. B. A. Clements, U. S. A.; Mr. Alfred McKellar, of St. Thomas's Hospital, London; Dr. Homepopham, of South Australia, and others from a distance. The affair was entirely informal, no speeches whatever being made, and one very pleasant feature of it was the presence of several ladies belonging to the families of Drs. Sims, Gross, and Pancoast, who had an adjoining drawing room set apart for their use.

### Miscellany.

#### KEROSENE AS A REMEDY FOR FAVUS.

MR. EDITOR, — I send the report of the following case, not that I regard favus as a rare disease, but from the fact of my first noticing it on a kitten in the family where the case occurred, and that the kitten has apparently recovered under conditions which seem to offer an interesting therapeutic hint.

About the 22d of August, while attending a surgical case, I noticed a child in the family holding a kitten which bore unmistakable evidences of favus. There were three large favus cups upon the animal, one the size of a dime upon each ear, and a third, about an inch by three quarters, on the outer side of the left hock. I cautioned the mother to watch for the first appearance of any similar thing in the children, and confiscated the kitten, intending to sacrifice it to my histological studies. After examining a portion of crusts and finding the well-known favus parasite, I shut the weakly little animal up in a shed where the floors were saturated with kerosene, and had the little fellow well fed preparatory to making permanent preparations of him. After a few days I noticed considerable improvement, and to-day I have examined the animal, and apart from the baldness left not a trace of the disease is to be seen.

The child, which had only had the kitten a couple of days, was immediately after, for other reasons, sent into the country, and in a week returned with a patch of favus, an inch and a half in diameter, in the fine hair of the right cheek. Dilute sulphurous acid and kerosene was applied after the removal of the crusts, and when last seen the case was progressing favorably toward recovery.

Neither Dühring, Fox, or Liveing mention petroleum as a remedy for favus. Neuman is the only one, so far as I know, who does so. Very sincerely,

WM. WATKINS SEYMOUR.

TROY, N. Y., September 21, 1882.

#### "THE INOCULATIVE FUROR."

MR. EDITOR, — My attention has been called to an editorial in a journal published in New York, and called the *Medical Record*, from which, under the head

of The Inoculative Furor, the following extract is taken:—

"Dr. Robert Koch supplies to an imaginative English physicist materials for a theory by which tuberculosis is to be prevented. The cultivated bacilli are simply to be injected into the tissues of possible consumptives.

"Most beautiful of all, Dr. T. H. Buckler, of Baltimore, Paris, and Boston, announces an antagonism between typhoid fever and pulmonary tuberculosis. This he tries to prove by citing cases of incipient phthisis, which recovered after having an attack of typhoid fever, also by various mortality statistics. Dr. Buckler would have persons inoculated with typhoid fever, perhaps by means of infected milk. The seeds of consumption would thus be driven from the system of those who survived."

Here is a direct insinuation that the proposal to inoculate with the *materies morbi* of typhoid fever as a prophylactic of this disease in after life, and also to prevent phthisis, was simply suggested by Koch's discovery of the bacilli of phthisis. How could this possibly be the case when Koch first announced his discovery by reading a paper at Berlin on the 24th of last March, whereas my articles recommending internal inoculation as a prophylaxis of both typhoid fever and phthisis were published in the Boston Medical Journal on the 2d and 23d of February, 1882.

A recorder should be more time serving in regard to his chronology, and scrupulously careful before publication that his record is true. Did the editor by some neuro-muscular spiritualistic method unknown to sane people, find out what was going on in the brain of Koch before he announced his brilliant discovery? Koch's discovery greatly fortifies my belief in the prophylactic powers of inoculation.

Yours very truly, TH. H. BUCKLER.

#### AUNT BETSY'S "SIMPSONS."

MR. EDITOR, — One day, not long ago, I was called here, at Hampton, Va., to see an old colored woman of the "fo-de-war" type, black as the ten of spades (which is ten times blacker than the ace), extremely voluble, and anxious to impress me with the importance of her "simpsons," of which she was determined I should have a full and clear understanding before I prescribed. She talked so fast, and had such a list of miseries that at last I told her it would be impossible to prescribe a medicine which would cure all her aches and pains unless I took them down in writing. I produced pencil and paper, and told her to begin again, which she did with great gusto. I wrote as fast as I could, but only succeeded in getting a portion of her story, which I give *verbatim et literatim*. I think it will prove at least as interesting to your readers as some pages of Uncle Remus:—

"My mis'ry, doctor, wuks right up from bofe my legs, an' up through my stummick, an' den crosst my bowels, all a shaky an' a wig-waggy! Den my right shoulder, doctor. *Lawn sakes!!!* Dat yer mis'ry in my right shoulder pow'ful had sometimes. Den I has shootin' pains all up an' down my spine, dreadful! an' lumps in my flanks, an' a burnin' all over my right side, an' a *roarin'*! yes, honey, an awful roarin' in my head, an' de bones all loose in my head. Den I has

pains in bofe shoulders, an' my insides dey workin' jes' like maggots!! an' I has a draggin' in my stummick an' my sistum very bad. Ef you b'lieve me, doctor, dar's a patch o' mis'ry in de small o' my back, an' when I stan' up 'pears like my insides dey stickin' to my spine! an' a wallowin' in my head, an' I don' got no appetite, an' 'pears like every minute I gwine throw up my insides. I can't drink no fresh water, drinks all my water *biled*! In de night you can hear my head a roarin' an' a buzzin', an' den my bowels gets to workin', an' you kin hear 'em a crackin' an' a blabbin'! an' dey all a shakin' an' a trimblin'. Den I has a hotness in de bone o' my neck, yes, doctor, right in de bone o' my neck, an' at fuss a *pany* riz up right acrost my neck, an' riz an' *burst*!! I knowed it wa'n't a blood-vessel else I'd a died *sure*!!"

Yours truly, J. T. BOUTELLE, M. D.

HAMPTON, VA.

#### A PATENT MEDICINE PARADISE.

A CORRESPONDENT of the *Detroit Free Press* traveling in the South describes one tendency of the colored population as follows:—

If the negroes in the South could read there would be such a demand for patent medicine, porous plasters, pills, and stomach bitters as would force every manufacturer to double his help and capacity. The negro is always ailing. No matter how healthy he looks or how strong he seems, he believes himself afflicted. If he could read almanacs and circulars he would think so twice as strongly.

At Dalton, Ga., I saw a big fellow pick up a barrel of flour as easily as I could have lifted a twenty-five pound sack, and when I complimented him on his strength he replied,—

"Yes, boss, I seems powerful strong, but you doan' know what a hard time I has of it. Ize got liber complaint, dyspepsia, and consumpsun, an' I reckon I won't neber see snow fly again."

I asked him what remedies he had been using, and he replied that he had been taking the dust of burnt leather and mixing it with cold tea. Nothing whatever ailed him, but if he could have got hold of ten dollars he would have used eight of it in buying medicine.

I was in a livery stable at Marietta when a man came in with a bottle of prepared Jamaica ginger. One of the colored men employed about the stable, who had n't lost a day for years, and who looked as rugged as a mountain, looked at the bottle three or four times, and then asked,—

"What ye got dar, Kurnel?"

"Something for apoplexy," was the reply.

"Would ye mind givin' me a sip of it, kase my apoplexy has been takin' on in de moas' drefful manner fur de las' week?"

"You can take a pull if you wish to."

The cork was drawn, and the negro lifted up the bottle and took three heavy swallows of the fiery stuff. The next three minutes were the longest and hottest ones he ever saw, but as soon as he could speak he remarked:—

"Ah! but dat stuff seems to hit de right spot. I reckon it will cure up my apoplexy all right, an' like 'nuff I may light on sunthin' else good fur congestion of de lungs an' water on de brain."

## FREE HOSPITAL FOR WOMEN.

At the seventh annual meeting of the corporators of the Free Hospital for Women, Dr. Henry C. Haven, president, in the chair, Dr. W. H. Baker reported for the Medical Board that the admissions during the year had been 126, about 90 having been the average in former like periods, this addition having been made possible by an increase of the number of beds from fifteen to twenty; that 67 patients were discharged, having been cured or relieved; that 5 had died; that 34 had gone away without having received beneficial treatment, some of them having come only for a diagnosis, and that 20 are now in the institution. One patient remained 295 days; the average stay was 45½ days. He said that the hygienic condition of the hospital is excellent. He insisted that in the selection of its beneficiaries it should take great care that its charity is not abused. He made this remark because in one or two instances persons that were well able to pay their expenses had gained, under false pretenses, admission to it, and were thus the means of keeping from some poor woman having nothing the treatment that she ought to have had. Seldom, he added, are

there less than thirty to fifty applicants for admission, while the growth of the "out-patient" work is such that three afternoons in each week, instead of two, are to be given to it, with the prospect of a still further devotion of time to it in the near future. He expressed the opinion that the largest work of the hospital is, and is to be, in the knowledge of special cases that it gives to physicians who have served in it, and who have gone into general practice, and alluded with gratification to the annexation to the hospital, for its purposes, of the house adjoining it on East Springfield Street.

Edwin H. Sampson, treasurer, stated that its receipts had been \$6767.88, and its expenditures \$5574.91, leaving a balance in its favor on October 2d of \$1192.97; the balance at the beginning of its year just ended was \$1218.80. The building fund amounts to \$10,755.37. Trinity Church has donated \$1715 for the endowment of a free bed. Mr. Sampson made an appeal for such an increase of the income of the hospital that its additional room, already or soon to be occupied, may be properly fitted up, and that the number of beds may be made more than twenty, its present maximum.

## REPORTED MORTALITY FOR THE WEEK ENDING OCTOBER 28, 1882.

| Cities.                          | Population by Census of 1880. | Reported Deaths in each. | Deaths under Five Years. | Percentage of Deaths from         |                |                      |                |                       |
|----------------------------------|-------------------------------|--------------------------|--------------------------|-----------------------------------|----------------|----------------------|----------------|-----------------------|
|                                  |                               |                          |                          | The Principal "Zymotic" Diseases. | Lung Diseases. | Diarrhoeal Diseases. | Typhoid Fever. | Diphtheria and Croup. |
| New York.....                    | 1,206,590                     | 596                      | 210                      | 24.38                             | 12.85          | 7.35                 | 2.84           | 7.51                  |
| Philadelphia.....                | 846,984                       | 311                      | 96                       | 16.40                             | 4.18           | —                    | 2.57           | 10.61                 |
| Brooklyn.....                    | 566,689                       | 236                      | 84                       | 19.46                             | 13.54          | 7.19                 | 1.27           | 5.07                  |
| Chicago.....                     | 503,304                       | 185                      | 81                       | 31.52                             | 7.16           | 5.43                 | 3.80           | 10.32                 |
| Boston.....                      | 362,535                       | 156                      | 45                       | 23.72                             | 8.97           | 4.49                 | 6.41           | 9.62                  |
| St. Louis.....                   | 350,522                       | —                        | —                        | —                                 | —              | —                    | —              | —                     |
| Baltimore.....                   | 332,190                       | 149                      | 64                       | 39.39                             | 1.34           | 4.70                 | 2.01           | 20.80                 |
| Cincinnati.....                  | 255,708                       | 111                      | 41                       | 27.27                             | 9.99           | 6.36                 | 1.82           | 3.64                  |
| New Orleans.....                 | 216,140                       | 110                      | 31                       | 11.82                             | .91            | .91                  | 1.82           | .91                   |
| District of Columbia.....        | 177,638                       | 61                       | —                        | —                                 | —              | —                    | —              | —                     |
| Pittsburg.....                   | 156,381                       | 61                       | 26                       | 44.25                             | 6.56           | 8.20                 | 13.01          | 13.01                 |
| Buffalo.....                     | 155,137                       | 68                       | 30                       | 41.16                             | 2.94           | 2.94                 | 4.41           | 23.32                 |
| Milwaukee.....                   | 115,578                       | 40                       | 24                       | 27.50                             | 10.00          | 15.00                | —              | 7.50                  |
| Providence.....                  | 104,857                       | 27                       | 9                        | 18.52                             | —              | 3.70                 | —              | 7.41                  |
| New Haven.....                   | 62,882                        | 16                       | 4                        | 12.50                             | 12.50          | 6.25                 | —              | —                     |
| Charleston.....                  | 49,999                        | —                        | —                        | —                                 | —              | —                    | —              | —                     |
| Nashville.....                   | 43,461                        | 15                       | 5                        | 20.00                             | 6.66           | 13.33                | —              | —                     |
| Lowell.....                      | 59,485                        | —                        | —                        | —                                 | —              | —                    | —              | —                     |
| Worcester.....                   | 58,295                        | 15                       | 7                        | 40.00                             | —              | 20.00                | 6.66           | 6.66                  |
| Cambridge.....                   | 52,740                        | —                        | —                        | —                                 | —              | —                    | —              | —                     |
| Fall River.....                  | 49,006                        | 12                       | 6                        | 33.33                             | 8.33           | 8.33                 | 16.66          | 8.33                  |
| Lawrence.....                    | 39,178                        | —                        | —                        | —                                 | —              | —                    | —              | —                     |
| Lynn.....                        | 38,284                        | 8                        | 1                        | 12.50                             | —              | 12.50                | —              | —                     |
| Springfield.....                 | 33,340                        | 10                       | 1                        | —                                 | —              | —                    | —              | —                     |
| Salem.....                       | 27,598                        | 9                        | 3                        | 11.11                             | —              | 11.11                | —              | —                     |
| New Bedford.....                 | 26,875                        | 9                        | 3                        | 33.33                             | —              | 11.11                | —              | —                     |
| Somerville.....                  | 24,985                        | 6                        | 1                        | 33.33                             | 16.66          | 16.66                | —              | —                     |
| Holyoke.....                     | 21,851                        | 11                       | 5                        | 54.54                             | —              | 18.18                | 9.09           | 9.09                  |
| Chelsea.....                     | 21,785                        | 5                        | 4                        | 40.00                             | —              | —                    | —              | 40.00                 |
| Taunton.....                     | 21,213                        | —                        | —                        | —                                 | —              | —                    | —              | —                     |
| Gloucester.....                  | 19,329                        | 4                        | 1                        | —                                 | —              | —                    | —              | —                     |
| Haverhill.....                   | 18,475                        | 6                        | 1                        | 50.00                             | —              | —                    | 33.33          | —                     |
| Newton.....                      | 16,995                        | —                        | —                        | —                                 | —              | —                    | —              | —                     |
| Brockton.....                    | 13,608                        | —                        | —                        | —                                 | —              | —                    | —              | —                     |
| Newburyport.....                 | 13,537                        | 1                        | 1                        | —                                 | —              | —                    | —              | —                     |
| Fitchburg.....                   | 12,405                        | 3                        | 0                        | —                                 | —              | —                    | —              | —                     |
| Malden.....                      | 12,017                        | 3                        | 1                        | —                                 | —              | —                    | —              | —                     |
| Fifteen Massachusetts towns..... | 116,564                       | 51                       | 19                       | 31.36                             | 3.92           | 6.84                 | 11.76          | 9.80                  |

Deaths reported 2234 (no reports from St. Louis and District of Columbia); under five years of age 764; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and fevers) 550, consumption 354, lung diseases 180, diphtheria and croup 189, diarrheal diseases 124, typhoid fever 73, scarlet fever 47, malarial fevers 31, small-pox 27, whooping-cough 18, cerebro-spinal meningitis 15, puerperal fever 13, measles seven, erysipelas four, intermittent fever one, typhus fever one. From *scarlet fever*, Cincinnati 16, Chicago 10, New York and Brooklyn five each, Buffalo four, Pittsburg two, Boston, Baltimore, New Orleans, and Worcester one each. From *malarial fevers*, New York 12, Brooklyn and New Orleans five each, Chicago two, Baltimore, Buffalo, New Haven, and Nashville one each. From *small-pox*, Baltimore 13, Philadelphia six, Chicago and New Orleans three each, Pittsburg two. From *whooping-cough*, New York eight, Philadelphia and Brooklyn three each, Chicago two, Boston and Pittsburg one each. From *cerebro-spinal meningitis*, New York four, Chicago, Baltimore, Buffalo, and New Bedford two each, Philadelphia, Boston, and Holyoke one each. From *puerperal fever*, New York, Chicago, Boston, Milwaukee, and Providence two each, Brooklyn, Cincinnati, and Holyoke one each. From *measles*, New York six, Pittsburg one. From *erysipelas*, New York two, Chicago and Baltimore one each. From *intermittent fever*, Haverhill one. From *typhus fever*, New York one.

Seventy-eight cases of small-pox were reported in Baltimore, Cincinnati three, Pittsburg two; typhoid fever 39, diphtheria 20, scarlet fever eight, in Boston; scarlet fever 25 and diphtheria five, in Milwaukee.

In 26 cities and towns of Massachusetts, with a population of 807,735 (population of the State 1,783,086), the total death-rate

for the week was 19.11 against 17.20 and 20.32, for the previous two weeks.

For the week ending October 7th, in 166 German cities and towns, with an estimated population of 8,331,961, the death-rate was 22.7. Deaths reported 3630; under five years of age 1752; consumption 452, lung diseases 238, diphtheria and croup 175, diarrheal diseases 216, scarlet fever 88, typhoid fever 76, measles and rubella 32, puerperal fever 12, small-pox (Berlin and Mulheim one each) two, typhus fever (Dortmund two) two. The death-rates ranged from 11.3 in Metz to 32.6 in Chemnitz; Königsberg 31.9; Breslau 29.3; Munich 25.8; Dresden 18.3; Berlin 24.5; Leipzig 27.4; Hamburg 19.9; Cologne 20.9; Frankfurt a. M. 17.5; Strasburg 16.

In the 28 English towns, with an estimated population of 8,469,571, for the week ending October 14th, the death-rate was 21.7. Deaths reported 3522; acute diseases of the respiratory organs (London) 302, diarrheal diseases 147, scarlet fever 137, fevers 87, measles 67, whooping-cough 64, diphtheria 33, small-pox (London four) seven. The death-rates ranged from 12.6 in Plymouth to 34.3 in Oldham; Wolverhampton 15; Leicester 16.5; Birkenhead 18.7; London 20.9; Manchester 25.2; Leeds 27.2; Liverpool 28. In Edinburgh 15.7; Glasgow 23.1; Dublin 24.4.

For the week ending October 14th, in the Swiss towns, there were 27 deaths from consumption, diarrheal diseases 20, lung diseases 17, typhoid fever eight, puerperal fever six, scarlet fever four, diphtheria and croup two, erysipelas two. The death-rates were, at Geneva 11.4; Zurich 8.1; Basle 17.9; Berne 19.6.

The meteorological record for the week ending October 28th in Boston, was as follows, according to observations furnished by Sergt. O. B. Cole, of the U. S. Signal Corps:—

| Date.            | Barometer.  |  | Thermometer. |          | Relative Humidity. |            |            | Direction of Wind. |             |    | Velocity of Wind. |            |             | State of Weather. <sup>1</sup> |            |             | Rainfall.            |                   |
|------------------|-------------|--|--------------|----------|--------------------|------------|------------|--------------------|-------------|----|-------------------|------------|-------------|--------------------------------|------------|-------------|----------------------|-------------------|
|                  | Daily Mean. |  | Daily Mean.  | Maximum. | Minimum.           | 7.23 A. M. | 3.23 P. M. | 11.23 P. M.        | Daily Mean. |    | 7.23 A. M.        | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.                     | 3.23 P. M. | 11.23 P. M. | Duration Hrs. & Min. | Amount in inches. |
| October, 1882.   |             |  |              |          |                    |            |            |                    |             |    |                   |            |             |                                |            |             |                      |                   |
| Sun., 22         | 30.248      |  | 51           | 55       | 41                 | 87         | 72         | 81                 | 80          | N  | E                 | NE         | 6           | 15                             | 5          | O           | O                    | O                 |
| Mon., 23         | 29.971      |  | 52           | 56       | 49                 | 93         | 88         | 93                 | 91          | N  | E                 | E          | 6           | 6                              | 2          | G           | O                    | O                 |
| Tues., 24        | 29.727      |  | 51           | 55       | 51                 | 93         | 91         | 60                 | 81          | NE | N                 | NW         | 5           | 4                              | 19         | R           | O                    | O                 |
| Wed., 25         | 29.809      |  | 45           | 58       | 44                 | 68         | 41         | 60                 | 56          | NW | NW                | W          | 17          | 16                             | 6          | C           | C                    | F                 |
| Thurs., 26       | 29.913      |  | 47           | 68       | 40                 | 57         | 35         | 57                 | 50          | SW | W                 | NW         | 8           | 16                             | 10         | O           | C                    | C                 |
| Fri., 27         | 30.115      |  | 49           | 58       | 39                 | 65         | 42         | 59                 | 55          | W  | W                 | W          | 9           | 11                             | 4          | C           | O                    | O                 |
| Sat., 28         | 30.295      |  | 45           | 56       | 41                 | 66         | 39         | 68                 | 58          | N  | SE                | SE         | 6           | 10                             | 6          | F           | C                    | C                 |
| Means, the week. | 30.011      |  | 49           | 58       | 44                 | 76         | 58         | 68                 | 67          |    |                   |            |             |                                |            |             | 14.00                | 12.               |

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; X., clearing.

#### OBITUARY. DR. O. C. TURNER.

DR. O. C. TURNER, Assistant City Physician of Cambridge, died Tuesday, October 31st, at his residence in that city, of typhus fever, contracted while in attendance upon a family of recently arrived immigrants.

He was born in Attleborough, Mass., received there his early education, was graduated at Tufts College in 1859 and at the Medical School at Georgetown, D. C., 1861, and was for three years in the service of the United States during the war of the rebellion. After a brief professional experience in his native town he removed to Vermont and subsequently to Cambridge.

Death came to him while in active service, as it might have done at Gettysburg or the Wilderness, and his deserts are surely now no less though the field of battle is unrecorded.

He will be long and affectionately remembered by his professional associates, and the sick poor of Cambridge cannot forget their modest, cheerful, skillful, and unwearied physician.

OBSTETRIC AND GYNECOLOGICAL SECTION OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.—A meeting will be held at 19 Boylston Place, on Saturday, November 11th, at eight p. m. The following paper will be presented: Ergot and Ruptured Uterus, Dr. E. M. Buckingham. Dr. R. B. Dixon will present a new perforator. J. B. SWIFT, Secretary.

BOOKS AND PAMPHLETS RECEIVED.—A Guide to Therapeutics and Materia Medica. By Robert Farquharson, M. D. Edin., F. R. C. P. Lond. Third American Edition, revised by the Author. Enlarged and adapted to the United States Pharmacopoeia by Frank Woodbury, M. D., Physician to the German Hospital, Philadelphia. Philadelphia: Henry C. Lea's Son & Co., 1882.

Quiz Compend. No. 1. Questions on Human Anatomy. By Samuel O. L. Potter, M. A., M. D., Author of an Index of Comparative Therapeutics, etc. With Sixty-Three Illustrations. Philadelphia: T. Blakiston, Son & Co., 1882.

## Lectures.

### ON THE TREATMENT OF PNEUMONIA.<sup>1</sup>

BY PROFESSOR DUJARDIN-BEAUMETZ,

Physician to the Hôpital St. Antoine, Member of the Academy of Medicine, Paris, France.

GENTLEMEN,—I shall devote this lecture to the treatment of pneumonia. The history of the therapeutics of pulmonary diseases comprehends no subject of greater interest than this. Just as we have seen Huxley in England give a whole treatise of physiology while writing about the cray fish, so in describing the various treatments of pneumonia which have at different times prevailed, and the discussions which have arisen therefrom, one would go over about the entire history of the treatment of disease in general. Permit me, then, as briefly as possible, to sum up the history of the therapeutics of pneumonia.

The suddenness and gravity of the invasion, the intensity of the febrile phenomena, the profound disturbance of the respiration, all conspire to render pneumonia one of the most serious diseases of the economy. Hence the ancients, not having for their guide auscultation and percussion, made of this affection the type of phlegmasias. They directed against this disease, which they regarded as one of the most dangerous, a treatment proportional to the evil to be overcome, and drew from the arsenal of therapeutics the most energetic remedies. We must triumph over the disease, said Sydenham, and this pernicious doctrine has for a long time directed the entire therapeutics of pneumonia.

It was forgotten that in this contest between the physician and the disease there exists a patient; more than all, the true Hippocratic doctrine was lost sight of, and the definition which Hippocrates gave to the disease. The father of medicine regarded the morbid phenomena as symptoms of the struggle by which nature was attempting to effect a removal of the disease; it was of importance, then, not to disturb (without very strong reasons) this spontaneous tendency of nature toward restoration.

During long years, then, treatments of the most heroic kind were instituted against pneumonia, and what served to perpetuate the error, was the fact that pneumonia was seen to disappear and patients to get well under these treatments. Only,—the period of convalescence was long, and it was the custom to attribute this enfeeblement not to the medication, but rather to the pulmonary affection itself.

In the eighteenth century we observe several tentatives made in good earnest to establish a hygienic treatment of pneumonia, but these attempts on the part of Van Swieten and Boerhaave were soon forgotten, and the profession came back, more determined than ever, to modes of treatment the most violent and heroic. But this entire scaffolding, for ages based on tradition, was destined to fall to the ground under the destructive influence of two methods of investigation which came to be applied to the study of diseases; statistics on the one part, and the observation of temperature on the other.

The doctrine of Broussais, which had pushed to its extreme limits the diabolical methods which it had engendered, aroused a vigorous reaction, and this reaction took for its guide Observation and Statistics.

Andral, Louis, Chomel, Valleix rallied around a banner which had for device, *Numerando et perpendiculari observationes*. Then the school of Vienna followed the school of Paris in its new departure, and Skoda and his pupil, Dielz, showed us all the advantages which one might derive from statistics in the study of the treatment of disease.

What did statistics show when applied to the examination of the different treatments of pneumonia? That the absence of all medication gave better results than medication of a very active kind. Here was a fact of prime importance which destroyed at one blow the therapeutic rule which had heretofore prevailed, namely, that it is necessary to treat a severe disease by severe remedies.

But statistics alone can never settle a disputed point in therapeutics. The statistical method of demonstration has certainly a high value in the other sciences; it does not, however, in medicine, and especially in therapeutics, give all the results which might be expected of it. Therefore, without going quite as far as Forget, who regards statistics (*la statistique*) as "an obliging maid who gives herself to the first comer," we may properly affirm that the medical products which are the offspring of this method of observation are incongruous and of little vitality.

In fact, in medicine, and particularly in therapeutics, observations are seldom or never proper subjects of comparison. Individual conditions, and the type of the disease more especially, may at each instant modify the results, and this it is that explains the popularity and the decadence of therapeutic agents.

A remedy which at one time has wrought wonderful cures, at another time is employed with no success at all, and this difference results from the circumstance that in the one set of cases the disease appeared in a mild form, while in the other cases it was grave. Would you have a proof of what I now advance? Cast your eye over the important statistics published by Lebeuf, *à propos* of the treatment of pneumonia, and you will there see that the mortality has varied from 0 to 40 per cent. according to the years, and this, although the same therapeutic methods were employed.

The application of the thermometer to the study of diseases was a weapon still more powerful against the doctrines of the past. Thanks to Boerensprung, Traube, Wunderlich, the use of the clinical thermometer has become a matter of routine in our private and hospital practice. This little instrument has taught us that a great number of diseases have a regular march, a definite cycle, whose periods of "augment," "fastigium," and "decline" may be observed.

For diseases with a definite cycle, abortive systems of treatment do not exist, and just as we cannot arrest typhoid or eruptive fevers in their march, so also we are unable to throttle pneumonia in its evolution; hence the first condition for a fair appreciation of the results of medication directed to a pathological state, is to know the normal cyclical evolution of the affection. As for pneumonia, you know its evolution; no subject at the present day is better understood. Simple pneumonia, also called lobar pneumonia, the croupous pneumonia of the Germans, is characterized, from an anatomical point of view, by a fibrinous exudation which occupies the interior of the pulmonary alveoli; this exudation, at the end of a certain time, undergoes a granulo-fatty degeneration which permits its resorption and removal. These essential modifications, which

<sup>1</sup> Translated, by permission of the author, from advanced sheets, by E. P. Hurd, M. D., Newburyport, Mass.

characterize simple pneumonia, and which constitute by their *ensemble* what has been described under the name of hepatization, are accompanied by a train of febrile manifestations which comprehend the general symptoms of pneumonia, and in which we observe a sudden invasion, a stationary period, and finally a period of defervescence.

What is of most importance for us to know from the point of observation which we occupy, is at what moment this defervescence takes place when the disease is left to itself. Jurgensen has furnished us in this particular some important statistics; he has, in fact, studied in seven hundred and twenty-one cases the epoch of this defervescence, and on consulting the tables which he has given, it appears that ordinarily the change takes place on the fifth or on the seventh day. Quite recently also our colleague, Dr. Fernet, reviewing the subject, has demonstrated the regular and cyclical march of simple acute pneumonia.<sup>1</sup>

It is worthy of note that defervescence may take place in a much shorter space of time, and pneumonias have been recognized which have completed their evolution in three or four days. Thus out of seven hundred and twenty-one cases in Jurgensen's tables, in thirty-seven defervescence took place at the end of three days, and in fifty at the end of four days, while in one hundred and twenty it came on at the end of five days, and in one hundred and sixty-five at the end of seven days.

Having once possessed yourself of the fact that simple fibrinous pneumonia, without being influenced by any treatment, has a defervescence which shows itself ordinarily towards the seventh day, let us examine and pass judgment on the different remedial measures which have been proposed to combat this phlegmasia.

I will group these remedial measures under three heads. First, we will study those which accomplish their results by causing a profound perturbation of the economy, and a lowering of the vital forces, and of the temperature accompanying this perturbation; I call this spoliative medication. The second have for their effect to support the forces of the patient, — tonic medication. The third are based upon the study of the normal evolution of the malady, — expectant methods of treatment.

The spoliative medication comprises blood-letting, antimonials, digitalis, veratrum, quinine, and refrigeration.

<sup>1</sup> Fernet. De la Pneumonia Franche Aigue, de son Evolution, et de sa Crise. Arch. Gen. de Med., July and August, 1881, pages 3 and 155. According to this author the evolution of pneumonia is perfectly represented by the march of the fever, and figured by the thermometrical curve.

The invasion of the disease is marked by a slight chill. Then comes an intense fever, which persists without abatement for five to seven days (as the average), and then falls rapidly. Concurrently with this fever a local lesion is developed in the lung, a lesion which finds expression in a fibrinous exudation which solidifies (red hepatization), forming in the pulmonary parenchyma one or more compact blocks. This hepatization, which is the lesion of pneumonia at the period of "astigium," lasts in general as long as the fever, and then undergoes transformations which permit the return of the organ to the normal state (breaking up and elimination of the exudation). This last phase of organic reparation belongs rather to the period of convalescence than to that of the malady in its active manifestations. By this evolution, and by this local lesion, pneumonia resembles the eruptive fevers.

The crisis appears about the sixth or seventh day, with sudden defervescence and abundant sweats.

The modifications of the urine, epistaxis, diarrhea, naso-labial eruptions, are not critical phenomena, but are (with the exception of the eruption), accidents or complications. The naso-labial herpetic eruption appears regularly about the third day of the disease, preceding, by a considerable interval, the crisis, and is regarded as another local manifestation of the disease.

Venesection has long been the basis of the therapeutics of pneumonia. It has been the fashion, down to a very recent period, to bleed in this disease, and to bleed freely, and every physician who did not bleed his patient was derelict in duty. If there was any difference of opinion, it was not concerning the advisability of bleeding, but as to the quantity of vital fluid which ought to be abstracted, and the best place for venesection. Ought we to bleed the veins of the same side, ought we to open the vein transversely or longitudinally? Such questions were discussed. Sydenham used to take from ten to fifteen ounces of blood in the morning, and as much in the evening, and the next morning, taking in all between two and three pints of blood. Borsieri would take a quart a day; in Italy they would exceed two quarts; and Bouillaud, our illustrious master, following the tradition of Broussais, who used to bleed to syncope, formulated in 1837 the method of blood-letting known as "coup sur coup" (blow after blow). He prescribed, the first day of treatment, two bleedings from the fore-arm of four cupfuls, and the application of numerous wet cups; the next day another bleeding and leechings or scarifications; the third day still another bleeding, which was renewed the fourth and the fifth day, if the pneumonia resisted. This word "resisted" is characteristic — it brings into view the idea of the struggle between the disease and the medication, which I spoke of at the beginning of this lecture, and which at this epoch directed the therapeutics of pneumonia.

In 1853 Valleix, in his *Guide du Médecin Praticien*, and Gresolle, in his *Treatise on Pneumonia* spoke of bleeding as the first therapeutic measure, dominating all the others.

In judging of the action of bleeding-letting in pneumonia, we ought not to rely on statistics alone; we ought to study the composition of the blood in a patient affected with pneumonia, then ascertain what effect blood-letting can have on such a condition. Let us see first what are the results of bleeding on the symptoms of pneumonia. As far as the exudation is concerned, the action of bleeding is *nil*, it can neither prevent this exudation nor hasten its regression.

Is the action of bleeding more manifest on the local and general symptoms? Yes, it modifies both the temperature and the dyspnea. In febrile states bleeding appears to me to be one of our most powerful anti-thermic remedies. Observe what happens in typhoid fever; when a hemorrhage of considerable intensity takes place, there is a rapid fall in the temperature, and it is the same in pneumonia, and sometimes this lowering of fever heat lasts.

This is what has just taken place in our hospital service, in the case of a young man of twenty-six years of age, who occupies No. 9 of the male wards. He has had pneumonia of the left upper lobe. His temperature on the fifth day of the sickness was 40.8° C.; he was bled to ten ounces, and his temperature fell gradually, and has not again risen.

At the same time that the temperature falls the dyspnea abates, and this explains the persistence of our fathers in considering bleeding as the best treatment of pneumonia.

But the advantages, considerable as they may seem to be, which we have just noted in favor of bleeding, are more than offset by serious disadvantages. We know at the present day sufficiently well the state of the blood in pneumonic patients, thanks to the labors

of Hanot, Grancher, Quinquand, and especially to the researches of Professor Hayem.

Whether you employ the chemical tests of Quinquand, or the process of enumeration of the globules, or the new methods of examination of the blood proposed by Hayem, this is what is observed in the blood of individuals affected with pneumonia. The fibrine presents quite a considerable reticulum, the red corpuscles are not diminished, and the hæmoglobine remains almost at the normal figure; but, as Grancher has well shown, the number of white globules augments, and this evolution follows the thermic curve.

If you bleed these patients, you diminish the mass of blood only for a moment, for the blood-vessels take up from the lymphatic vessels that surround them a quantity of fluid equal to that which you have abstracted. But if you have not diminished in any durable way the mass of blood, you have certainly increased the number of white globules, and as these are already in excess in pneumonia, you have put your patient in conditions favorable for suppuration. You know, in fact, gentlemen, that there is, between the production of pus and the number of white globules existing at any given moment in the blood, a very intimate relation. This tendency to purulence may then occasion suppuration of the intra-alveolar exudation, and so produce a termination of the gravest kind.

To sum up, then, if bleeding may lower the temperature and diminish temporarily the dyspnoea of the patient, it enfeebles the latter, and puts him in a condition favorable for suppuration, without diminishing, in any degree whatever, the normal march of the exudation.

This is, in truth, what has taken place in the case of the patient (No. 9) of whom I have just spoken; by the bleeding we obtained a lowering of the temperature, but immediately delirium set in, and a general enfeeblement ensued, without the slightest evidence, by the ordinary physical signs, of any diminution of the pulmonary exudation.

Be it understood that by the word "blood-letting" I mean only venesection; I do not include cupping, which appears to be of considerable utility in relieving the pain of pneumonia, acting rather on the principle of revulsion than of spoliation.

By the side of venesection we should place another kind of treatment which has been, and in fact is now, much in vogue; I allude to medication by antimonials, and especially tartar emetic. This medicament has been the subject of earnest discussions and angry partisanship. Denounced by Guy Paton, and forbidden by the Faculty, it was long kept under the ban; eventually it obtained a firm place in the materia medica, from which it has hardly yet been driven. It is to Rasori, an Italian physician, that the employment of tartar emetic is due. Rasori maintained that in every inflammatory disease we ought to combat the stimulus, therefore he was in the habit of administering tartrate of antimony in large doses, giving from one half gramme to one gramme in a quart of water, and repeating the dose during the day; he at first associated blood-letting with this medication, then relied on the latter alone. Many of his disciples have carried this treatment still further, giving as much as six grammes (ninety grains) daily of this medicament, so that the patient during his sickness would sometimes take as much as sixty grammes (about two ounces). At the present day much smaller doses are given. We do not ordinarily prescribe more than one eighth of a grain, and

this may be given with syrup of poppies, which makes it better tolerated by the stomach.

Tolerance, in fact, is an essential part of this medication; most partisans of the antimonial treatment claim that the less the emetic and purgative effect, the more curative the medicament in pneumonia. Laennec, who was one of the most ardent promoters of this mode of treatment, and who even went so far as to regard tartar emetic as specific in pneumonia, has insisted on this tolerance. Sign of profound adynamia to some, this tolerance has been regarded by others as a favorable symptom, and a variety of ways have been recommended for obtaining it. Anecion, of Dienne, orders the limitation, and even the suppression, of all liquid ingesta; Herard counsels to employ nothing but distilled water in making the antimonial solution; the greater number associate opium with the antimonial.

How does tartar emetic act in pneumonia? Let us examine, first, its physiological action, then its action in the disease. Physiologically it produces a profound local irritation. It develops pustules on all the points with which it comes in contact. Grisolles, in cases where tartrate of antimony has been given by mouth, has observed ulcerations throughout the whole extent of the alimentary canal; in the throat, œsophagus, stomach, and intestine. These ulcerations have even caused strictures, from cicatricial contraction. This local action of the antimonial explains its emetocathartic action. It has even provoked such obstinate diarrhoea and vomiting that the symptoms have resembled those of cholera, hence the name "cholera stibii."

Binz has demonstrated its direct action on the heart; it diminishes the contractions of this organ, and thereby enfeebles the circulation and causes a lowering of temperature; moreover, it depresses the nervous system, and, by the nausea which it provokes, gives rise to a condition resembling sea-sickness.

The antimonial treatment then, like blood-letting, is both depressant and refrigerant.

The action of tartar emetic on the pulmonary exudation is absolutely *nil*; it lowers the fever heat, but this result is obtained at the expense of grave perturbations of the economy; enduring lesions of the digestive tube are often produced, and the forces of the patient are unduly depressed. In large doses it is a dangerous medicine, and the remembrances which I have retained of results obtained by this method of treatment when I was just entering on my medical career have left an impression far from favorable; if it is dangerous in the case of adults it is far more so when administered to children. I have, in fact, seen little pneumonic patients made far sicker by the medicine than they were by the disease.

I would then give tartar emetic in pneumonia only to produce an evacuant effect and to clear the lungs, through the efforts of vomiting, of the mucosities which encumber them. This emetic action you may obtain also by other antimonial preparations,—kermes mineral and the white oxide of antimony. The latter preparation, which is a good expectorant, especially for children (recommended highly by Roger), may be given in the dose of a scruple or half a drachm in mucilage or syrup. The following calnative potion may be taken during the day; it contains kermes:—

|  |                   |
|--|-------------------|
| R Hydrated sulphuret of antimony . . . . . | 0.50 (viiss. gr.) |
| Aque lauro cerasi                          |                   |
| Aque tilie Europ.                          |                   |
| Aque lactucarii                            |                   |
| Syrup of poppies . . . . .                 | ââ 30. (3i.) M.   |

By the side of these medicaments I would place ipecac, whose effects in the treatment of pneumonia have been much vaunted. The school of Montpellier has most earnestly advocated the use of this remedy in pneumonia. Broussonnet, Pecholier, Ressiguiet, among others, have recommended it. Ipecac acts in two ways: it modifies the secretion of the bronchial glands and aids expectoration; on the other hand, it excites vomiting and thus diminishes congestion of the lungs and aids the expulsion of bronchial mucus. Perhaps, also, we should mention in this connection the slowing action of ipecac on the circulation, so well described by Pecholier, Dyce Duckworth, and others. Ipecac is given in pneumonia in the dose of one gramme and a half to two grammes (twenty to thirty grains).

We come now to other medicaments which act on the circulation and the temperature,—digitalis, quinine, and veratrum.

The usage of digitalis in the treatment of inflammations originated with the Germans. Traube, in 1850, was one of the first to recommend it in phlegmasias; it is the school of Strasbourg that deserves the credit of demonstrating all the benefit which we may obtain from this medicinal agent in the treatment of pneumonia. The labors of Hirtz, Kulp, and Coblenz deserve mention in this connection, while in France Gallard, Picot, and Tony Saucerotte have all vaunted the good results of digitalis in pneumonia.

Having spoken at length of the physiological and therapeutical effects of digitalis when lecturing on diseases of the heart, I shall not repeat what I then said. You can readily understand, gentlemen, that digitalis, by its action on the circulation, can have a marked influence on the two manifestations the most characteristic of the fever, the pulse and the temperature. But these antipyretic effects are not obtained without certain dangers, and while recognizing the fact that in the dose of one gramme of the powder of the leaves in infusion or maceration, digitalis produces a remarkable lowering of the temperature, it may nevertheless dangerously affect the heart. Therefore, despite the authority of the Strasburg school, this medication is little employed in our country.

The same may be said of the treatment by quinine, so much in vogue in Germany, and employed with success by Vogt, Wachsmuth, Liebermeister, and Jürgensen. But sulphate of quinine in the proper therapeutic dose is a very uncertain antipyretic medicament, and in order to obtain a marked fall in the fever heat you are obliged to give doses which are almost toxic. This is, indeed, what Liebermeister, and especially Jürgensen, have done, for they have administered as much as five grammes (seventy-five grains) of sulphate of quinine in a single dose to a pneumonic patient. It is a dangerous practice, and is to be reprobated, and I would recommend you never to give quinine in pneumonia in large doses, except where there is a marked malarial element in the case.

Along with quinine as an antipyretic we must class veratrum viride and its alkaloid veratrine. Thanks to the labors of Aran, Piedagnel, Norwood, and especially Thibirtz, you know the depressant action of this drug on the circulation; you understand, therefore, why veratrum has been advised in pneumonia. It has been given in the form of granules of veratrine, each granule containing one milligramme (one sixtieth of a grain), three to five of these granules being a very full

dose. Much oftener you will hear prescribed the tincture of veratrum viride, in the dose of four to six drops [two drops every hour or two till there is a marked slowing of the pulse, is a popular way of giving it in the United States]. I do not think that much success has followed, or is likely to follow, this treatment, at least in this country; it rapidly induces vomiting and collapse, without notably modifying the fever or lessening the duration of the pneumonia.

I shall have finished the consideration of remedies which produce diminution of the pulse and temperature, and which act as antipyretics, when I shall have spoken of the direct application of cold to patients affected with pneumonia. The subject of cold baths in pneumonia (a mode of treatment confined mainly to Switzerland and Germany), also those modes of treatment which, by supporting the system during the evolution of the malady, appear to me to be far the most rational, I shall reserve for my next lecture.

## Original Articles.

### THE MEDICO-LEGAL RELATIONS OF CHRONIC ALCOHOLISM; ITS PATHOLOGICAL ASPECTS.<sup>1</sup>

BY G. K. SABINE, M. D.

ALTHOUGH the acute form of alcoholic poisoning is not unfrequently the immediate cause of death, and the chronic alone rarely so, the two are often combined so that the signs of the latter should be familiar to the medical examiner.

Of all the various conditions that are attributed to the habitual use of alcohol but very few, if any, are pathognomonic. The statements of different observers vary greatly in regard to the post-mortem appearances of the chronic as well as of the acute form, and the question to what degree certain diseases may be attributed to this form of poisoning remains an open one. In fact almost every known chronic affection has been attributed some time or other to the intemperate use of alcohol. It is probably the fact that the remote is frequently looked upon as the immediate cause. That the habitual and long-continued use of alcohol so alters the tissues and impairs their functions that they are more prone to become diseased there can be no doubt.

Perhaps there is no question which the medical examiner is more frequently called upon to decide than whether or not he has to deal with a subject who has been an habitual drunkard.

Although no single pathological condition is sufficient to determine this positively, yet there are certain ones which point strongly in this direction, and the same inference can be drawn from others taken collectively which are almost equally conclusive.

Among the various pathological conditions resulting from chronic alcoholism are the following:—

#### CHANGES IN THE SKIN.<sup>2</sup>

In the earlier stages of this affection the skin is remarkably smooth and soft, owing to an increase in the fatty tissue. According to Frerichs<sup>3</sup> the secretion

<sup>1</sup> Read before the Massachusetts Medico-Legal Society, June 13, 1882.

<sup>2</sup> The following statements are largely taken from Baer.

<sup>3</sup> Klinik der Leberkrankheiten, l. c., S. 319.



contains a larger amount of oil than normal, a condition similar to that which exists when cod-liver oil is taken in large doses for some length of time. Later on the skin becomes dry, and on the extremities hard and inelastic.

Acne rosacea, consisting of an inflammation and even suppuration of the sebaceous glands, is among the characteristic symptoms of the intemperate use of alcohol. The nose and face are its favorite seat. Besides the nodules the skin is reddened owing to the dilated capillaries and consequent blood stasis, and is also infiltrated to a greater or less degree.

#### THE BLOOD.

The most striking change in the blood is an increase in the watery elements, and diminution in the fibrine. It contains much serum, forms no or only very small coagula, and is of a very dark color; hence the term "venous plethora," used by some of the older authors. The dark color is explained by an increase in the hydrogen and carbon (Steinheim); or by a destruction of the red blood corpuscles (C. H. Schulz), so that less oxygen is taken up and less carbonic acid given off. Another peculiarity presented by the blood is the increase of fat contained in it. It has been stated that not unfrequently the serum of blood drawn from a person suffering from delirium tremens is more or less opaque or even milky (Morgagni, Nasse), this appearance being due to an excessive amount of fat.

#### FATTY TISSUE.

There is a marked increase in the subcutaneous fat, in the fat between the muscles, about the different organs, especially heart, kidneys, intestine, in the greater and lesser omenta, in the mesentery, etc. In the later stages of alcoholism, when the digestion becomes impaired and the blood deteriorated, this accumulation of fat disappears. According to Rokitsansky there is an increase of fat in the marrow of the bones, the bony tissue at the same time being atrophied.

In the earlier stages of the affection the increase of fat is due to an infiltration rather than to a degeneration. The fatty liver, for instance, is of essentially a different nature at this time from that met with later on in the disease.

#### THE STOMACH AND INTESTINE.

A chronic catarrhal condition of the stomach is quite constant, and appears early in the disease. This is indicated by abundant soft gray mucus, projections of the mucous membrane, and by the slaty color that occurs, especially near the pylorus. Another form is very apt to be met with which is characterized by circumscribed hypertrophies of the whole mucous membrane (*gastritis proliferans*), and produces little warty projections (*gastritis verrucosa*); later larger polypoid growths result (*gastritis polyposa*).<sup>1</sup>

Owing to the disturbance of circulation which takes place later in other organs the return of blood from the stomach is interfered with so that a varicose condition of some of the veins is produced.

The hypertrophy is very apt to be accompanied by dilatation of the glands, due to compression at their outlet, so that small cysts which are filled with a clear fluid and project from the surface result. According to Klebs<sup>2</sup> an inflammation of the submucous tissue

may be produced by the excessive use of alcohol, and this go on to suppuration, or it may result in the formation of large masses of connective tissue without destruction of the mucous membrane. In this manner it occurs at the pyloric extremity, producing stenosis.<sup>3</sup>

The continued irritation of the diseased mucous membrane is productive of a variety of ulcerations, from the small hamorrhagic erosion, characterized by a superficial loss of substance, to the so-called round or perforating ulcer.<sup>4</sup>

According to Erbstein,<sup>5</sup> after administering large quantities of dilute alcohol to dogs for three or four days the peptic and ordinary gland cells of the stomach are found cloudy and granular. The lumen of the pyloric glands is plugged by a finely granular, yellowish or yellowish-brown mass. In extreme cases fat drops appear in the altered cells. In most cases chronic alcoholism produces no marked effect on the intestine although in many a chronic catarrh exists.

#### THE LIVER.

The liver is the first and the most severely affected by the abuse of alcohol of any organ in the body. The alcohol being taken up by the portal system is carried directly to this organ, and there, by its irritating effect, produces various disorders according to the individual's condition, and more especially the character of the alcohol. The more concentrated the alcohol the sooner and the more severely is the liver affected.<sup>6</sup> Beer and wine seldom affect the liver, and are almost never productive of severe forms of degeneration.<sup>7</sup> The most frequent affections of the liver produced by chronic alcoholism are simple fatty infiltration,<sup>8</sup> inflammation of the parenchyma, and fatty degeneration of the same,<sup>9</sup> and lastly inflammation and hyperplasia of the interstitial connective tissue.

Among the causes of fatty liver the abuse of alcohol is one of the most prominent. According to Frerichs it ranks only second, chronic disease of the lungs standing at the head of the list. He says: "Of thirteen individuals who died of delirium tremens, in six the liver was very fatty, in three the organ contained little fat, and in two none at all; lastly, two died of cirrhosis of the liver." It is probable, but not absolutely certain, that the alcohol acts by retarding the metamorphosis of tissue<sup>10</sup> and the blood being overcharged with fat deposits it in this organ.<sup>11</sup>

In higher grades the liver is enlarged, but usually appears flattened, the edges are generally thickened and rounded off. The peritoneal covering of the liver is transparent, smooth, and shining. According to the grade of fatty infiltration the surface of the liver is yellowish red or distinctly yellow. The consistence of the organ is diminished; it feels doughy, and pits on pressure with the finger. On incision we meet little resistance; a coating of fat remains on the warmed knife blade. The cells in the periphery of the acini first be-

<sup>3</sup> Birch-Hirschfeld, Lehrbuch der Pathologischen Anatomie, S. 831.

<sup>4</sup> Klebs, Handbuch der Pathologischen Anatomie, S. 186.

<sup>5</sup> Virchow's Archiv, Bd. 55, S. 469.

<sup>6</sup> Frerichs, A Clinical Treatise on Diseases of the Liver, vol. ii., p. 33. Sydenham Trans.

<sup>7</sup> Ibid.

<sup>8</sup> Frerichs, A Clinical Treatise on Diseases of the Liver, vol. i., p. 299. Klebs, Handbuch der Pathologischen Anatomie, S. 382. Orth, Diagnosis in Pathological Anatomy, p. 318. Niemeyer, Text-book of Practical Medicine, vol. i., p. 656.

<sup>9</sup> Klebs, Handbuch der Pathologischen Anatomie, S. 406.

<sup>10</sup> Niemeyer, Text-book of Practical Medicine.

<sup>11</sup> Baer, Alcohol.

<sup>1</sup> Orth, Diagnosis in Pathological Anatomy, page 285.

<sup>2</sup> Handbuch der Pathologischen Anatomie, S. 179.

come infiltrated, and later on those nearer the centre."<sup>1</sup> The quantity of blood in the capillaries is diminished in proportion to the amount of infiltration.<sup>2</sup> On microscopic examination, according to the grade of the disease, the enlarged or usually rounded liver-cells appear filled with fine fat globules, or those have united to form single larger drops, or, lastly, individual liver-cells are entirely or mostly filled by one large drop of fat.<sup>3</sup>

Fatty or granular degeneration of the liver is attributed to the abuse of alcohol by Baer, who quotes Klebs in so doing. The reason why the latter assigns this as a cause is perhaps owing to the fact that he makes a somewhat different classification of the diseases of the liver, considering certain forms as degeneration which are looked upon by other authorities as simply infiltration. According to him the direct action of other toxic substances upon the liver, such as hydrocyanic acid, carbonous oxide, phosphorus, arsenic, and antimony produce this degeneration. Among the organic substances alcohol, ether, and chloroform hold an important position.

#### INTERSTITIAL HEPATITIS. CIRRHOSIS OF THE LIVER.

The most common cause of this form of interstitial hepatitis, which extends uniformly over the whole organ, is usually considered to be the intemperate use of alcohol, still this is not necessary; most drunkards do not have a cirrhotic, but a fatty liver, and many persons with cirrhosis are not in the habit of dram drinking.<sup>4</sup> Certainly cirrhosis is so commonly the result of the abuse of alcohol that when met with the cause may fairly be suspected.<sup>5</sup> Frerichs speaks of it as "the chief cause."

Birch-Hirschfeld says that it is doubtful if cirrhosis is ever due to any other cause. The volume of the liver is increased or diminished according to the stage of the process. It is only accidentally met with in the early stages. The principal change produced in the liver consists in an increase of the interlobular tissue, and the appearance of small grayish masses at the periphery of the lobules. The consistency of the liver is increased. The cause of this change consists of a growth of granulation tissue from Glisson's capsule, from which small projections extend into the acini. In the later stages of chronic interstitial inflammation the liver is more or less diminished in size, in rare cases fully one half; its surface is uneven and covered with prominences, which vary from a millet grain in size to that of a pea, and are usually of a yellow, icteric color. At the edge of the liver, especially in front where it is sharp, single nodules are frequently found, completely isolated, as the capsule belonging to the two surfaces comes in contact here. Upon section a similar condition of things is seen in the interior of the organ.

#### ORGANS OF RESPIRATION.

Drunkards are very subject to catarrh of the larynx,<sup>6</sup> which is often accompanied by a similar condition of the pharynx.<sup>7</sup> This catarrhal inflammation of the larynx not unfrequently extends into the bronchi.

A very important question is whether the habitual use of alcohol predisposes to disease of the lungs. Upon this point authorities differ so widely that it is quite impossible to draw any conclusion.

#### THE HEART.

In habitual drunkards the heart is almost always found hypertrophied. This hypertrophy may be brought about in various ways. As is well known, the effect of alcohol is to increase the frequency and force of the pulse. Whenever a muscle is called upon to do an extra amount of work the effect is to increase the size of that muscle. This hypertrophy of the ventricular walls, which is simply the result of an increased amount of work, is also produced by various obstructions to the circulation which the heart has to overcome. Owing to the deposit of fat in and about the different organs, to the fatty infiltration of the cardiac muscle itself, the work of the heart is increased. This will also be caused by the disturbance of the pulmonary circulation, owing to bronchial catarrh, emphysema, etc., and also to disturbance of the portal circulation from fatty liver, cirrhosis, etc. Another very important factor in the cause of hypertrophy of the cardiac muscle, and especially of the left ventricle, is, according to some authorities, the condition of the kidneys frequently met with in chronic alcoholism. Here one may find fatty degeneration of the parenchyma, accompanied by an increase of interstitial connective tissue which has become more or less shrunken. According to Traube this contraction cuts off a large number of small vessels, and results in an increase of pressure in the aortic system, producing dilatation and hypertrophy of the left ventricle. This explanation is objected to by others, for instance Bamberger. Still another obstruction to the circulation is owing to the lumen of the vessels being increased, for when this occurs the blood-stream is rendered slower, and has to be overcome by increased heart's action. Finally, an atheromatous condition of the arteries is to be mentioned, as this causes a decided obstruction.

In the later stages of alcoholism a fatty degeneration of the cardiac muscle occurs, and in the very last stages, owing to the general inanition at that time, the muscle becomes atrophied and diminished in weight. The organ is pale and flabby, diminished in size in all directions.

#### THE VESSELS.

The change in the capillaries consists in an increase in their lumen, that of the smaller and larger arteries in the so-called atheromatous degeneration. The dilatation of the small vessels and passive hyperæmia of all the organs has been explained on the ground that the alcohol has a paralyzing effect upon the vaso-motor system; also that the alcohol, by its irritating effect upon the walls of the vessels, causes a fatty degeneration of the same, and as a consequence a loss of tonicity.

Aside from the fatty condition a sclerosis of the walls takes place, owing to hyperplasia; this may result in the so-called ossification, an infiltration of lime salts into the newly formed tissue. As a result of these conditions the vessels lose their elasticity, become hard and stiff, and thus are more resistant to the flow of blood. This chronic inflammation of the walls of the vessels which underlies this process may be brought about by the continued use of alcohol. The irritation which alcohol produces in all the tissues may be suffi-

<sup>1</sup> Niemeyer, Text-book of Practical Medicine.

<sup>2</sup> Baer, Alcohol.

<sup>3</sup> Niemeyer, Text-book of Practical Medicine.

<sup>4</sup> Ochs, Diagnosis in Pathological Anatomy. Frerichs, A Clinical Treatise on Diseases of the Liver. Niemeyer, Text-book of Practical Medicine.

<sup>5</sup> Baer, Alcohol.

<sup>6</sup> Baer, Alcohol. Niemeyer, Text-book of Practical Medicine.

<sup>7</sup> Niemeyer, Text-book of Practical Medicine.

cient to produce inflammation of the walls of the vessels. A still more important element in the causation is the constant stretching which the walls undergo and which predisposes them to the atheromatous change. Traube attributes this degeneration in alcoholism to this, and also to the diminishing of the rapidity of the blood-stream, which occurs at the same time. He says: "The worst of these cases occur in drunkards. It is not unlikely that the increased tension of the aortic system which is observed in drunkards, not only while they are under the immediate influence of liquor, is owing to a contraction of the smaller arteries, which results in an increased tension by interfering with the flow of blood from the aortic system. This being the case, the increased tension observed in the larger branches would be accompanied by a slowing of the blood-stream." The primary inflammatory condition may also be brought about by the overdistention of the smaller vessels, caused by the increased heart's action. When they have once lost their tonicity this increased action ceases. It is a well-established fact that as the quality of the blood becomes deteriorated, a condition which is a constant accompaniment of the general cachexia, the nutrition of the walls of the vessels is interfered with, and a fatty degeneration results.

#### AFFECTIONS OF THE URINARY ORGANS.

After each ingestion of alcohol the secretion of urine is increased, as a larger quantity of water is excreted with it.

The diseases of the kidneys which most frequently occur in drunkards, and especially in the latter stages of alcoholism, are the parenchymatous and interstitial or granular nephritis. This latter is divided into two stages, that of infiltration of cellular elements, and the other of connective tissue formation. At first the inflammatory process produces an active hyperæmia, with an exudation of fluid and white blood corpuscles into the interstitial connective tissue. This in turn is productive of anæmia, impaired nutrition of the renal epithelium, and granular degeneration of the same.

If this process advances to another stage there occurs either a hyperplasia of the interstitial connective tissue or, what is more frequent, a granular condition with atrophy. The cellular elements lying between the urinary tubules become converted into masses of connective tissue, which serve to obstruct the glomeruli and tubules. The increased blood pressure in the aorta induces hypertrophy of the left ventricle, and albumen appears in large quantity in the urine, which is increased in quantity, and of low specific gravity. According to all authorities the abuse of alcohol is one of the most common causes of the granular kidney. According to Christison three fourths or four fifths of all cases of granular atrophy are induced by it.

#### THE NERVOUS SYSTEM.

The affections of the nervous system in drunkards are both numerous and important. No organ, with exception, perhaps, of the liver, suffers so constantly and from such a variety of lesions as the central nervous system. Many alterations in the functions are recognizable after death by a change in the tissues, but there are various affections, on the other hand, which point to a marked change in the cerebro-spinal system that cannot be detected. The very delicate and complicated structure of the nerves and ganglion cells require not only that their anatomical but also their

chemical relations shall be preserved for the performance of their functions. Ever so slight a deviation in the nutritive processes produces a disproportionate disturbance in their functions; much greater than in any other tissues of the body.

#### THE BRAIN.

The calvarium is altered. It is increased in weight by hyperostosis and sclerosis, both the outer and inner table being thickened. The cancellated structure is more dense, owing to a concentric formation of bone about the Haversian canals. Upon the inner surface the channels of the vessels are deeper than normal as well as the depressions for the paccchionian bodies.

There is an increase in the amount of blood in the brain owing to the abnormal action of the heart and fatty or atheromatous degeneration of the walls of the small vessels, or diminished nutrition of the same, which paralyzes them so that their lumen becomes increased, and hyperæmia results. In the earlier stages of alcoholism, where alcoholic excess is relatively frequent, this hyperæmia is more of an active process, which, in the later stages, assumes a passive character when obstruction to the circulation exists in other organs, as the liver, kidneys, lungs, etc.

#### CEREBRAL APOPLEXY.

An effusion of blood into the brain substance frequently occurs in drunkards. All conditions brought about by the intemperate use of alcohol which tend to produce cerebral hyperæmia favor, in a marked degree, the occurrence of either large or capillary effusions.

#### SEROUS APOPLEXY.

An acute or chronic serous effusion into the cavity of the skull, into the brain substance, or into the membranes of the brain, and into the cavity of the arachnoid, may result from the abuse of alcohol. This transudation occurs as a complication in other cerebral diseases, and in those troubles which tend to produce hyperæmia of this organ by mechanical stasis, as in diseases of the lungs and heart. It may also result from a very watery condition of the blood, such as occurs in Bright's disease. In alcoholism the blood is poor in plastic material, and as a consequence the transudation is favored. Either an acute or chronic collection of fluid in the ventricles of the brain is not an infrequent result of drunkenness.<sup>1</sup>

#### PACHYMENINGITIS INTERNA CHRONICA.

This inflammation of the inner surface of the dura mater consists at first of a very slight layer of fibrine on the surface of the dura, from which a thin layer of connective tissue is afterwards developed, which adheres to the surface of the membrane. A second and a third layer of inflammatory exudation is then formed, and so on until there are many layers. The dura mater thus becomes materially thickened. Each one of these layers is vascular, and occasionally one of these vessels ruptures, resulting in a hæmorrhage between two of the layers. That this affection is more liable to occur in the intemperate there can be but little doubt, although it has been but seldom produced in the lower animals even after long and continued administration of alcohol.

<sup>1</sup> Hasse, Krankheiten des Nervensystems. Handbuch des Spec. Pathol. und Therap., von R. Virchow, Band 4, S. 365.

# RECENT PROGRESS IN PATHOLOGY AND PATHOLOGICAL ANATOMY.

BY WILLIAM F. WHITNEY, M. D.

## COAGULATION NECROSIS.

THIS term was first used by Cohnheim to express a form of destruction of tissue, which had previously been recognized by Weigert, who has given a comprehensive explanation of his views in a recent article.<sup>1</sup> The words are intended to signify the death of a tissue or some of its elements with a coagulation of their substance.

From the earliest times the coagulation of the blood has been recognized, but it was not until within the last decade that the rôle which its cellular elements played in this process was understood. Alexander Schmidt concluded from his investigations that two substances were necessary for the completion of coagulation. One, called by him fibrinogenous, was contained in the fluid parts of the blood, the other, called fibrinoplastic, was contained in the white corpuscles. Upon the death of these cells this latter substance was set free, and, acting like a ferment upon the fibrinogenous substance, caused its solidification. Weigert carries this conception of coagulation still further, and shows that the bodies of cells of different tissues are capable of being changed into masses, which resemble coagulated fibrine in their gross appearances, and that this may occur without any exudation having taken place *outside* of the cells.

One of the earliest and only constant histological appearance which has been observed is the disappearance of the nuclei. This is best differentiated, in doubtful cases, from the results of post-mortem decomposition by an examination of the zone of tissue adjacent to such foci, which will present signs of reactive inflammation if of ante-mortem origin. In order that this loss of the nuclei should take place, it is not only necessary that the spot should be deprived of nourishment (cutting off the blood supply) and subjected to warmth and moisture, but that it should also be saturated with an abundant supply of fibrinogenous lymph. In proof of this the fact is cited of the fœtus dead within its mother, but no longer permeated by lymphatic fluid, which, although in an advanced stage of maceration, often has the nuclei of the cells in a good state of preservation.

Although the author thinks that all tissue which dies within the organism and contains coagulable material must solidify, yet there are many causes that hinder this. A very slow death may end in the entire change into fat, for example. The ætiological factor is, however, of the greatest importance in preventing coagulation. In this relation are to be considered many of the chemical and fermentative processes, especially the action of the poison now generally assumed to be associated with the introduction of bacteria. These give rise to the purulent character of the inflammation. The pus itself being not only a quantitatively increased inflammation, but having a qualitatively different character. It can be defined by saying, that in it very little fibrine is produced from the exuding cells, and that the dying tissues are liquefied instead of being coagulated.

After this general consideration of the subject the special forms of coagulation necrosis are considered, commencing with the hæmorrhagic infarction. As be-

longing to this class, many authors have regarded the pale, firm, fibrous looking wedges, which are found as the result emboli, and considered their white appearance as due to the decolorization of the infiltrated blood. We can, however, say that in such fibrine wedges no hæmorrhage has taken place, and that it represents solely the dead and coagulated tissue. These wedges are best studied in the kidney, where the poverty of the collateral circulation prevents an extensive infiltration with blood.

Perhaps still more typical are the infarctions of the heart. As the result of atheromatous changes in the coronary arteries a closure may result. If this occurs gradually, so that a collateral (but insufficient) circulation is established, there takes place a slow atrophy with final destruction of the muscular fibres, without any harm to the connective tissue. The fibres thus lost are replaced by a tendon-like tissue. The so-called "chronic myocarditis" is nothing but a process of this sort. If, however, the blood supply is cut off suddenly and completely, there is seen a dry yellowish spot looking like coagulated fibrine. Upon microscopic examination there is not seen here a fibrinous exudation, but an apparently normal tissue (the muscular striations often still to be recognized) entirely lacking nuclei. In the neighborhood is found a reactive accumulation of round or spindle cells.

The infarction of the spleen is similar to that of the kidney, only, from the large amount of blood normally present, it is difficult to distinguish whether fresh blood has been infiltrated or whether the original blood remains. The fibrine wedges often have a bluish red, livid color, not, however, due to a regular hæmorrhage, but to a diffusion of the blood coloring matter contained in the corpuscles originally lying in the meshes of the pulp. A casual observation leads to the conclusion that no change has taken place here in the structure of the part, but on careful inspection it is seen that the cells of the original connective tissue, the Malpighian bodies, and of the pulp, are without nuclei, and that the apparently normal blood corpuscles have entirely lost their coloring matter. But the fixed elements of the spleen are not sufficiently numerous to explain, by their coagulation, such a firm homogeneous yellow wedge. An "exudation of fibrine" is wanting; therefore it must be assumed that the red corpuscles, which form the greatest part of the tissue, must have undergone a species of coagulation after having been saturated with lymph by which their coloring matter was removed.

All these forms of coagulation necrosis preserve but for a short time the contour of their elements unchanged. These gradually lose the sharpness of their outline and become more and more indistinct. Finally, the firm wedge becomes absorbed and is replaced by a cæatrix of connective tissue, which at last may become infiltrated with lime salts.

In the infarction of the lungs there also occurs a death with enucleation and coagulation of the tissues. A decolorization of the nodule never takes place to that extent which has been observed in the case of the spleen, yet the color is diminished, and its consistency firmer when compared with nodules formed by hæmorrhages into the lung from other causes, for example after the rupture of an aneurism.

In opposition to these ischæmic necroses, in which the dead tissue undergoes a coagulation, stand those in which the necrosis undergoes a softening without the

<sup>1</sup> Virchow's Arch., vol. LXXIX., p. 87.

action of a liquefying ferment. Such are found exclusively in the central nervous system, and especially in the brain. This condition is explained by the fact that the brain is very poor in the material necessary to coagulate the lymph, which thus acts simply in softening the mass.

The cheesy foci of malignant tumors are in close relation with the non-hemorrhagic form of infarction; only they often contain more fat, that can well have been formed before the coagulation has taken place. In order to account for this the vessels must be supposed to be cut off by the new growth. In like manner the cheesy degeneration of typhoid processes belongs here. In one such case a thrombus was found in an artery, the wall of which was found to have undergone change.

In this category falls also a previously unnoticed change in the so-called atheromatous disease of the aorta and its analogous syphilitic affection. Numerous foci deprived of nuclei are found in the wall, which are truly so small that their existence can only be made out from their aggregation. Often they are larger and represent exquisite cheesy or fibrinous exudations. These also occur in the new formed masses of tissue, but not exclusively; and the author assigns to them one of the chief sources of the inflammatory and hyperplastic tissue changes, which are peculiar to the atheromatous and sclerotic processes. At any rate they are not always "broken down products of inflammation" or "short-lived" new formed elements, but they often have their seat in the midst of the old tissue and show its structure. The atheromatous process in these cases would fall into line with so many other inflammatory ones, where a hyperplastic growth of connective tissue results from a primary necrosis of the specific tissue elements; and such places, it must be remembered, show a tendency to calcification.

Finally, it is to be noted that anatomically, but not ætiologically, a portion of the coagulation necrosis belongs here which is seen in the caseification of tuberculosis and scrofula, and that which is found in the firm coagulations of mucous surfaces. This last is presented in true anatomical diphtheria affecting the stroma of the mucous tissue. Here we have nothing to do with a cutting off of the blood supply but with a direct killing of the tissue by a chemical or infectious agent. If the direct coagulation of the albuminous bodies has not been caused by the action of the poison, then it must be assumed as due to the coagulation of the dying tissues by the permeating lymph.

Here the territory of the coagulation necrosis of entire tissues is left, the anatomical relations of which are quite uniform. First, a loss of nuclei, the outline of the tissue being preserved, then the occurrence of an obscure, granular, or dull glancing mass, and finally calcification.

The picture presented by the coagulation necrosis of the separate tissue elements within or upon the surface of organs is more varied. There the rule holds that never when only a single kind of cell dies is it the connective tissue part that becomes necrotic. It is always the so-called specific, the parenchymatous, substance.

First, the epithelium is considered, commencing with that of the kidney. It has been found that certain chemical substances kill its epithelium, while that of the other organs of the body is spared. For example, subcutaneous injections of indigo-carmin or poisoning

with potassic chromate or cantharides produce this result. Further, a temporary closure of the renal artery leads to a destruction of the cells and the formation of coagulated substances, which are either thrown off or calcified.

In the liver similar results are produced by mycotic irritants, and by the ligation of the ductus choledochus. In this case also we find epithelial flakes, which finally assume a glancing appearance recalling amyloid, and which are to be considered as coagulated.

Finally the coagulation of the epithelium of the skin is noticed. This has close affinities with the diphtheritic process, but as in the latter the connective tissue is affected at the same time it should be kept distinct. Where the epithelium is alone affected the author proposes the name of diphtheroid. The cells in like manner become flaky masses without nuclei similar to fibrine, and dull or glancing in appearance. For the first time are here seen fibre-like markings, which are easily explained when the efflorescence of small-pox is studied. The older authors consider these markings as due to fibrine, and they were always so considered until Auspitz and Basch showed they were of epithelial origin, while Weigert shows for the first time that we have to do with a coagulation of the epithelium of the rete Malpighii, changed into a network by the penetration of the lymphatic fluid into the cells.

The waxy degeneration of the striped muscular fibres which follows a rupture of the separate fibrille, is also a process of the same nature.

So much for the coagulation necrosis of the tissues proper of the body. We come once more to a consideration of the white corpuscles, and thus to the fibrine coagulation in its strict sense. In this the most varied forms are presented.

The formation of fibrine can only be followed anatomically where the white cells preserve their form analogous to the tissue cells in the coagulated mass. Also the rule holds that the nuclei are preserved but for a time. In some cases, which macroscopically look exactly like fibrine (for example, in membrane of croup or white thrombi), the whole mass is formed of nucleated round cells without any amorphous fibrine lying between them. Generally, however, there are found with these cells flakes without nuclei and threadlike or granular fibrine. Here it must be supposed that a deposition or transudation of the white cells has taken place just before death.

If an opportunity is had of examining various stages of such a coagulation, it will be noticed that in some places the round cells run gradually one into the other, until finally an ill defined granular mass is the result. In other places they are changed to glancing, often highly glancing flakes, which may assume a rosary-like figure. The first form are seen in the white thrombi, in many exudations of the serous membranes, especially of the endocardium, in many forms of croup, and, finally, in the cheesy degenerations of tuberculosis and scrofula. The glancing form occurs in pseudo-diphtheritis. The author explains the occurrence of these latter forms by the fact that the leucocytes at the time of their death are so compactly arranged that they cannot be dissolved in the surrounding lymphatic stream, and must coagulate in the same manner as the tissue cells. These scales can afterwards run together and become an ill defined granular detritus. The intermediate stages between scales and fine threads can be

easily explained by an insufficient dissolution of the leucocytes.

The cause of the tendency of all of these fibrine masses to calcification is wholly unknown. Looking once more over these various coagulating processes, they present very varied microscopic and macroscopic appearances. With the microscope there are found at times much finer threads than in the ordinary coagulation of the blood, at other times coarser bands than in the firm coagulation of serous exudations. Again, granular masses, as in the white thrombus, and finally the old cells have preserved their form, as in many infarctions. The glance, too, is different; the dull, lustreless, granular and scaly coagulations pass through many gradations into the waxy ("amyloid"), strongly refractive mass. The gross consistence presents essential differences. The buffy clots are very tender, elastic masses; the white thrombi brittle or somewhat coherent formations; the cheesy substance still more brittle, while the broken-down thrombi and softened cheesy foci are granular crumbling masses. The infarctions, on the contrary, are very firm and hard.

All these forms are found with great degrees of variation, and the formation of granular amorphous and glancing masses can take place from fibrine of very different origins.

If the histological agreement which these fibrine masses of different origin have is disregarded they show themselves as having the following in common:—

- (1.) All are spontaneously coagulated.
- (2.) All arise from fibrin elements with the aid of a fluid containing fibrinogen.
- (3.) All first require a death of the cell, as their subsequent history teaches.
- (4.) All can associate lime salts, either quickly or slowly.

If the pathological calcification of substances is considered, the interesting result is reached—that perhaps in all a period of coagulation necrosis has gone before.

#### THIRST AND POLYDIPSIA.

Under this title Nothnagel<sup>1</sup> gives the history of a case, which seems to throw light upon the localization of the seat of the sensation of thirst, and goes further to enlarge our ideas of the relations of certain pathological processes that have for their prominent symptom an inordinate desire for fluid.

The history is as follows:—

A groom was kicked in the abdomen by a horse, and fell striking the back of his head. Although stunned, he did not lose consciousness, nor was there any vomiting. Within a half an hour from the time of the accident he commenced to have extreme thirst, and within the next three hours (at the end of which time he entered the hospital) he drank three litres of wine and beer. The first micturition followed two and a half hours after the time of the accident. At the time of entrance the pulse and temperature were normal and continued so. The pupils were much contracted but reacted to light. Pain in the back of the head, increased upon pressure, was the prominent symptom, which, however, lasted but a few days. His thirst was intense, and this persisted during his stay of eighteen days in the hospital. The amount of fluid taken varied from 2000 ccm. to 18,500 ccm., and the urine from 1100 ccm. to 13,500 ccm. in twenty-four hours, the specific gravity of the latter varying between 1020 and 1001.

<sup>1</sup> Virchow's Archiv., vol. xxxvi., page 435.

The author thinks that this is an unquestionable case of true primary polydipsia, as the thirst was the first symptom noticed, the first passage of urine not taking place until two hours after this, and when a large quantity of fluid had been taken.

Aside from the injury, there was nothing in the case, as fever, diarrhoea, or vomiting, which would cause this thirst.

The nature of the injury excludes the possibility of an excitation of the peripheral ends of the nerves of the palate and fauces, which is considered by many as the cause for thirst, but points directly to a central disturbance. There were but two symptoms in the case, however, which could aid in more closely locating this "thirst centre," namely, the myosis and the severe pain in the occipital region and neck. In regard to these it must be said, that although the former is found with lesions of various localities of the brain, still it is especially noticed in disease of the posterior parts, notably of the pons and medulla. As far as the pain is of value, it certainly points to the same region rather than to the frontal or temporal. Further in support of this is the analogy of the sensation of the necessity for air (Luftthunger) which can occur in the course of disease of the medulla without the lungs being affected in any way. Moreover, allowing that the excitation of the peripheral nerves can produce this sensation, we must imagine this irritation conducted towards the centre, and finally reaching a certain point, namely, their origin, from whence it arrives at that part of the brain where the perception is appreciated. *A priori*, therefore, there appears to be no physiological difficulty why the first central station could not be excited directly, as well as in the case of the breathing centre.

The case is especially interesting from a pathological point of view upon the question of diabetes insipidus.

At the present time nearly all acknowledge that this disease stands in the closest relations with disease of the nervous system, and has nothing to do with general disease or with that of the kidneys.

The greater number think that in diabetes insipidus the polyuria is the first symptom, produced by a disturbance of the innervation of the kidneys, and the polydipsia the secondary. In most of the cases hitherto described it is impossible to determine which of the two made its appearance first, from the fact that they do not come under observation until long after the commencement of the trouble, when the exact primary sequence is shrouded in doubt. There is no doubt here, and as far as a single case can go it supports the possibility, that in other cases, with a similar aetiological factor, the polydipsia is to be considered as the primary trouble.

Further, we are placed in the position to determine the relations of the urinary secretion in a case of this sort.

In this connection it is to be noted: (1.) The secretion of urine was always less than the amount of fluid ingested, often to a considerable extent. (2.) The perspiration was in no way diminished, on the contrary was increased by an extreme amount of water. The surplus water appeared to be eliminated by the breath. (3.) If the amount of fluid was restricted, the quantity of urine immediately sank, as in a healthy individual, even below the normal, showing there is no withdrawal of water from the tissues.

## Reports of Societies.

## NEW YORK ACADEMY OF MEDICINE.

## THE MANAGEMENT OF LABOR WITH REFERENCE TO THE PREVENTION OF SUBSEQUENT UTERINE DISEASE.

At a stated meeting of the Academy, held November 2d, a paper on the above subject, written by Dr. W. E. Forest, who had been suddenly called out of town by illness in his family, was read by the assistant secretary, Dr. W. H. KATZENBACH. There was an undoubted connection, the paper said, between uterine disease and parturition, and it was the testimony of gynecologists that in from one third to one half of all the cases that came under their observation the trouble originated at this time. It was incumbent on all those who practiced in obstetrics, therefore, to consider how far the responsibility for this condition of affairs rested with them, and there could be no question whatever that a portion of such cases could be prevented by the intelligent and careful management of labor by the accoucheur.

There were two general conditions resulting from labor which were liable to give rise to subsequent uterine disease, namely, laceration of some of the pelvic tissues and subinvolution, either with or without laceration. Laceration was by far the most important, and the most important kind of laceration was that of the cervix. Dr. Emmet had found this condition in no less than one third of all his cases, and its extreme frequency was also shown by the tables prepared by Dr. Sinclair, of the Boston Lying-In Hospital. Among the causes of laceration of the cervix the first set down in the books was too rapid labor, or rather too rapid first stage of labor. Although it had the support of Emmet and other authorities, this opinion, he thought, was a mistake, and he believed that directly the opposite of rapid labor was a much more frequent cause. Dilatation was not a mechanical process, as had so often been taught, but a physiological one, and it might, perhaps, more properly be called relaxation than dilatation. In normal labor, when contraction took place at the fundus, relaxation took place at the cervix; but whenever this harmony of action was interfered with by any disturbance of nerve force the process of relaxation was retarded, and the tissues of the cervix were thereby reduced to such a condition that laceration was exceedingly apt to occur. In confirmation of the opinion that rapid labor was not a frequent cause of laceration, the statistics of the Boston Lying-In Hospital showed that out of seventy-six cases of laceration of the cervix in only three had there been a rapid labor. If, then, during the first stage of labor there was any disturbance of nerve force which rendered the dilatation of the os unsatisfactory, the accoucheur might employ some agent that would be likely to restore the normal harmony of action between the fundus and the cervix, such as chloroform, chloral, or morphia, and the judicious use of the fingers was often of great service also in accomplishing this.

Tedious labor, or rather tedious first stage of labor, was the second cause of laceration of the cervix mentioned by the authorities, and in the writer's opinion it was by far the most important. Out of thirty-seven cases tabulated by Dr. Sinclair tedious labor had occurred in no less than thirty-four. Dr. Emmet rea-

soned *à priori* that tedious labor was not such a frequent cause as rapid, but in opposition to this his statistics agreed substantially with those of Dr. Sinclair. It seemed to him reasonable that tedious labor should result in laceration of the cervix, because the resiliency of the tissues naturally became impaired by the long-continued pressure of the head upon them, and it was no wonder that the forcing of the latter through a ring of exhausted and oedematous tissue produced rupture. Here, again, anything that quieted the disturbed nervous action and restored the physiological equilibrium might be employed by the accoucheur, and if he used drugs like morphia and chloral it was very important to give them at the right time and in proper doses. A too large dose might simply weaken and paralyze, and probably thus render the subsequent use of the forceps necessary. Used early and in appropriate quantities, morphia and chloral were often very efficient, and a great deal could also be accomplished by gentle dilatation with the fingers. In judging of the necessity for interference more could be learned from the condition of the parts in front of the cervix than from that of the cervix itself. As labor went on the bladder and os were drawn upwards, and the anterior vaginal cut-de-sac was formed, while the urethra, which at first could be felt like a firm cord, could not be distinguished by the finger on account of the lengthening and attenuation which it had undergone. As to the causes of tedious labor, this was a very wide subject, and there was much about it which had never as yet been satisfactorily explained.

The next cause of laceration of the cervix mentioned was instrumental labor, but as the forceps were frequently resorted to in cases of tedious labor, it was impossible to say in what proportion of such lacerations the forceps, and in what the tedious labors, were responsible.

Digital examination was another cause sometimes specified. In occasional cases rough handling of the os by the accoucheur might perhaps produce laceration; but, on the other hand, intelligent digital dilatation was one of the best means at our command for preventing the accident. The time for this procedure was when the os externum was not acting in harmony with the action of the lower zone of the uterus.

The fifth cause was premature rupture of the membranes. When this occurred the process of nature was to be imitated by keeping the os well smeared with vaseline, and gentle dilatation with the fingers. It was hardly necessary to add that intentional rupture of the membranes, except in certain special cases, should always be avoided until dilatation had advanced to such a stage that there was no danger of this resulting in laceration of the cervix. He would not attempt to discuss all the causes of this accident, but among those occasionally referred to was the giving of ergot. Certainly no intelligent accoucheur, however, would think of doing such a thing at this stage of labor.

But suppose that a laceration of the cervix had taken place, notwithstanding all efforts to prevent it; what was to be done at the time? In the first place, the utmost cleanliness was to be observed, and three or four injections were to be made daily. As to the bringing of the gaping lips together, sutures were out of the question, but the writer had lately been experimenting with the use of elastic bands. By the third or fourth day he had tried slipping a rubber band over the cervix, after having brought the lips of the wound

in apposition, but he was unable to say as yet whether any good was likely to result from this device or not.

The second great cause of uterine disease was subinvolution, which, however, was not so much a cause of this as a disease itself. Normal involution, it was now ascertained, took place in from twelve to twenty days, but various causes might prolong this or interrupt the process permanently. Among these was laceration of the cervix, although laceration of the perineum did not seem to be followed by the same result unless it extended through the sphincter ani. Septicæmia was a potent cause of subinvolution, and the obstetrician was more often responsible for this than any other cause. If the utmost cleanliness was observed, and a proper use made of disinfecting agents, he believed that a very large portion of the cases of septicæmia might be avoided. It was a gratifying sign of the times, which showed a decided advance in the science of obstetrics, that the rule had been adopted at the Boston Lying-In Hospital, that a careful physical examination should be made in the case of every patient on the sixteenth day after confinement.

Among those who took part in the discussion of the paper (which was left incomplete by the writer) were DRs. BECKWITH, CASTLE, C. C. LEE, and the president, FORDYCE BARKER.

#### PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. W. SWAN, M. D., SECRETARY.

#### PROJECTING PROMONTORY OF THE SACRUM; VERSION; CRANIOTOMY.

MARCH 11, 1882. DR. C. ELLERY STEDMAN read the case.

On Wednesday at eleven A. M. Dr. S. was sent for to the assistance of Dr. H. C. Towle, of Dorchester. The patient was a short, strong, Irish primipara, aged about twenty-five, who had been in labor under a midwife's supervision since Sunday. No progress had been made, although the pains were severe and forcing. Dr. Towle at six A. M. of Wednesday found the membranes distending the vagina, the os being fully dilated; on discharging the waters he recognized a contracted brim, the promontory of the sacrum being remarkably protuberant. The presentation was right occiput-posterior, and he determined to apply the forceps at 9.30, as the fetal head would not engage, in spite of suitable pains. No amount of traction would make the head bridge, and after manipulating and pulling till he was tired Dr. Towle sent for help. The patient had been under ether, the pulse was regular but feeble, and brandy was given subcutaneously. Dr. S. found it easy to change the presentation to the first position, and not very hard to apply the forceps over the child's ears, but there was no yielding whatever, and the sensation given to the operator was that of trying to pull a brick out of a house wall. It was next determined to resort to version. With extreme difficulty the right foot was brought into the vagina, with its toes forward; the member had to be held very tightly, or it would slip, and the apparently easy task of casting a tape around the ankle was achieved only after long trial. Traction on this had no effect whatever to alter the state of things, for the head could not be induced to

retract, with all the pressure which could safely be applied; and it was necessary to seek the other foot, which was found in the fundus after alternate efforts with cramped hands of both operators. A fillet being fastened to this with great difficulty, Dr. T. drawing on the feet while the other applied external and internal pressure, the head consented to recede, and the body was born. The cranium was now jammed above the brim, the occiput to the right, and the chin hooked over the mother's left side; the child's body filled the vagina full. Efforts to push the vertex up, or engage the chin from inside or from without, were futile, as was every attempt to rotate, flex, extend, or draw. It was obvious that the head could not come through whole; the occiput was accordingly pierced with Smellie's scissors, the feeble pulsation of the cord having ceased, in two or three places, the skull well broken, and the brain lacerated. First the sharp hook was tried without success; then the blunt hook, passed through the perforation and brought out by the mouth, failed, in spite of the firm hold and every kind of rotation and traction. Both attendants being now thoroughly tired, the aid of Dr. Bolles was requested. With no little inconvenience to himself he cheerfully answered the call. The patient had had some strong pains in the half hour's interval, but neither physician could see that the position was altered. Dr. Bolles, passing the blunt hook through the perforation, backwards, succeeded in rotating and delivering the head. The placenta followed, without hæmorrhage; the perineum, which had suffered during the prolonged manipulations, was repaired by Dr. Towle with silver sutures; the patient, given ergot subcutaneously, and forty drops of laudanum by the mouth, was made comfortable in bed.

The proper treatment of this case after the forceps had failed was craniotomy, but the patient being a Roman Catholic it could not be permitted unless the child were affirmed to be dead, and this was not certain till the cord was reached. Besides, the speaker had found it preferable to perforate the skull through the occiput after turning.

DR. FIFIELD said that years ago he was familiar with operations where craniotomy was needed, but that he had not performed it for a long time. In such a case as that described by Dr. Stedman it was proper to perforate without attempting version. When forced to perform craniotomy, especially after version, he recognized the folly of the usual directions for the application of the sharp or blunt hook. He had always been taught that it was proper to bring down the forehead past the promontory of the sacrum; sometimes taught that the blunt hook can be got into the mouth, — foolish, because the jaw easily gives way. On the contrary, he had recognized the importance of not letting the forehead slip past the promontory of the sacrum, but to make the occiput pass the pubes. There was danger when directing the point of the sharp hook towards the bladder. The amount of force that could be used when the head was high up was sometimes enormous. This winter he had been called to see a case where the membranes had been ruptured, the head was high up, and the pains feeble during the preceding night. On the following noon, with the assistance of Dr. Cushing, the presentation was made out by the whole hand in the vagina, and the head was found in the position described by Dr. Stedman. Dr. Fitch could not make an application of the forceps, and the woman was left to herself at two P. M. At



5.30 o'clock Dr. Fildfield again saw her, but found no change. The forceps were again essayed, but would not lock. The patient was then etherized, and the hand, carried high up, discovered an advanced promontory of the sacrum, and an ear was detected; a blade of the forceps was then passed up, and while this was in position the other blade was slid along, and the two were at length locked. Dr. Fildfield's own strength at the forceps proved to be of no avail. A jack-towel was then made fast to the handles and drawn upon by the husband, seated behind the chief operator, and by the combined strength of the two a living child was delivered, with a deeply indented head. Dr. Fildfield said he had never before applied the forceps so high through so small an os, and his success was attended with great difficulty, aided by good fortune.

DR. STEDMAN remarked that he did not know how Dr. Bolles got the occiput down. He had turned the hook towards the mother's right side, while Dr. Stedman had turned it towards the left; but every known expedient had been already tried; the fresh hand was at once successful.

DR. FIFIELD replied to a question that the patient was fixed on the right side, a big stout woman having both arms around the patient's thigh.

DR. BOARDMAN asked Dr. Stedman why he would not affirm that the child was dead, and so do the operation at once, and what would decide him to perform craniotomy without delay.

DR. STEDMAN agreed that it would have been better to do craniotomy earlier, but that it was necessary to be certain as to the child's death on behalf of both friends and physician. The fact of death was decided by getting hold of the cord. In a case at his own disposal he would have no hesitation in sacrificing the child for the benefit of the mother.

In answer to a question DR. FIFIELD said the occiput was brought under the pubes; the sharp hook was applied with the hook forwards, and traction made directly downwards and forwards.

DR. STEDMAN stated that there were certain advantages in craniotomy after version. There was the better hold of the child; if the head were fast and presenting, it was difficult to get hold of it. He had succeeded best with the hook caught over the angle of the jaw and turned inwards; if outwards, there was always anxiety lest the mother be injured.

DR. BOARDMAN remarked that it was not general here to use the trephine and cranioclast. He was satisfied that with the two the procedure was far the better one.

DR. STEDMAN agreed that it was a very superior way of doing the work. In the case where Dr. Cushing had helped him he had used Braun's trephine, and it had worked beautifully. Dr. Cushing objected to the round hole which would show after the operation, but it did not show as such, or conspicuously, although the trephine was applied directly to the scalp.

DR. ABBOT observed, in regard to Dr. Fildfield's method of traction, that he had also had occasion to employ the same method with counter-extension by two men in a case in which it took an hour to bring the child into the world. In this instance there was a contracted pelvis and a large child, which was dead. In previous labors, with one exception, no artificial aid either by turning or forceps had been required; bad symptoms followed.

At this point DR. BLAKE said that in a discussion

at a previous meeting, to which Dr. Fildfield had alluded, it was stated that the broad ligament was not free from the occurrence of cysts which might become purulent. As to primary abscess there, it was very difficult to determine the point of a beginning.

DR. FIFIELD agreed that cysts of the broad ligament were rare things, — were known as we know cysts of the ovary, — but averred that the cases spoken of that evening were inflammatory diseases, developed after delivery.

DR. BLAKE said he had reported that night a sanguineous cyst of the broad ligament, which at the second tapping had become quite purulent.

DR. FIFIELD said he had never read or heard of a sanguineous cyst of the broad ligament. There might as well be a lymphatic exudation as anything else. It was not always pus that was got from a pelvic inflammation. In Dr. Blake's case there was no post mortem to demonstrate the locality; as the disease followed labor, the indications would be towards pelvic cellulitis.

DR. BLAKE stated that he arrived at his diagnosis by exclusion.

DR. BOARDMAN observed that the dissection by French anatomists as read by Dr. Fildfield gave ground for the possibility of belief in abscess of the broad ligament. He was reminded of a case of malignant disease in the upper part of the uterus. The patient had abscess of the broad ligament, as large as an English walnut, presenting a movable tumor in the exact location of the ligament, and causing intense suffering. If such an abscess were possible from malignant disease, it might occur as well in other cases.

DR. LYMAN remarked that it was pretty well agreed among the authorities that primary abscess of the broad ligament is rare. The amount of cellular tissue in the central part of the uterus, front and back, is very small, but at the sides of the uterus is a triangular space inclosing a considerable amount of such tissue. Thus, extension of cellulitis might easily, so far as can be seen, separate the layers of the broad ligament, and permit secondary purulent collections.

DR. FIFIELD said that at one of the London Societies there had been a good deal of discussion as to the relative position of the broad ligament and the Fallopian tube.

DR. SINCLAIR remarked that after all said and done the small cavities we have so much talked about might become large ones under phlegmonous inflammation, like the felon of the thumb, and that we did not know much yet of the fasciæ of the pelvis except in the most confused way, and that until our notions were thoroughly clear as to anatomical relations we could have no definite conceptions of the possibilities in the variations of the locality and course of inflammations of the pelvis. Dr. Sinclair averred that not one man in a hundred had any except the most general idea on this subject.

DR. LYMAN observed that cases of both pelvic peritonitis and cellulitis were quite common; clinically speaking, the differentiation was often impossible where the cases were not seen in the very early stages.

DR. FIFIELD remarked that the pelvic fasciæ had been very well understood in *man* since the time of Charles Bell, and that the pelvic fasciæ in general were not especially obscure. He said that there was no layer of tissue at all between the folds of the broad ligament; if this were true, — and of this there

could be no reasonable doubt, — then original abscess there was impossible.

DR. LYMAN said that there was one word which he wished could be obliterated from anatomical language, and that was the word "cavity;" for, as applied to the hollow viscera, there was no such thing. He quite agreed with Dr. Sinclair that there were very few general practitioners who knew anatomy thoroughly. Professed surgeons, even, about to perform an unusual operation, got up their knowledge of the part minutely for the occasion. Dr. Lyman said he could not agree to Dr. Fifeild's statements in regard to the anatomy of the broad ligament, and he should be sorry to think that there was such entire ignorance of the anatomy of the pelvis on the part of the general practitioner as had been asserted to exist.

DR. BLAKE observed that, while it was desirable to have a clear knowledge of minute anatomy, it was not in these days a practical matter as affecting treatment. He did not see why a suppuration should not extend into the broad ligament from the neighboring parts.

DR. FIFEILD replied that that was a *petitio principii*, that it did make all the difference in the world, and that an anatomical knowledge would add boldness and certainty to treatment.

DR. BLAKE rejoined that medical attendants are not materially deterred from a correct course by the want of a minute anatomical knowledge.

DR. LYMAN said he wished to add his confirmation to Dr. Blake's position. Every case of pelvic effusion had to be watched, and when pus was found it was to be evacuated. The late Dr. Brickell, of New Orleans, would even go so far as to withdraw serous effusions. Many distinguished authorities thought it was better to let the accumulation alone, and wait spontaneous evacuation, at any rate, unless the diagnosis was absolute. Dr. Lyman thought this to be a mistake, and that it would be better for the patients to aspirate too early than too late, where fluctuation was doubtful. The minute anatomy in these cases had little to do with the duty of the moment.

#### RENAL TROUBLE IN A MULTIPARA COMPLICATED WITH BLINDNESS.

DR. SINCLAIR reported the case of a lady, six months pregnant, whom he saw two weeks before the meeting. She was then complaining of blurred vision following very severe headache. After these had passed off she felt as well as usual, until two nights previous to the meeting, when, from twelve to three o'clock, she suffered very much from headache again, and complained of not seeing the light. She was, in fact, totally blind. That state of things, with vomiting, existed upon the doctor's arrival. The urine upon being boiled deposited half its bulk of coagulated albumen, and the patient was becoming very heavy with a threatening of coma. Cathartics had no effect until aided by croton oil, which cleared the patient's brain somewhat. Delivery by manual dilatation was accomplished in one hour and five minutes, forty-eight hours before the meeting. The eyesight had not yet returned. The patient was a multipara, and had given birth to her second child eleven years previously. The actual condition of the eyes, in the absence of an ophthalmoscopic examination, could not be definitely stated. The blindness was perfectly uniform.

DR. FORSTER said that five or six years ago Dr. Williams published an article on the subject in the

Boston Medical and Surgical Journal, shortly before which Dr. Forster had had a case similar to that described by Dr. Sinclair. There was that blindness for two or three days. Dr. Wadsworth made an ophthalmoscopic examination, and found nothing abnormal. The patient complained of severe headache.

DR. BLAKE said that twenty-three years ago Dr. S. Hay and some others drew attention to the relation of Bright's disease and an affection of the retina.

DR. ABBOT reported that he had seen almost total blindness in a case of the albuminuria of pregnancy, coming on immediately after a miscarriage at the seventh month. It was not until the fourth day after that the patient was able to distinguish his features while standing by the bedside. The circumstances of the case made an ophthalmoscopic examination impracticable.

#### PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL OBSERVATION.

BY MAURICE H. RICHARDSON, M. D., SECRETARY.

MARCH 20, 1882. DR. LANGMAID in the chair. The regular paper of the evening was by DR. PAGE, on the

#### PERMANENCY OF THE REST TREATMENT.<sup>1</sup>

DR. WELLS asked what amount of uterine trouble was found in the cases reported.

DR. PAGE replied that though many come thinking they had some uterine disease he often finds them mistaken. Unless they have some organic disease or displacement (in which case they are excluded from the asylum), he pays no attention to their complaints, but proceeds to build them up.

DR. WELLS asked the question because in many such cases there has been uterine trouble. It is well known that such women are often broken down and suffer from nervous exhaustion.

DR. CHANNING remarked that in a recent number of the *Nineteenth Century* magazine worry was pronounced the cause of nervous exhaustion, rather than overwork. There was too much worry rather than too much work.

In reply to Dr. Lawrence, DR. PAGE said that overfeeding is prescribed in probably the majority of cases where the patients are broken down, ill-fed, and anæmic.

DR. DRIVER asked whether Dr. Page had had any experience with this treatment applied to men. It is well known that overworked men are subject to exhaustion. He had had the same thing himself. He had never known of a man that had been put to bed, rubbed, and fed.

DR. PAGE said that men are not admitted to the asylum on account of want of funds. He had seen a few cases in consultation. One case, a young man of twenty-two, had most of the symptoms found in women. Masturbation was the supposed cause. He was put to bed, overfed, given electricity, and ultimately got well. Dr. Page's experience with men has been very limited, however.

DR. DRIVER asked also whether the reader had ever known or heard of a case like those reported where the disease went on and developed mania, which might have been prevented by treatment.

DR. PAGE, in reply, stated that he had known of

<sup>1</sup> See No. 4, page 77, of this volume of the JOURNAL.

such a thing happening. Among others, a young lady who had become broken down, suffering from nervous exhaustion, finally was sent to an insane asylum. Dr. Webber saw these cases. He thought all his cases had been saved from insanity by their removal from the excitement and disturbing influences at home.

DR. WEBBER said he was very much interested in the paper, and thought it a very careful and judicious statement of the advantages of this method of conducting treatment. He thought Dr. Weir Mitchell, in his first proposal of the plan, did not make the period of rest in bed long enough. It is necessary to keep the patient in bed longer than is generally supposed. Some years ago he had had a case of nervous exhaustion that had become advanced to a state of extreme mental disturbance, though not to insanity. The patient had got to be very irritable, and could not stay in bed. Dr. Webber declining to see her unless she would stay in bed, she remained in bed three months. Then it was necessary to begin very carefully in getting her up. This is a point where there is a possibility of making a mistake, — in getting up too soon. This was some four years ago, and she is now perfectly well. The last he heard of her she went to dances, and stayed up he knew not how late. Though slow in progress, recovery was rapid after she began to stay in bed, and there has been a steady improvement from that time to this. With regard to relapses, it seemed to him that if the patients get back to exactly the same surroundings, to the same amount of work and worry, they will break down again, and that very soon. This patient was a school-teacher, and the history dated back to an attack of diphtheria. She had a school of fifty to sixty pupils, and gave private lessons in mathematics outside. She will probably not be able ever to do the same thing again, though she is able to take part in household affairs. This case is a good instance of recovery.

Dr. Webber spoke also of a woman who, after an attack of slight sickness, was left in a weak condition. On first seeing her she was in much excitement. Her eyes were wild, as in cases where there is loss of mental balance. She said she had the idea that she must continually move the furniture about. She did, in fact, change about the furniture all the time, "to keep up her strength." With exception of three or four hours' sleep, she had had none for four nights. She seemed certain to develop insanity if she should keep on without sleep. Appetite poor, and she ate very little. Dr. Webber did not think it desirable or wise to send her to bed and keep her there. A good night's sleep with chloral and bromide was followed by an improvement of appetite and a great change in her appearance in the course of the next three or four days. She lost her wild look, and was much more quiet. The only rest required was that, after rising and dressing, she should lie down on the lounge or the bed. She was allowed to sit up to meals and to see one person a day.

Confinement to bed, though not always necessary, in severe cases is absolutely so. It is there that the difficulty arises in most cases. It seems sometimes almost impossible to make them stay in bed, and some patients fail of recovery because of their unwillingness to obey orders in this respect.

It is difficult sometimes to make the friends or even the physician understand the importance of this advice.

The massage treatment is excellent. He was glad to hear Dr. Page speak of it as he did, and recommend it.

With regard to the use of milk, Dr. Webber found it of advantage to add to it a few grains of bicarbonate of potash, and also a little salt, to suit the taste. The object of the bicarbonate of potash is to change the character of the coagula which is formed by the milk, so that it is less tenacious and less heavy than when the clear milk is acted on by the gastric juice. The addition of the salt takes away the fresh taste which to many patients is not agreeable. A few patients, after taking milk a longer or shorter time, become disgusted with it, even when having other diet, and are obliged to give it up on that account.

DR. INGALLS indorsed Dr. Webber's statement of the difficulty in making patients go to bed. A great many cases come up in our practice which would be benefited if they would follow our directions. For various reasons, however, they either won't or can't.

DR. WELLS, in answer to Dr. Driver's question, said that he met last year a man of forty-five with symptoms of neurasthenia. He was a gardener about here, who was discharged, and went to his home in Maine and worried himself to death. He had symptoms similar to those in females.

DR. CHANNING said he had seen a case of mild melancholia with symptoms of nervous exhaustion in a man, where Weir Mitchell's treatment had been carried out very faithfully for a long time. The patient's condition changed very little.

DR. DRIVER said that it seemed to him, in these cases of nervous exhaustion occurring in men, that a trip to Europe was the worst thing to be advised. Some treatment like that described by Dr. Page would, he thought, be much more rational.

DR. LANGMAD said he thought the cases very interesting, and to one who has tried this treatment it must seem very important. No doubt, in many of the cases which do not succeed with this method of treatment the necessary measures are not rigidly enforced. Then, in the treatment, certainly more than one factor is necessary; and it is very difficult to carry out the details, — seclusion of patient, exclusion of friends, husband, relatives. With regard to the exclusion of patients with uterine diseases from the Adams Nervine Asylum, it seemed to him that possibly some of the uterine troubles are dependent on neurasthenia; for example, if cases of relaxation of the structures which support the uterus, cases which have been distinguished from true flexion, were admitted, it seemed to him that the uterine troubles would disappear; so that he wondered if some injury is not done by the exclusion of this class of cases.

Dr. Langmaid wondered how far this treatment, in which he was much interested, could be carried out in the *degenerative diseases*.

APRIL 3d. DR. JELLY in the chair.

DR. E. L. PARKS read a paper on the subject

AN ANALYSIS OF SOME CASES OF EXCISIONS,

of which the following is an abstract: —

Twenty-one cases of excision of large joints, done at Children's Hospital, Philadelphia, by his friends the late H. Lenox Hodge and John Ashhurst, Jr. The reader assisted in many of these operations, prepared the parts excised for preservation, and under the su-

pervision of the surgeons conducted the after-treatment. The paper is based on two papers read before the College of Physicians by Dr. Ashhurst on the operative and conservative surgery of the large joints, namely, I. Excision of the Elbow, II. Excision of the Knee and Amputation of the Thigh for Disease of the Knee-Joint; on the hospital record, and his private notes.

All of these cases may be fairly classed as operations for diseased joints, the only one which may be possibly considered traumatic being that of an elbow diseased from injury six months previously.

In view of tabulating the results, the case of C. G., where both hips were excised in the same patient, is classed as one case. An excellent result was obtained, the patient walking well with the help of canes.

The cases may be divided as follows: hip, seven; knee, seven; elbow, six; ankle, one.

Results. Deaths, two: (1.) A boy, seven years old; hip excised; death eleven days later. (2.) Boy, seven years old; knee excised; death two days later, with symptoms of heart clot.

Cured, twelve; improved, seven; mortality, 9.5 per cent.

The reader referred to the case of Fred. G., thirteen years old, with extensive disease of knee-joint. Here amputation of the thigh was preferred to excision of knee, because it would have been necessary to remove tibia as far down as to below the tubercle, whereas in Dr. Ashhurst's experience the remaining column of support would not have been sufficiently strong.

In all the excisions of the elbow the single long longitudinal incision — the original operation of Mr. Parks — was adopted, between the inner condyle and olecranon, and close to the latter, to avoid ulnar nerve. The precept of Dr. Hodge was quoted, "If the sheath of the nerve is seen it is wounded."

*Lead* was the favorite material for sutures in these operations.

In excisions of hip and knee Ashhurst's rule is never to operate before five years of age, — with regard to future growth of limb, — if operation can be deferred.

T. Holmes holds that excision is a graver operation than the corresponding amputation. Ashhurst holds the same. Barwell quotes Holmes, and attempts by statistics to support the opposite opinion. Of course the cases quoted were properly selected as suitable for excision. While the reader recognized the gravity of the operation, he warmly commended it as one of the triumphs of conservative surgery, and especially adapted to children.

As relating to the subject the reader reported a case of his own, where, in his opinion and that of others better able to judge, life might have been saved by timely operative interference. J. L., a woman twenty-nine years old, extremely weak and emaciated, with seven suppurating sinuses in the neighborhood of hip, one of them running nearly vertically between the labium majus and thigh. Joint ankylosed by firm fibrous adhesions. When a child, in Pottsville, Penn., she had been run over by a carriage, since which she had always had disease of the hip. Dr. Harrison Allen having seen her with me in consultation, it was decided that excision was demanded to save life. It was proposed to remove the head of femur and carious portions of acetabulum. The alternative was clearly

explained to her, but she refused operation. She was subsequently seen independently by Dr. W. W. Keen, and he came to the same conclusion that I, with the valuable counsel of Dr. Allen, had done. He urged her to submit to operation as her last forlorn hope. It is not strange that a woman exhausted by years of suffering should have wanted the resolution to submit to so grave an operation.

Dr. H. C. HAYEN asked if it is not necessary to immobilize not only the joint affected, but also the joint above and below. If this can be done, it seemed to him it would be of great advantage. For example, if there is any movement in the hip, there must be also more or less movement in the knee itself. With the apparatus described by Dr. Parks, or the splint used at the Massachusetts General Hospital, there must be more or less motion in the hip, and therefore in the knee itself.

Dr. PARKS remarked that there seems to be a difference of opinion with regard to the after-treatment of excisions of the elbow.

Holmes recommends that the arm be bound and kept in position three weeks.

Ashhurst at first kept the arm in a fixed position three weeks, but finally came down to one.

Hodge laid the limb on the least possible pretext of a splint, and kept it there till hæmorrhage had stopped, when he left it on a pillow. There was no fear of flail-like motion in the joint, later.

## Recent Literature.

*A Clinical Hand-Book on the Diseases of Women.* By W. SYINGTON BROWN, M. D. New York: Wm. Wood & Co. 1882.

The author of this little hand-book states in his preface that it is intended as "a practical guide on most of the diseases peculiar to women, for the use of medical students and country practitioners." It certainly covers a great deal of ground, and in that respect will undoubtedly prove a useful book of reference. Whether the author has gone enough into detail in the way of symptomatology and differential diagnosis to make the work of real value, time will show. We are inclined to think a little fuller consideration of the more important subjects would have been a great gain. Two pages devoted to pelvic peritonitis and cellulitis, and seven to displacements of the uterus, hardly admit of very much more than the barest statement of the most obvious facts.

The author evidently does not lay claim to much originality either in the matter presented or the manner of presenting it. The parts where he most often gives his own views, namely, those devoted to the treatment of the various affections, are the best. Taken as a whole, it can do no harm, and may meet a felt want. The faults are rather those of omission than of commission.

*Questions on Human Anatomy.* By SAMUEL O. L. POTTER, M. A., M. D., with sixty-three illustrations. Philadelphia: P. Blakiston, Sons & Co. 1882.

This is a small illustrated compendium of anatomy in the interrogative.

# Medical and Surgical Journal.

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## THE RELATION OF HOSPITALS TO MEDICAL EDUCATION AND OF HOSPITAL TRUSTEES TO THE MEDICAL STAFF.

WE presume that honest differences of opinion will always exist, with regard to hospital management, between those persons to whom hospitals are chiefly important as means of promoting medical education and medical science, and those to whom they stand as one of a family of charities which the community is interested in administering justly and on uniform principles; in other words, between boards of trustees on the one hand and teachers in medical colleges on the other.

But while such differences are doubtless inevitable to some extent, it is certainly of the highest importance, for the sake of the efficiency of the hospital, that every means should be used to obliterate and lessen them.

Among the influences which would tend toward this end we will speak briefly of two which strike us as particularly important.

In the first place it would be an excellent thing if the medical boards and the boards of trustees of hospitals could meet together regularly, and much oftener than is now the case, for consultation and discussion. From meetings of this kind several good results might be expected to flow. The trustees on their part would receive valuable suggestions from time to time,—not such as would otherwise be made the subject of formal communications, but with regard to little matters of personal experience which conversation alone would bring to light.

Next, and most important point of all, misunderstandings would be rendered less frequent by such a course.

When such boards develop their opinions apart from each other, communicating only at rare intervals, and perhaps only by informal interviews of individual members of the two boards, or when these opinions are received at second hand by those to whom they should come most directly, the flavor which is given with them is apt to be one of heat and exaggeration, and in the end neither side feels that it has been fairly represented. In this way a suspicion of hostile animus often arises, which an earlier and more frequent interchange of views would have prevented or dispelled. Another means through which greater unanimity of opinion could be arrived at between trustees and medical boards is that all concerned should recognize that the theory of hospital

management, like the theory of school teaching, is a subject deserving of more serious study than it has as yet received among us.

This is recognized to some extent, yet not sufficiently, as is shown by the fact that the various hospitals of the country differ materially in their methods of administration, and that the desire for change is so often manifest.

Witness, for example, the modifications in sentiment and opinion which the study of insane asylums has developed within the past few years, and the recent and interesting steps which have led to the placing of one of the surgical hospitals of New York under the exclusive control of a single physician (Dr. Sands).

In the good old times when it was thought that the "veil of ignorance" could only be lifted by the rod, or even in the more modern days of persistent memorizing, what sturdy school-master would have believed that there were enough doubts possible about the best methods of teaching to furnish food for lectures and journals devoted to pedagogy. Yet as a consequence of all this study, schools, both public and private, are now falling into line, and are adopting uniform methods, while hospitals, taking the small and large ones together, still differ greatly in their policy.

So far as these differences are the result of conviction, or of temperament moulded by study, we have nothing to say against them; but if a hospital is relatively inefficient because its founder, or its trustees, or its physicians are not possessed of the best current knowledge on the subject of hospital management, the fact is unfortunate in proportion as it is remediable, and the remedy is constant discussion of the questions involved—in which trustees as well as physicians might profitably take part. Such a discussion has been urged for some years past—especially in New York, though Boston has also taken part in it,—on the subject of asylum reform, and in spite of some extravagances on the one part and a good deal of passive opposition on the other, the results are coming slowly to light in the form of better appointments to the medical posts, and a diminished use of mechanical restraint.

Among other questions relating to the management of our general hospitals we should like to see the matter of their relation to medical education thoroughly ventilated, and will ourselves offer the following brief suggestions:—

It may be assumed that every good hospital, whatever its charter may specify, is by its very nature and its opportunities for usefulness bound to recognize three sets of duties: First, to the patients under its charge; second, to the community, to avoid, so far as possible, the danger of pauperizing the poorer classes; third, to the cause of medical science and education.

How would its position with regard to these various duties be affected if its connection with medical colleges should become even more intimate than at present? A feeling certainly exists, to some extent, that, under these circumstances, its patients would be less well cared for; partly by reason of the additional fatigue entailed by examinations before or by the

students; partly because, it is thought, the hospital would lose its homelike character, and the physicians in charge their feeling of personal interest in its inmates, regarding them in the odious light of "material" for teaching. The indifference supposed to be displayed towards patients, as men and women, in some of the foreign hospitals, is cited as a case in point.

We have no desire to scout this opinion though we do not share it.

The German will always be German and the Frenchman French in their treatment of their fellow-men, within or without the hospital, but we believe that hospital patients, as a body, have cause to complain of no mal-treatment at the hands of clinical teachers, which is not many times made up to them in the increased study and attention which their cases receive.

Kind treatment and good nursing, directed by good sense, are excellent and indispensable things, and never to be thrown into the background; but it is not to be thought that they can take the place of laborious research, directed by familiarity with the pathology and chemistry and physiology which we physicians are at such expense and pains to acquire.

It is the spirit which tends in this direction that is fostered by the stimulus of teaching and publishing; it is the fruits of this study that the patients have a right to expect in our best hospitals, and if they do not find it, they have there a just cause for grievance. The principles involved in this matter were well set down in an editorial in the London *Times* of some few months ago, apropos of a request for subscriptions towards the support of St. George's Hospital. It was then urged that it would be well for the sick poor if the many small endowed hospitals for special diseases throughout the city could be swept away, and their funds turned into the treasuries of the great teaching hospitals; that the increased attention and study which their cases receive in the latter far more than overbalances the occasional injury done by a thoughtless student, or a too-scientific doctor.

If we look beyond the influence of the hospital upon the patients actually treated there, and consider what is accomplished for many others outside the hospital at the hands of the physicians whom it has trained, a far broader view of its usefulness is obtained. Let any one compute the number of persons taken care of by the physicians who graduate each year at our colleges, and who have been trained in our hospitals, and he will gain an idea of the magnitude of the indirect benefits which these hospitals confer upon the community.

Again, the prospect of first-rate opportunities for teaching and investigating not only stimulates to good work, but it attracts men of ability who might otherwise turn their attentions elsewhere.

It may appear unnecessary to present such facts as these at all, but patent as they seem — perhaps, indeed, because they are so patent — we are convinced that many intelligent laymen and even physicians have excused themselves from recognizing to *what extent* they are true, and to *what extent* it is worth while to

make real sacrifices in order to secure this intimate connection between hospitals and medical schools, which is, on the whole, so beneficial to both, and to the community at large.

We are partly prompted to this statement by hearing that the Trustees of the Massachusetts General Hospital have recently been considering, and have reported unfavorably upon, a request made by a portion of the Out-Patient staff, that increased facilities for teaching should be given to certain of the departments.

It will be remembered that, as the result of an inquiry made about two years ago, an officer was appointed to investigate at the door of the hospital all out-patients presenting themselves for treatment, and to refuse admission to those who were able to pay for treatment. The adoption of these rules recommended itself at the time quite generally, as a step towards the removal of a recognized abuse; it now appears that through them the clinical facilities of the special departments were considerably impaired, mainly by keeping away a number of patients of the better class, and including many rare cases, who had been in the habit of coming, as it were, for consultation, often with, or sent by, their physicians.

We are not in a position to enter into the details of the questions involved, or to express a decided opinion upon their merits. We desire only to maintain that they should be discussed in the light of such considerations as those which we have presented above. If, as we believe, the opportunities for usefulness of the hospital in the way of education are so great, it becomes a problem to be decided by quantitative comparison whether or not any crippling of these opportunities is counterbalanced by a gain in another direction. Perhaps, in the instance in hand, this may be the case, but one point occurs to us as worthy of consideration before a just decision can be reached.

The chief though not the only motive by which the hospital trustees were probably animated in framing the rules alluded to, was to unite with the other charitable societies of the city in a very laudable attempt to prevent the demoralization of the poor by breaking up their habit of depending on the riches of their neighbors for support.

How far has this result been accomplished, and how far can it be accomplished, where the work of the hospital is concerned?

The persons presenting themselves at dispensaries for out-door relief may be divided, broadly, into three classes: those who are entirely unable to take care of themselves without charitable aid; those who can take care of themselves if stimulated to greater thrift; and the relatively well-to-do class who rarely or never ask for charity except in this form.

It is now distinctly the members of the second of these three classes, and only they, that are objects of solicitude to the general charitable societies of the city. Unable to meet all their ordinary expenses without great effort, if at all, they are in real danger of losing their sense of independence, and becoming more and more dependent on the community for sup-

port. Yet these persons are admitted freely to the out-patient department, and it is clear that reasons of humanity will require that this should be done until they shall have learned to take care of themselves.

On the other hand, the third class is not made up of persons who are in danger of becoming pauperized, in the ordinary sense of that term, since they rarely ask for charity under any other form than this. Yet this is the class which is excluded, and, as it seems, to the detriment of the educational usefulness of the hospital.

The step taken by the trustees two years ago was certainly a just and proper one, in itself considered; and the only question is whether the good which it secured is or is not overbalanced by the harm which it is thought to have entailed.

One class is admitted in the interests of humanity, should the other class be admitted in the interests of education?

The argument in behalf of educational claims should, it may by some be thought, receive all the more serious attention, for the reason that it does not immediately appeal to the sympathies of any large number of persons.

#### BOSTON WATER AND THE WATER COMMISSION AGAIN.

WE learn that the question of the water-supply of Boston and the Water Commission at present sitting for its investigation were again the subject of discussion at a meeting of the physicians of the city. Last week we commented on the vote passed at a meeting of the Society for Medical Observation; this week we have to record the action of the Section of the Suffolk District Branch of the Massachusetts Medical Society whose province is Clinical Medicine and Hygiene. Dr. H. I. Bowditch, in the course of some remarks on the subject, spoke of the unwholesome condition of the present supply; he had no doubt it was sometimes the actual cause of disease, and in a far greater degree a very powerful accessory to other unfavorable influences in producing sickness. The following votes were unanimously passed at the meeting:—

*Resolved*, That the members of the Clinical Section of the Suffolk District Branch of the Massachusetts Medical Society convey through their secretary to the Water Commission largely appointed by the mayor of Boston their appreciation of the extreme importance to the inhabitants of the city of the questions which the Commission was expected to investigate.

*Resolved*, That as practicing physicians of the city of Boston we express to the Commission the earnest hope that it will not adjourn without a thorough and careful consideration of the whole question of the city's water supply, nor without making some suggestion for future action in the premises which may offer a reasonable hope of providing pure water, and of protecting the citizens against a recurrence of the annoyances of the past.

It is evidently the opinion of the physicians of Boston that the condition of the water during the past year has been the source of something more than discomfort, that a water saturated with so large an amount of decaying vegetable matter may easily encourage indirectly a variety of digestive derangements, especially in those otherwise in feeble health. It

also seems to be the opinion of these physicians, an opinion apparently shared by many of their fellow-citizens, that a commission, even if unpaid, should not be a mere matter of form. The water has certainly been better since the Commission has been sitting, and though not superstitions we are grateful for this much.

It may be that the assiduous attendance of the Water Board upon the sittings of the Commission will be blessed to the community in due time and shape.

#### MEDICAL NOTES.

—Dr. Wm. B. Carpenter, F. R. S., of London, is in Boston delivering two courses of lectures before the Lowell Institute.

—It is reported that the trustees of the Johns Hopkins Hospital intends to open that institution and the medical school to be connected with it in the fall of 1883.

—The epidemic of typhoid fever in Paris this year has been quite extensive, though not especially fatal. Up to the second week in October there had been 2074 cases in the hospitals alone. In the two days, October 11th and 12th, 283 cases of the disease were received in the various hospitals. The deaths in the last week of September and the first of October were 57 and 134 respectively, as against 21 and 27 in the corresponding weeks of last year.

#### NEW YORK.

—The public inauguration of the New York Post-Graduate Medical School took place at Chickering Hall on Saturday evening, November 4th, and the exercises were largely attended. Prof. Wm. A. Hammond presided, and made some introductory remarks, after which Prof. D. B. St. John Roosa, the President of the Faculty, delivered the formal address of the evening. During the course of it he said that the purpose of the school was not to make more doctors, but to improve those we had. It was to afford the facilities which would enable the graduate in medicine to fit himself for the diagnosis and treatment of diseases which were not fully discussed in the studies and lectures of the ordinary course of three years in a New York Medical College. The need of these supplementary courses was too evident to require explanation, and it was a disgrace to the city that the subject had been so long neglected, as well as that today the friends of the movement had to make the beginning with such a pitiful supply of funds. The richest city in America ought certainly to have the public spirit and the intelligence to set this new school on a solid footing, so that it might compete with similar institutions in Paris, Vienna, and London. In Boston no rich man could be properly buried who had not left something to Harvard College, the Medical School, a hospital, or the School of Technology; but in New York half a dozen men, with money enough to endow Columbia College and the University, besides creating a thousand free beds in a hospital, died in one year, and did not mention New York

in their wills. Circumstances over which the promoters of the movement had no control had compelled them to add another unwendowed school of medicine to those already in existence, but they had no idea that it would remain so. When they had demonstrated their usefulness and the necessity, they would seek an endowment at the hands of their fellow-citizens. They believed that they should see the day when New York would first nourish her own children before she was generous to others. They also believed that the governing bodies of the universities would yet make them so in fact as well as in name, that the medical colleges would become an actual part of them, and that then the Post-Graduate Medical School would have its appropriate place in the third and fourth years of study. Not division, not separation, but unity in university instruction was what they sought, and what they believed their institution would ultimately promote.

The Rev. Henry C. Potter, D. D., made the next address, and in it said that the people of New York were sadly deficient in civic devotion. With the enormous wealth in the city, so little was expended in building up its institutions that the importance of such a school as was now being inaugurated was at once apparent. Not alone ought medical men to be interested in an institution which meant so much to them, but the public at large, their patients, needed also to have great concern on the subject.

Dr. J. Marion Sims and the Hon. John Bigelow also made some remarks, and Prof. Frederic R. Sturgis, Secretary of the Faculty, then gave the announcement of the regular course of lectures, which commenced with one on clinical surgery by Prof. James R. Little at three p. m. on Monday, November 6th.

— The new Charity Organization Society for promoting coöperation among the charities of the city, reports that ten societies and churches have allied themselves with the movement during October. The total number of relief-giving agencies now coöperating in the exchange of registration and information is one hundred and two. Reports of 3990 cases were received during the month from these institutions, and the information in cases of overlapping and duplication was confidentially returned immediately to each Society reporting the same case. The Society is getting up a street register so that it can be ascertained in what houses and localities all families and individuals applying for aid are to be found.

#### PHILADELPHIA.

— One of the most useful forms of charitable medical relief is the establishment of sick-diet kitchens for supplying to the sick poor nourishing and properly cooked food, and possibly some of the little delicacies of which the sick are often so urgently in need. In Philadelphia, besides the various home missions, soup houses, etc., which relieve the ordinary physical needs of the destitute, there are a number of kitchens established in different parts of the city by the Protestant Episcopal City Mission, where "extra diet" recom-

mended by physicians is prepared and daily given or sent gratuitously to the sick poor. There are now four of these kitchens in active operation, and they have proved to be among the most successful and useful of the various undertakings of the City Mission. It is intended to open two more of them as soon as the funds of the mission will permit. During the last year these diet kitchens have disbursed to the sick poor 28,281 rations of nourishing and attractive food. Nearly two hundred consumptives were regularly supplied with such diet as their condition required. Certainly the work of providing proper articles of food for the sick poor who for good reason prefer remaining at home to going into a public hospital, is one of the most beneficent forms of charity. The entire amount of money expended during the year was \$24,000, but in this are included objects of general charity, groceries, coal, wood, garments, etc., besides the diet kitchens. An idea of the scope and value of the service rendered by the latter may be obtained by a glance at the following list of the character of rations furnished during the year: Quarts of soup, 25,717; pounds of meat, 10,058; pints of beef tea, 3779; pints of farinaceous foods and puddings, 16,967; quarts of milk, 10,895; pints of stewed fruit, 3749; glasses of jelly, 161; dozens of eggs, 105; loaves of bread, 339; besides large quantities of other articles of diet. Physicians who have upon their visiting list the names of poor but deserving patients whose limited resources are seriously straitened by sickness can fully appreciate the advantages of being able to obtain the much needed food properly prepared, as well as some of the delicacies which the sick and convalescent crave, but which are too often beyond their means.

— In marked contrast to the operations of the above-named Christian charity is the criminal mismanagement of the sick and destitute in the Philadelphia Hospital and Blockley Almshouse, which until recently were apparently abandoned to the tender mercies of politicians. The peculations and thievery of those in charge are still engaging the attention of the daily press. It has, however, a mournful medical interest as finally giving a reason for the hitherto inexplicable one hundred per cent. mortality in the foundling department, and of some glaring defects in the management of the hospital. We now learn that the patients were not only systematically robbed in their medical supplies, food, and clothes, but the roof was even stolen from one of the buildings and sold for old copper. One of the unpleasant features of this disgraceful exposure was the manner in which the medical staff of the hospital was marshaled a few months since by the politicians and made to testify to the satisfactory character of the management of the hospital, and to the fitness of the superintendent; but matters had reached such a pass that it was impossible to prevent an investigation, some of the details of which have already made a tremendous sensation in some circles, and probably is destined to make more before it is ended.

— One of the obstetrical staff of the Philadelphia Hospital having a difficult case of labor in a negro



woman, delivered her before the class with the aid of the forceps. Although he was following established precedent, and had himself performed a similar operation before the class some years ago, the matter appeared in the papers, and he was officially censured by the Board. An indignation meeting of the staff was held, and resolutions adopted condemning this hasty action, and a committee of conference was appointed to make the proper representations to the authorities named, which accordingly rescinded the offending vote. Nevertheless, the physician concerned, Dr. Wm. H. Warder, found it convenient to send in his resignation at the next meeting. He had long and faithfully served the hospital, and is a physician well known and in large practice in this city.

—The Board above mentioned has also appointed two women upon the medical staff of the Philadelphia Hospital to serve as attending obstetricians; the appointees are Hannah T. Crossdale, M. D., and Clara Marshall, M. D., both graduates of the Women's Medical College of Philadelphia.

—There have been in the various hospitals, and probably in private practice also, this fall, a somewhat larger number than usual of typhoid fever cases, but the type of the disease is generally mild. A large number of the cases have no diarrhoea, do not have hyperpyrexia, nor marked headache; very few have epistaxis, and the cerebral disturbance is more expressed by restlessness and loss of sleep than by delirium. Still the course of the disease, the temperature record, the spots, and dry, coated tongue, with enlarged spleen, great prostration, and tendency to relapse, leave no doubt as to the character of the fever. The prevailing treatment here is usually hygienic and symptomatic. The mortality has been about one in twenty to one in twenty-five. Da Costa prefers codeia (one half grain repeated) at night to relieve the restlessness, and gives internally mineral acids, and turpentine when the tongue is very dry; opium suppositories are used to regulate the number of discharges where diarrhoea exists, and simple enemata for constipation; sweet oil and tincture of belladonna are given during convalescence if constipation proves obstinate.

—The classes at the colleges are claimed to be about as large as last year.

—A man poisoned by oxalic acid taken by mistake for magnesium sulphate was recently carried to the Homœopathic Hospital in this city. Strange to say he recovered; he probably was not treated with high potencies.

—Speaking of homœopathic remedies, the following deleterious substances are contained in the American Homœopathic Pharmacopœia (published by Bonike & Tafel, New York, 1882), whose names sufficiently indicate their composition: *syphilinum, bubonum, gonorrhœa, leucorrhœa, glanderin, anthracin, psorin*, etc., etc. They are called isopathic remedies or nosodes, which are defined to be "remedies obtained from morbid products of the animal system." Is the public at all interested in knowing who administers such repulsive and loathsome agents, or is it too indolent to inquire?

## Miscellany.

### HERBERT SPENCER ON DEGENERATIVE TENDENCIES IN AMERICAN LIFE.

At a banquet tendered to Mr. Herbert Spencer, last week, by a number of eminent literary and scientific men, on the eve of his return to England, the distinguished guest departed so far from the traditional after-dinner speech as to give some earnest words expressive of his solicitude regarding the effect of the intense application which he had observed to characterize our American business and professional life. From his reported remarks we make the following extracts:—

"It seems to me that in some respects Americans have diverged too widely from savages. You know that the primitive man lacks power of application. Spurred by hunger, by danger, by revenge, he can exert himself energetically for a time, but his energy is spasmodic. Monotonous daily toil is impossible to him; it is otherwise with the more developed man. The stern discipline of social life has gradually increased the aptitude for persistent industry until among us, and still more among you, work has become with many a passion. This contrast of nature has another aspect. The savage thinks only of present satisfactions and leaves future satisfactions uncared for. Contrariwise the American, eagerly pursuing a future good, almost ignores what good the passing day offers him, and when the future good is gained, he neglects that while striving for some still remoter good. What I have seen and heard during my stay among you has forced on me the belief that this slow change from habitual inertness to persistent activity has reached an extreme from which there must begin a counter change—a reaction. Everywhere I have been struck with the number of facts which told, in strong lines, of the burdens that had to be borne. I have been struck, too, with the large proportion of gray-haired men, and inquiries have brought out the fact that with you the hair commonly begins to turn some ten years earlier than with us. Moreover, in every circle I have met men who had themselves suffered from nervous collapses, due to stress of business, or named friends who had crippled themselves by overwork, or had been permanently incapacitated, or had wasted long periods on endeavors to recover health. I do but echo the opinion of all the observing persons I have spoken to, that immense injury is being done by this high-pressure life. The physique is being undermined. That subtle thinker and poet whom we have lately had to mourn, Emerson, says in his essay on 'The Gentleman,' that the first requisite is that he shall be a good animal. The requisite is a general one—it extends to the man, to the father, to the citizen. We hear a great deal about 'the vile body,' and many are encouraged by the phrase to transgress the laws of health, but nature quietly suppresses those who treat thus disrespectfully one of her highest products, and leaves the world to be peopled by the descendants of those who are not so foolish. Beyond these immediate mischiefs there are remoter mischiefs. Exclusive devotion to work has the result that amusements cease to please; and, when relaxation becomes imperative, life becomes dreary from lack of its sole interest—the interest in business. The remark current in England, that when the American travels his aim is to do the greatest amount of

sight-seeing in the shortest time, I find current here also; it is recognized that the satisfaction of getting on devours nearly all other satisfactions. When recently at Niagara, which gave us a whole week's pleasure, I learned from the landlord of the hotel that most Americans come one day and go away the next. Old Froissart, who said of the English of his day that 'they take their pleasure sadly after their fashion,' would, doubtless, if he lived now, say of the Americans that they take their pleasures hurriedly after their fashion. In large measure with us, and still more with you, there is not that abandonment to the moment which is requisite for full enjoyment, and this abandonment is prevented by the ever present sense of multitudinous responsibilities. So that beyond the serious physical mischief caused by overwork, there is the further mischief that it destroys what value there would otherwise be in the leisure part of life. Nor do the evils end here. There is the injury to posterity. Damaged constitutions reappear in children and entail on them far more of ill than great fortunes yield them of good. When life has been duly rationalized by science it will be seen that among a man's duties that of the body is imperative, not only out of regard of personal welfare, but also out of regard for descendants. His constitution will be considered as an entailed estate which he ought to pass on uninjured, if not improved, to those who follow; and it will be held that millions bequeathed by him will not compensate for feeble health and decreased ability to enjoy life. Hereafter, when this age of active, material progress has yielded mankind its benefits, there will, I think, come a better adjustment of labor and enjoyment. In brief, I may say that we have had somewhat too much of the 'gospel of work.' It is time to preach the gospel of relaxation.

"This is a very unconventional after-dinner speech. Especially it will be thought strange that in returning thanks I should deliver something very much like a homily. But I have thought I could not better convey my thanks than by the expression of a sympathy which issues in a fear. If, as I gather, this intemperance in work affects more especially the Anglo-American part of the population — if their results are undermining of the physique, not only in adults but also in the young, who, as I learn from your daily journals, are also being injured by overwork — if the ultimate consequence should be a dwindling away of those among you who are the inheritors of free institutions, and best adapted to them, then there will come a further difficulty in the working out of that great future which lies before the American nation."

#### TYPHOID FEVER AND MALARIA.

UNDER the head of Prominence of Typhoid Fever, the Secretary of the State Board of Health of Connecticut reports as follows for the month of September:—

This return of typhoid fever to prominence, and its steady increase in frequency for the last three years, is apparently a part of an extensive and comprehensive movement. As the epidemic of malaria was ushered in by a decrease, and in places almost if not quite a total disappearance, of typhoid, this return of typhoid fever to its former importance and relative frequency is an indication of the decrease and disappearance of ma-

laria. The tendency towards typhoid fever commenced several years ago, and has steadily grown stronger each year, as shown by the increased prevalence, tendency to unusual frequency and severity, and the increase each year of deaths from this cause. As the decrease in the frequency of typhoid preceded the malarial wave, so its increase precedes the entire disappearance of malaria, but gives us some ground for hope that such a disappearance will take place. This disappearance of epidemics of malarial fever, on a large scale, has often been followed by an unusual prevalence of typhoid fever or an extensive epidemic. The epidemics of malarial fever of 1807 and 1824, which are stated to have extended over all Europe, were followed by typhoid fever. Of course it is as yet but an inference that the present malarial influence which has extended continuously over the greater part of this State into Massachusetts and Rhode Island is subsiding and leaving its first points of invasion. But there is much to encourage such an idea. It is quite a prevalent impression that there has commenced a steady decrease in the general frequency of malaria in the west and southwestern parts of the State. However that may be, the return of typhoid fever, the tendency towards a continued type shown by malarial fevers, the large percentage of typho-malarial fever, forming 86 per cent. of the mortality from malarial diseases last year, or 222 out of 357 deaths, are obvious facts. Whether or not malaria will become endemic in any part of the State is a question of interest that time only can determine. The idea has been advanced that the southwestern part of this State is a border land where the epidemic influence from the southwestern regions (especially Westchester County, where malaria is endemic) finds a resting place, whence, if reinforced repeatedly, or strong enough originally, it invades other parts of the State. The same tendency before noted to greater severity in regions where it has existed for some time continues, while few cases of acute intermittent occur. Thus congestive chills are reported in several instances, one fatal case in Hartford, one in Meriden. A singular fact often illustrated is the tendency to acute intermittent shown by new-comers, even if they come from a malarious region, and had had ague previously. What at first looked like a fresh recurrence of acute intermittent was found on investigation to be mainly confined to the new families that had recently moved from New Jersey.

#### DEATH FROM MALE FERN.

A CASE of some toxicological and medico-legal interest has recently occurred in Ceylon. A medical practitioner of good reputation had a patient from whom he had made several unsuccessful attempts to remove a tape-worm. A final effort was resolved upon, and the physician prescribed *one and a half ounces* of ethereal extract of male fern, and three drachms each of powdered kamala and pomegranate root, in a vehicle of mucilage, syrup, and cinnamon water. The directions were that it should be taken in divided doses at an interval of three or four hours. The pomegranate root was omitted by the dispenser, who informed the physician of the fact. The patient took the first half of the prescription at bed-time, and began to feel much distress, but took the second at two A. M., as directed. He became worse, and medical attendance was summoned, but he died before morning, after diar-

rhea (which expelled the worm), vomiting, cramps, and symptoms of collapse. The attendant certified the death as due to "choleraic diarrhea." The autopsy gave signs of an irritant poison, and a strong smell of ether pervaded the intestinal canal. The defense was that the prescription was taken from Dr. Naphey's Medical Therapeutics, and was recommended on the authority of Dr. Brinton, of London. Query was made whether the one and a half ounce of male fern was not a misprint. But the fact that this occurred in

a seventh edition of the book was considered rather against that explanation. In view of the eminent authority on which the treatment was based, and the good faith of the practitioner, no further prosecution was made. The ethereal extract, which is practically identical with the oleoresin of the United States Pharmacopæia, is ordinarily recommended in doses of from one and a half to two fluid drachms, and some recent writers have given special warning against its irritant action.

## REPORTED MORTALITY FOR THE WEEK ENDING NOVEMBER 4, 1882.

| Cities.                          | Population by Census of 1880. | Reported Deaths in each. | Deaths under Five Years. | Percentage of Deaths from         |                |                     |                       |                |
|----------------------------------|-------------------------------|--------------------------|--------------------------|-----------------------------------|----------------|---------------------|-----------------------|----------------|
|                                  |                               |                          |                          | The Principal "Zymotic" Diseases. | Lung Diseases. | Diarrheal Diseases. | Diphtheria and Croup. | Typhoid Fever. |
| New York.....                    | 1,266,590                     | 579                      | 201                      | 17.78                             | 1.45           | 5.87                | 6.59                  | .69            |
| Philadelphia.....                | 846,984                       | 358                      | 11                       | 24.71                             | 5.07           | —                   | 13.13                 | 3.07           |
| Brooklyn.....                    | 566,689                       | —                        | —                        | —                                 | —              | —                   | —                     | —              |
| Chicago.....                     | 503,304                       | —                        | —                        | —                                 | —              | —                   | —                     | —              |
| Boston.....                      | 362,535                       | 157                      | 44                       | 21.65                             | 8.92           | 7.01                | 5.09                  | 6.37           |
| St. Louis.....                   | 350,522                       | —                        | —                        | —                                 | —              | —                   | —                     | —              |
| Baltimore.....                   | 332,190                       | 167                      | 65                       | 47.67                             | 1.20           | 5.38                | 13.73                 | 1.79           |
| Cincinnati.....                  | 255,708                       | 110                      | 41                       | 18.18                             | 12.72          | 3.64                | 4.55                  | .91            |
| New Orleans.....                 | 216,140                       | 106                      | 29                       | 20.75                             | 5.66           | 6.60                | .94                   | .94            |
| District of Columbia.....        | 177,638                       | 72                       | —                        | 15.29                             | 12.51          | 1.39                | 4.17                  | 1.39           |
| Pittsburg.....                   | 156,881                       | 62                       | 18                       | 58.69                             | 12.90          | 1.61                | 11.28                 | 16.12          |
| Buffalo.....                     | 155,137                       | —                        | —                        | —                                 | —              | —                   | —                     | —              |
| Milwaukee.....                   | 115,578                       | 35                       | —                        | 20.00                             | 5.71           | 5.71                | 2.86                  | —              |
| Providence.....                  | 104,857                       | 41                       | 10                       | 15.92                             | 2.27           | 9.10                | 2.27                  | 2.27           |
| New Haven.....                   | 62,882                        | 20                       | 7                        | 15.00                             | 15.00          | 5.00                | —                     | —              |
| Charleston.....                  | 49,999                        | 39                       | 10                       | 23.07                             | 2.56           | 2.56                | 2.56                  | 2.56           |
| Nashville.....                   | 43,461                        | 17                       | 6                        | 17.65                             | 11.76          | 11.76               | 5.88                  | —              |
| Lowell.....                      | 59,485                        | —                        | —                        | —                                 | —              | —                   | —                     | —              |
| Worcester.....                   | 58,295                        | 20                       | 8                        | 30.00                             | 20.00          | 10.00               | 10.00                 | —              |
| Cambridge.....                   | 52,740                        | 26                       | 8                        | 20.77                             | 3.85           | 7.69                | 7.69                  | 11.54          |
| Fall River.....                  | 49,006                        | 22                       | 5                        | 9.09                              | 13.64          | 4.54                | —                     | 4.54           |
| Lawrence.....                    | 39,178                        | —                        | —                        | —                                 | —              | —                   | —                     | —              |
| Lynn.....                        | 38,284                        | 14                       | 4                        | 14.28                             | 7.14           | 7.14                | —                     | —              |
| Springfield.....                 | 33,340                        | 6                        | 1                        | 33.33                             | —              | 16.66               | —                     | —              |
| Salem.....                       | 27,598                        | 8                        | 3                        | 37.50                             | —              | 12.50               | —                     | 12.50          |
| New Bedford.....                 | 26,875                        | 9                        | 2                        | 11.11                             | —              | —                   | —                     | —              |
| Somerville.....                  | 24,985                        | —                        | —                        | —                                 | —              | —                   | —                     | —              |
| Holyoke.....                     | 21,851                        | 9                        | 3                        | 55.55                             | 11.11          | 11.11               | 11.11                 | —              |
| Chelsea.....                     | 21,785                        | 8                        | 4                        | 12.50                             | —              | —                   | —                     | 12.50          |
| Taunton.....                     | 21,213                        | —                        | —                        | —                                 | —              | —                   | —                     | —              |
| Gloucester.....                  | 19,329                        | 8                        | 1                        | 12.50                             | —              | —                   | —                     | 12.50          |
| Haverhill.....                   | 18,475                        | 1                        | 0                        | —                                 | —              | —                   | —                     | —              |
| Newton.....                      | 16,995                        | —                        | —                        | —                                 | —              | —                   | —                     | —              |
| Brookton.....                    | 13,608                        | 8                        | 1                        | 12.50                             | 12.50          | —                   | —                     | 12.50          |
| Newburyport.....                 | 13,537                        | 3                        | 1                        | 33.33                             | —              | —                   | —                     | —              |
| Fitchburg.....                   | 12,405                        | 6                        | 2                        | —                                 | —              | —                   | —                     | —              |
| Malden.....                      | 12,017                        | —                        | —                        | —                                 | —              | —                   | —                     | —              |
| Sixteen Massachusetts towns..... | 117,175                       | 36                       | 11                       | 22.22                             | 2.78           | 13.89               | —                     | 5.55           |

Deaths reported 1950 (no reports from Brooklyn, Chicago, and St. Louis): under five years of age 557: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and fevers) 415, consumption 290, lung diseases 174, diphtheria and croup 141, diarrheal diseases 92, typhoid fever 52, small-pox 27, malarial fevers 26, scarlet fever 21, whooping-cough 21, cerebro-spinal meningitis 12, puerperal fever 10, measles seven, erysipelas five, typhus fever one. From small-pox, Baltimore 21, Philadelphia, New Orleans, and Pittsburg two each. From malarial fevers, New York 10, New Orleans seven, District of Columbia five, Baltimore two, Cincinnati and New Haven, one each. From scarlet fever, Cincinnati nine, Philadelphia four, New York and Boston two each, Baltimore, District of Columbia, New Haven, and Worcester one each. From whooping-cough, New York and Charleston five each, Pittsburg and Milwaukee two each, Philadelphia, Boston, Baltimore, New Orleans, Providence, Cambridge, and Holyoke one each. From cerebro-spinal meningitis, New York and New Orleans three each, Balti-

more, Charleston, Springfield, Salem, New Bedford, and Peabody one each. From puerperal fever, Boston, Milwaukee, and Holyoke two each, Baltimore, Worcester, Lynn, and Newburyport one each. From measles, New York six, Pittsburg one. From erysipelas Philadelphia two, New York, Baltimore, and Pittsburg one each. From typhus fever, New York one.

Seventy-five cases of small-pox were reported in Baltimore, Pittsburg 15, Cincinnati one; typhoid fever 28, diphtheria 26, scarlet fever 17, in Boston; scarlet fever 14 and diphtheria five, in Milwaukee.

In 31 cities and towns of Massachusetts, with a population of 886,828 (population of the State 1,783,086), the total death-rate for the week was 20.00 against 19.11 and 17.20, for the previous two weeks.

For the week ending October 14th, in 170 German cities and towns, with an estimated population of 8,493,137, the death-rate was 23. Deaths reported 3750; under five years of age 1794; consumption 527, lung diseases 320, diarrheal diseases 182, diphtheria and croup 170, scarlet fever 116, typhoid fever 62,

whooping-cough 59, measles and röteln 38, puerperal fever 28, typhus fever (Kolberg one) one. The death-rates ranged from 13 in Metz to 34.2 in Chemnitz; Königsberg 31.2; Breslau 28.4; Munich 26; Dresden 23.8; Berlin 24; Leipzig 17.3; Hamburg 21; Cologne 28; Frankfort a. M. 16.7; Strassburg 28.8.

In the 28 English towns, with an estimated population of 8,469,571, for the week ending October 21st, the death-rate was 20.4. Deaths reported 3508: acute diseases of the respiratory organs (London) 290, scarlet fever 136, diarrhoea 118, fever 92, measles 91, whooping-cough 57, diphtheria 35, small-pox (London) 6. The death-rates ranged from 13.7 in Bolton to

34.2 in Sunderland; Bristol 16.6; Birmingham 18; London 19.4; Leeds 21.3; Liverpool 25.7; Birkenhead 25.9; Cardiff 28.3. In Edinburgh 17.7; Glasgow 22.1; Dublin 22.5.

For the week ending October 21st, in the Swiss towns, population 494,390 there were 19 deaths from diarrhoeal diseases, consumption 18; lung diseases 10, typhoid fever eight, erysipelas three, whooping-cough one, diphtheria and croup one. The death-rates were in Geneva 12.4; Zurich 14.2; Basle 15.5; Berne 19.5.

The meteorological record for the week ending November 4th in Boston, was as follows, according to observations furnished by Sergt. O. B. Cole, of the U. S. Signal Corps:—

| Date.                   | Barom-eter. | Thermom-eter. |          |          | Relative Humidity. |            |             |             | Direction of Wind. |            |             | Velocity of Wind. |            |             | State of Weather. <sup>1</sup> |            |             | Rainfall.             |                   |
|-------------------------|-------------|---------------|----------|----------|--------------------|------------|-------------|-------------|--------------------|------------|-------------|-------------------|------------|-------------|--------------------------------|------------|-------------|-----------------------|-------------------|
| October-November, 1882. | Daily Mean. | Daily Mean.   | Maximum. | Minimum. | 7.23 A. M.         | 3.23 P. M. | 11.23 P. M. | Daily Mean. | 7.23 A. M.         | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.        | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.                     | 3.23 P. M. | 11.23 P. M. | Duration, Hrs. & Min. | Amount in inches. |
| Sun., 29                | 30.043      | 56            | 63       | 41       | 86                 | 85         | 93          | 88          | SE                 | S          | SW          | 10                | 12         | 8           | O                              | O          | O           | —                     | —                 |
| Mon., 30                | 30.095      | 57            | 68       | 50       | 72                 | 32         | 60          | 55          | W                  | W          | W           | 6                 | 6          | 5           | F                              | C          | F           | —                     | —                 |
| Tues., 31               | 30.080      | 56            | 63       | 42       | 83                 | 84         | 93          | 87          | W                  | S          | SW          | 3                 | 8          | 8           | C                              | O          | C           | —                     | —                 |
| Wed., 1                 | 29.911      | 62            | 72       | 52       | 93                 | 17         | 43          | 51          | SW                 | W          | W           | 10                | 8          | 7           | T                              | C          | C           | —                     | —                 |
| Thurs., 2               | 30.179      | 43            | 55       | 33       | 48                 | 26         | 68          | 47          | NW                 | NW         | NW          | 12                | 17         | 10          | O                              | C          | C           | —                     | —                 |
| Fri., 3                 | 30.321      | 37            | 48       | 32       | 68                 | 45         | 63          | 59          | NW                 | SE         | W           | 10                | 7          | 4           | C                              | C          | C           | —                     | —                 |
| Sat., 4                 | 30.487      | 37            | 47       | 35       | 57                 | 48         | 69          | 58          | N                  | E          | N           | 6                 | 13         | 9           | O                              | C          | C           | —                     | —                 |
| Means, the week.        | 30.159      | 48            |          |          |                    |            |             | 64          |                    |            |             |                   |            |             |                                |            |             | 1.40                  | —                 |

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; X., clearing.

<sup>2</sup> Too small to measure.

## OBITUARY.

At a special meeting of the Medical Board of St. Peter's Hospital, Brooklyn, held at the hospital on Saturday, October 14, 1882, to take action on the death of A. L. Lowell, M. D., one of the attending surgeons of the hospital, it was

*Resolved*, That in the death of Dr. A. L. Lowell the members of the Medical Board have lost an associate who commanded their confidence and esteem in both public and private relations.

*Resolved*, That St. Peter's Hospital has lost the services of a skillful, efficient, and benevolent surgeon; one who practiced our healing art with untiring and single-minded zeal.

*Resolved*, That we offer to his family our sincere sympathy in their loss; and that these resolutions be communicated to them and published in the *New York Medical Record* and the *Boston Medical and Surgical Journal*.

By order of the Board,

WILLIAM HAMMET MARTIN, M. D., Secretary.

## OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM NOVEMBER 3, 1882, TO NOVEMBER 10, 1882.

SPENCER, W. C., surgeon. In addition to his duties at Fort Snelling, Minn., to perform the duties of attending surgeon at department headquarters. S. O. 176, Department of Dakota, October 24, 1882.

AINSWORTH, F. C., assistant surgeon. Granted leave of absence for one month, with permission to apply for extension of one month. S. O. 120, Department of Texas, November 1, 1882.

BREWSTER, WILLIAM B., assistant surgeon. On being relieved by Acting Assistant Surgeon Potter, will proceed to Fort Bridger, Wyoming, reporting to the commanding officer thereof for duty. S. O. 116, Department of the Platte, November 4, 1882.

BURNETT, RICHARDS, assistant surgeon. Granted leave of absence for one month, with permission to apply for extension of five months. S. O. 202, Department of the East, November 1, 1882.

GRAY, W. W., assistant surgeon. Granted one month leave of absence on surgeon's certificate of disability, with permission to apply for an extension of five months. S. O. 103, Department of the South, October 31, 1882.

MCLENNERY, HENRY, assistant surgeon. Upon arrival of Assistant Surgeon Brewster at Fort Bridger, Wyoming, to be relieved and ordered to Fort Robinson, Neb., to report to the commanding officer thereof for duty. S. O. 116, Department of the Platte, November 4, 1882.

O'REILLY, ROBERT M., captain and assistant surgeon. Detailed as member of board of officers to assemble at Washington, D. C., to examine into and report upon qualifications of candidates for superintendents of national cemeteries. S. O. 254, A. G. O., October 31, 1882.

APPEL, AARON H., first lieutenant and assistant surgeon. Leave of absence extended two months. S. O. 255, A. G. O., November 1, 1882.

BRECHMIN, LOUIS, first lieutenant and assistant surgeon. Leave of absence for five months granted. S. O. 259, paragraph 2, A. G. O., November 6, 1882.

BOSTON SOCIETY FOR MEDICAL OBSERVATION.—A regular meeting of the Society will be held at the Medical Library, 19 Boylston Place, on Monday, November 20, 1882, at eight o'clock p. m. Reader, Dr. J. F. Bush. Subject, A Case of Intestinal Obstruction. Dr. J. G. Blake will open the discussion.

C. M. JONES, Secretary.

BOOKS AND PAMPHLETS RECEIVED.—Observations upon the Importance and Means of Ventilation. By G. P. Conn, M. D., Concord. 1882. (Reprint.)

Some Points on the Administration of Anæsthetics. By George H. Rohé, M. D., Professor of Hygiene and Clinical Dermatology. Baltimore.

Use of the Ecraseur for Curing Deep-Seated Fistula in Ano. By J. M. F. Gaston, M. D. (Reprint.) 1881.

Pathological Anatomy, Pathology, and Physical Diagnosis. A Series of Clinical Reports comprising the Principal Diseases of the Human Body. Systematically arranged in One Hundred Full-Page Illustrations and One Hundred Pages Text. By J. A. Jeançon, M. D. Cincinnati. 1883. Complete in 25 Parts. Part I.

## Accures.

### ON THE TREATMENT OF PNEUMONIA.

BY PROFESSOR DUJARDIN-BEAUMETZ,

Physician to the Hôpital St. Antoine, Member of the Academy of Medicine,  
Paris, France.

#### LECTURE II.

GENTLEMEN. — At the close of my last lecture I had begun to speak of hydrotherapy in pneumonia.

Although the treatment of acute inflammatory disorders by cold applications and cold baths is of quite ancient date, this did not become an established practice till Brand, Liebermeister, Lebert (of Breslau), Fismar (of Bâle), Vogel (of Berne), and Jurgensen (of Kiel), demonstrated that it was possible to treat pneumonia by this method, and treat it successfully. This practice is now limited to Germany and Switzerland. You are not ignorant of the long discussions which arose in our medical societies *à propos* of the application to typhoid fever of the method of Brand, and how that, after debating the subject in a manner characterized by want of agreement, and after repeated trials made in our hospitals, the method of treating, not merely typhoid fever, but febrile diseases in general, by cold baths fell into desuetude.

Among the inconveniences which followed rigorous antipyretic methods we had to note that pneumonias, so treated, often, instead of being made to take a more favorable course, become rapidly mortal. You see, then, why this treatment of the disease came to be discredited. It is understood, however, that hydrotherapeutic measures are not altogether excluded; cold baths we condemn, but warm or tepid baths may render excellent service, as I shall show when I come to speak of the pneumonias of children.

In opposition to all the previously mentioned therapeutic methods, — all of which act by depressing the system to the extent of lowering the pulse and the temperature, — we prefer the tonic and supporting treatment, whose type is the alcoholic medication of pneumonia.

The celebrated English physician Todd, in introducing alcohol into the treatment of pneumonia, occasioned, it must be admitted, a veritable revolution.

This treatment at first gave startling results from the stand-point of statistics. Look at the figures given by Jaccoud<sup>2</sup> and you will see that while in the case of pneumonia treated by blood-letting we have an average mortality of twenty-seven per cent., the mortality is only about three per cent. under the supporting treatment.<sup>3</sup>

With regard to these statistics I need not repeat what I said in my last lecture in reference to the application of this numerical method to the solution of the difficult question, what remedies and what moles of treatment do the most good? To show you what a difference there is between results obtained from the same kinds of treatment I have only to tell you that in Paris, in the first quarter of the present year,<sup>4</sup> according to the very interesting reports made to the Medical Society of the Hospitals, on Prevalent Diseases, by our secretary-general, Dr. Ernest Besnier, the mortality in pneumonia has been twenty-four per cent., while at the same time the greater number of our colleagues (if not all) were employing the tonic and supporting treatment. Between the figure given by Jaccoud of three per cent. and that of twenty-four per cent. the difference is great; it results simply from this fact, that the pneumonias at the beginning of this year, by reason of the climacteric conditions which have provoked them, have been of extraordinary severity.

How can we explain the favorable action of alcohol in pneumonia? This is an important question, on whose consideration I ask your permission to dwell for a few moments.

For quite a number of years I have been engaged, with some perseverance, in the study of the action of alcohol on the economy, and although I have not yet attained a complete solution of this physiological problem, I believe, nevertheless, that we are warranted to-day in affirming that alcohol acts in three ways: as food, as medicine restraining waste,<sup>5</sup> and as a tonic. Let us examine each of these properties.

Alcohol acts as food. Here is one of the points the most disputed in the physiological action of this substance. You are well aware that there are two decisive opinions as to this action: one party maintains that the larger part of the alcohol ingested is burned in the economy; this is the opinion defended by Liebig, Bouchardat, and Sandras. The other party, represented by Perrin, Lallemand, and Duroy, claims, on the contrary, that alcohol undergoes no modification in our tissues.

In support of each of these opinions chemical arguments have been adduced, and physiological arguments; I have not room in this lecture on pneumonia to enumerate them in their entirety,<sup>6</sup> but what I can affirm,

mild cases, bleeding and antimony in serious cases. (Results grouped by Laennec, Grisold, and Skoda.)

Maximum mortality . . . . . 16 per cent.

Minimum mortality . . . . . 12 per cent.

IV. Pneumonias abandoned to themselves. (Expectancy pure.)

Statistics of Dietl, 189 cases; mortality 7 per cent.

V. Pneumonia treated exclusively by the Tonic Regimen.

Statistics of Bennett, 129 cases; mortality 3.10 per cent.

<sup>4</sup> These lectures were delivered in 1881.

<sup>5</sup> Médicament anti-dépensier, aliment d'épargne.

<sup>6</sup> The proofs which have been adduced in favor of the combustion or non-combustion of alcohol in the economy are of two kinds: the one chemical, the other physiological. Chemistry seems to give support to the theory of non-combustion.

In fact, when you examine the excretions, and even the viscera in subjects poisoned by alcohol, you find alcohol unchanged, and one of the clearest tests of its presence is certainly the solution of bichromate of potassium and sulphuric acid. The alcohol reduces the chromic acid to a green oxide of chromium, and the liquid turns from red to an emerald green color.

Note, however, that *à propos* of this reagent, Anstie and Dupré have shown that mistakes may occur, and that persons who have not taken a drop of alcohol, sometimes excrete in their urine a substance which acts like alcohol with bichromate of potash.

Moreover, in these researches the causes of error are numerous, especially when you wish to show the presence by analysis of one of the derivatives of the combustion of alcohol, be it aldehyde or acetic acid.

<sup>1</sup> Delivered in the Hôpital St. Antoine, and translated, by permission, from advanced sheets, by E. P. Hurd, M. D., Newburyport, Mass.

<sup>2</sup> Leçons de Clinique Proférées à l'Hôpital de la Charité, page 70.

<sup>3</sup> The following are Jaccoud's tables: —

I. Pneumonia treated by Bleeding.

Statistics of Edinburgh Hospitals, 638 cases; mortality 34.52 pr. ct.

Statistics of Dietl . . . . . 95 cases; mortality 20.40 pr. ct.

Total . . . . . 793 cases; mortality 27.00 pr. ct.

II. Pneumonia treated by Tartar Emetic alone.

Statistics of Rasori, 648 cases; mortality 22.06 per cent.

Statistics of Dietl, 106 cases; mortality 20.76 per cent.

Total . . . . . 754 cases; mortality 21.38 per cent.

III. Pneumonia treated by the "mixed methods." Expectancy in

and that because I have studied the subject under all three of its aspects, is that it is impossible to furnish a direct experimental solution of this problem.

We indeed find alcohol unchanged in the tissues and in the excretions; the analysis which we recently made in our hospital service of the viscera of a man who, after killing his two sons, committed suicide by swallowing a quart of raw brandy, revealed the presence of this brandy in notable proportion in the brain, spinal cord, kidneys, liver, and lungs; but the quantity which we found, did it equal that which had been ingested? Here lies the whole question.

To-day, thanks to the experiments of my excellent *interne* in pharmacy, Jaillet, we are in position to affirm that alcohol does undergo transformation in the economy. Jaillet has, in fact, demonstrated that in presence of hæmoglobin and oxygen alcohol is transformed into aldehyde, then into acetic acid. This re-

In the experiments performed by Dujardin-Beaumetz and Jaillet to study into this question, they were positive in having found aldehyde in the viscera of men and animals poisoned by ethylic alcohol, and had even obtained, in one of their experiments, the reduction on a mirror of silver nitrate, which is one of the best tests of ethyl-aldehyde [the aldehyde separating the silver in the metallic form]; but a more attentive examination of the facts has shown to these experimenters that the aldehyde which they found may have come from its presence, in the normal state, in a great number of alcoholic liquors. They have sought to solve the problem by the use of alcohols higher in the series, and particularly amyl alcohol, but the difficulties attending these investigations have so far stood in the way of any definite solution.

Recently Jaillet has shown that in passing a current of oxygen over blood containing alcohol the latter is transformed into acetic acid.

As for the physiological proofs they are concerned principally with the effects of alcohol upon the combustions of the economy, and in particular upon the temperature; but here, too, the opinions are contradictory.

When considerable quantities of alcohol are administered the temperature is observed to fall appreciably, and in the experiments of Dujardin-Beaumetz and Audigé, it was observed that under the influence of heroic doses of alcohol the temperature fell fifteen to eighteen degrees. They have shown much smaller the same fall of temperature has been seen; thus Boeckler, Dupré, and Anstie have noted that in quite inconsiderable doses (one to three ounces a day) there was a constant lowering of bodily heat.

At the same time fairness requires the statement that Parker and Wallowicz have obtained quite different results, which go to show that, in the case of the human subject, the administration per diem of from twenty-eight to fifty-six cubic centimetres of alcohol caused no decline of temperature, whether in the physiological or the pathological state. These conclusions are vitiated by the fact that these gentlemen do not specify the lapse of time between the ingestion of the alcohol, and the taking of the temperature. In the case of animals Dujardin-Beaumetz and Audigé have always remarked, even when quite large doses of alcohol were given, that there exists a period which follows immediately the ingestion of the spirit, during which no fall of temperature is observed; sometimes even it is decided to rise. This period, whose duration varies with the quantity of alcohol administered, becomes very short and scarcely appreciable when the quantity of the poison is enormous. This rise in temperature corresponds with the period of excitation, but ceases with that of resolution and collapse.

Therefore other arguments have been adduced which pertain, this time, to the quantity of carbonic acid exhaled, and the quantity of urea excreted. The principal experiments of this kind are those of Maurice Perrin on himself. The quantity of CO<sub>2</sub> was determined by careful weighing. Various spirituous beverages, such as red and white wines and beer, were used, and always after the ingestion of these beverages a diminution was noted in the excretion of CO<sub>2</sub>. This diminution reaches its maximum three hours after the ingestion of the alcohol, and in five hours the normal condition is restored. As for the percentage of urea there is a slight increase in the ingestion of alcoholic beverages, due, not to increase of combustions, but to the stimulant action of the alcohol on the kidneys and the resulting augmentation of urine.

Thus we see that the physiological result, while giving to a certain extent support to the partisans of the combustion of alcohol in the economy, do not completely decide the question. Everybody is agreed that alcohol acts without having undergone change on the nervous system, determining phenomena of excitation and depression; but one may properly ask if in the first period of its influence, that of elation or excitation, the sentiment of warmth and *bien-être* which accompanies it, and for which resort is often had to the spirituous beverage, is not due to the combustion of a feeble quantity of alcohol.

action, which takes place in the apparatus of our laboratory, ought also to take place when alcohol is introduced into the economy and passes into the blood. Alcohol is, then, a food, and we can qualify this statement by saying that it acts as food by giving force and restraining waste. In order to undergo its successive transformations in the system, alcohol takes its oxygen from the blood, and in particular from the oxy-hæmoglobin, and if the dose is too large it stops hæmotosis and the individual dies asphyxiated. In thus withdrawing from the blood the oxygen necessary to effect its transformation into acetic acid, alcohol diminishes the combustions of the economy, and it is probably in this way that it depresses the temperature in fever patients.

In fine, alcohol acts unchanged upon the cerebro-spinal centres, and determines there phenomena of excitation and tonic, and it is in this way that we explain its tonic and stimulant action.

From these conclusions it is easily understood how alcohol comes to be of service in the treatment of pneumonia. It supports the vital forces, braces up the tissues, and instead of augmenting the temperature, lowers it.

At the Medical Congress in Brussels in 1875 I maintained, with Semmola, of Naples, and against Desguin and Crocq, who protested against the use of alcohol in pneumonia, that of all antipyretic remedies alcohol is assuredly the safest.

However, this question of the application of alcohol to medicine, and in particular to pneumonia, is one of the most delicate and difficult questions in therapeutics, and we are reminded that the transit from the province of experimentation to practical clinics is likely to be a violent transit. I am at one with Peter in this respect, who shows the great difference which exists between an animal whose temperature you depress experimentally by the administration of alcohol, and a pneumonic patient whose temperature you have by the same means brought back to the normal standard; you obtain results in the one case by attempting to poison, in the other by attempting to cure.

Experimentation with animals, in fact, takes note only of the toxic effects of the substance which it investigates; very rarely the experimentalist is in position to observe therapeutical effects. It is experimental toxicology, and not experimental therapeutics. To conclude *from* what takes place in animals poisoned by alcohol to what takes place in a fever patient who has been treated by medicinal doses of alcohol would be to commit a serious mistake. To decide this question, then, we must refer ourselves to the clinic, and to the observation of the sick; we shall then see that in certain determined conditions, which I shall set forth when I shall give you the indications and contraindications of the treatment of pneumonia, alcohol gives excellent results.

Has this alcoholic medication any inconveniences? Yes, and certain English physicians, and in particular Drysdale and Keer, have been the first to point them out. The administration of alcohol to your fever patients may give them the taste for ardent spirits, and females especially have been known to become tipplers after recovery from a pneumonia that was freely treated with spirituous liquors.

You know, gentlemen, the vehemence of the contest which is carried on in England against the abuse of ardent spirits. The temperance societies, with a zeal

that merits every encouragement, persist in opposing the ever-increasing progress of intemperance. You comprehend, then, that the partisans of the temperance leagues stand dismayed before such results. But cases where the use of alcohol in medicine has led to chronic alcoholism and all its evils are exceptional. A much more grave inconvenience, in my opinion, attends the usage of alcohols in large doses. I allude to the disturbances which these liquors may occasion in the digestive tube, especially when they are of bad quality. I shall return to this point in my next lecture.

By the side of the noted methods of treatment whose history I have just traced, we must place expectancy, that is to say, the doctrine that it is well to leave pneumonia to work out its own evolution, without directing against it any active treatment.

I showed you, in my first lecture, that one of the first results of statistics in the study of the treatment of pneumonia, had been the startling discovery that pure expectancy gave more advantageous results than the employment of energetic medications, and Skoda, Dietl, in Germany, Magnus Huss, in Norway, Bennett, in England, and Laboulbène, in France, have produced numerous statistics demonstrative of this fact.

But since the introduction of the medication by alcohol, expectancy pure has lost many of its partisans, and we shall see as we continue this course, that if expectancy is the logical consequence of the cyclical march of pneumonia, it cannot be raised to the dignity of a therapeutic method, for according to the circumstances, and according to the complications, the duty of the physician is to render assistance.

Permit me to finish this lecture in enumerating, by the side of the great methods of treatment which I have been considering, the divers medications which have also been recommended. Strohl, of Germany, has vaunted sugar of lead, and Leudet claims good results from the same remedy; Greenway, in England, strongly advises phenic acid; James, the salicylic acid; Salvator Avigo, small doses of calomel; while Patton is certain that no medication will ever give as good results as the salts of ammonia, and especially carbonate of ammonia; he claims ninety-four recoveries out of ninety-six patients. In fine, aconite and ergot of rye have their champions.

There are certain extraordinary medications to which I will just allude: the treatment of pneumonia by inhalations of chloroform, as recommended by Baumgartner and others; the administration of cantharides to pneumonic patients (Mendini); the aspiration of blood from the inflamed lung by means of a Dieulafoy aspirator.

I have now brought before your notice the greater part of the remedial means proposed against pneumonia, in a word, I have made you acquainted with the weapons which you are to use, but *how* are you going to use them? This is what I propose to tell you in my next lecture, in which I shall speak of the indications and contra-indications of the treatment of pneumonia.

[NOTE BY THE TRANSLATOR. — Allusion having been made to a process of experimentation on the toxic effects of alcohol, conducted by the author of these lectures, and not yet completed, it will be interesting to the readers of this journal to have a brief summary of the results of those experiments. The animals on which these experiments were performed were chiefly dogs and swine. Dujardin-Beaumez was assisted by Dr. Andigé in these experiments. They employed chiefly the hypodermic method, and they called minimum toxic dose that quantity of pure alcohol, which by kilogramme of the weight of the body of the animal, is necessary to cause death in

the space of twenty-four to thirty-six hours, with gradual and permanent fall of the temperature. By pure alcohol is understood alcohol of 100° in the scale of Gay Lussac. This method has enabled them to study the toxic effects of the different alcohols. Quite a thick octavo volume published in 1879 gives the details of over three hundred experiments. (*Recherches expérimentales sur la puissance toxique des alcools.* Paris: O. Doin.)

The following conclusions result from these researches: — The least toxic of the alcohols is the ethyl alcohol (from vinous fermentation); the most toxic is the amyl alcohol (potato spirit) — (fusel oil).

As for the toxic phenomena determined by the alcohols, they may be divided into three periods: a period of ebriety or of excitation, a period of resolution, and a period of collapse. These periods undergo modifications depending on (1) the nature of the alcohol employed; (2) the dose administered; (3) the resistance of the subject. With the alcohols obtained by fermentation, the three periods of acute intoxication succeed each other in a regular order, but in proportion as you depart from the ethyl series, their character is more accentuated, their evolution more rapid, and you see certain convulsive phenomena appear.

With methyl alcohol (wood spirit) the period of excitation is more intense, resolution, collapse, and the toxic symptoms which accompany them, arrive more rapidly at their maximum, but (we must add) in cases the dose is not sufficient to kill, the phenomena disappear more promptly.

With cantharidic and caprylic alcohols the periods of intoxication do not present the same regularity, and convulsions occur. Glycerine causes an increase rather than a fall of temperature.

In the case of all animals which have died from acute poisoning by alcohol, the necropsy discloses lesions of the nervous system and of the respiratory apparatus, and of the kidneys. As for the digestive apparatus, the lesions on the part of the gastric mucous membrane are inconspicuous when the alcohol is introduced by the hypodermic method, but when the poison is administered by mouth the mucous membrane of the stomach is invariably found softened, and the more concentrated the alcohol the greater the softening. The intestine undergoes the same alterations: it is found softened, and of a reddish-black color; punctations hemorrhagic are produced even when the alcohol is injected under the skin (elimination of alcohol by the intestinal glands).

The liver is more profoundly altered than any other gland. It is congested, softened, and friable. The spleen is engorged with blood and softened. As for the respiratory and circulatory lesions, they are characterized by a profound alteration of the blood, which becomes dark, and forms in the heart clots in considerable quantity. The lungs are congested, and contain apoplectic foci. The kidneys are in fact, and present hemorrhagic extravasations, especially when fusel oil (potato spirit) is used.

Acute alcoholic poisoning in the human subject is attended with similar symptoms, and presents similar post-mortem lesions. Dujardin-Beaumez reports the particulars of one case, to which allusion is made in the foregoing lecture.

*Chronic Alcoholic Poisoning.* — Administered in fractional and daily doses, alcohol determines an *ensemble* of symptoms to which the name alcoholism has been given.

In this department of study experimental researches are not yet completed, and it is more especially on facts observed in the human subject that all descriptions of chronic alcoholism have been based.

It was in 1879 that Dujardin-Beaumez and Andigé commenced, in the abattoirs of Grenelle, their researches on slow intoxication by the alcohols. They used swine as the subjects of their experiments, giving these animals daily quantities of the different commercial alcohols, which varied from one gramme to three grammes by kilogramme of weight.

From a letter to me from the professor, bearing date March 18th, I learn that after two years of dosing with alcohol, three hogs had succumbed to the poison.

When the quantity is exceeded of five grammes to the kilogramme, the animal emaciates rapidly, refuses to eat, and soon dies. Among the post-mortem changes the lesions of chronic gastritis have been noted, also fatty changes in the kidneys. In the case of two of the animals the necropsy revealed atheromatous degeneration of the aorta.

In no instance was cirrhosis of the liver noted, or any of the chronic connective tissue diseases.

The most marked manifestation of chronic intoxication in these animals was a profound, prolonged, somnolence, without any period of excitation. When, however, absinthe was used the animal became very irritable, and the period of excitation persisted for some time. (*Recherches sur la puissance toxique des alcools* et *Dictionnaire de Thérapeutique*, article "Alcool," by Dujardin-Beaumez. See also Jaillat in the *Bulletin de Thérapeutique*, August 15, 1881. "On the Transformation of Alcohol in the Organism.")

*ALCOHOL AS A REFRIGERANT.* — The present theory of the antipyretic and refrigerant action of alcohol, and one which accords with all the experiments made to determine the physiological and toxic effects, is given below. It is based, in great part, on the chemical experiments of Jaillat, referred to in the foregoing lecture, these experiments demonstrating the acetification of alcohol in the circulating blood, and the destruction of the acetates formed into water and carbonic acid.

Jaillat, after having shown that the oxy-hemoglobin of the blood is continually undergoing decomposition in the presence of oxidiz-

able bodies, and yielding up to them all its combined oxygen, has made it plain that the blood globule, impregnated with alcohol, transforms the latter into acetic acid during the phenomenon of hæmatisation. In other words, the blood globule, when impregnated with the toxic spirit, has lost the property of transforming all its hæmoglobin into oxy-hæmoglobin, for the oxygen of respiration unites at the same time with the alcohol and the hæmoglobin of the corpuscle. It suffices, in fact, to pass a current of oxygen gas into a certain quantity of blood which has been dosed with alcohol; the blood will presently give the reactions of acetic acid when the proper tests are employed.

We are now in position to explain the refrigeration and other phenomena observed in alcoholic poisoning. We know, in fact, that an animal intoxicated by alcohol gradually undergoes depression of temperature till death ensues. At the necropsy we observe hyperæmia of all the organs, pulmonary apoplexy, and black blood in all the vessels.

(1.) The gradual lowering of temperature is the result of the interruption to the phenomena of hæmatisation caused by the alcohol. Since the blood globule no longer fixes a sufficient quantity of oxygen, it follows naturally that the combustions in the recesses of the tissues are incomplete, animal calorification is imperfect; the result of this incomplete combustion is the accumulation of fatty tissue in alcoholic habitués, and the presence of fat granules in the blood corpuscles.

(2.) The black blood contained in the vessels is the demonstration of the respiratory embarrassment; less oxygen being fixed by the globule less carbonic acid is exhaled. Hence the latter gas accumulates in the blood; there is also increased production of this gas. The acetic acid incessantly formed from the breaking up of alcohol decomposes the alkaline carbonates in the blood, setting free  $\text{CO}_2$  and forming acetates, and these latter again undergo transformation into water and alkaline carbonates. In these conditions death is a veritable poisoning by carbonic acid, which determines a progressive slowing of respiration and circulation, and blood stasis in all the organs.

Jaillet thinks that the diuretic action of alcohol is largely owing to the effect on the kidneys of acetate of soda formed during the oxidation of the alcohol.

Jaillet, *Bull. de Ther.*, August 14, 1881, p. 121. Dujardin-Beaumez, *op. cit.*, p. 39.

## Original Articles.

### THE OLD AGE OF THE SKIN.<sup>1</sup>

BY JAMES C. WHITE, M. D.

THE skin in old age always undergoes some surface changes due to senile degeneration of its tissues which may be considered normal, for the natural processes of decay or degeneration are as much under physiological law as those of growth and repair. It is also liable to certain special diseases caused by alterations in its structure and functions more or less peculiar to this period of life. The hair follicles are generally the earliest to exhibit indications of the first named condition, either by the failure of the papilla to produce the pigment cells of the hair shaft or by gradually ceasing to form hair tissue altogether. But senile forms of cavities and alopecia often show themselves, of local or quite general distribution, in middle or even early life, long before old age may be said to affect other tissues of the integument or body; manifestations, it may be, that this appendage of the human skin is in process of gradual race extinction upon those parts of its surface also where it still attains its full development. In fact, premature loss of the hair from simple decline of vitality in the power of reproduction in the follicles of the scalp is often coincident with the first period of the most vigorous growth of the beard in full manhood. The changes which take place in such early forms of baldness, not dependent upon positive disease of the cutaneous tissues, and in premature blanching of the hair, are the same as those which occur in advanced age, and which are accompanied by other and marked alterations in the structures of the skin.

They are merely a functional decline to manufacture pigment matter and an atrophy of the papilla and productive layers, with a final shrinking of the whole follicle to its condition of second childhood, as a lanugo or empty appendage to the sebaceous gland.

The appearance of the skin in an old person differs from that of infancy and adult life in various ways. It is generally thinner, dryer, paler, rougher, more wrinkled, and in parts inclined to exhibit discolorations and excrescences. The roughness is due to a change in the character of the epidermal cells, by which they lose the power of individual desquamation and collect in masses in places like reptilian scales. This is especially noticeable upon the backs of the hands and face, particularly in persons who have been much exposed to the varying influences of out-of-door life. This tendency becomes so pronounced at times as to give rise to the accumulation of great masses of epidermal cells accompanied by more or less underlying papillary hypertrophy, constituting a special disease, to be hereafter considered, keratosis senilis. The seat of such excrescences is mainly the face, hands, and upper chest. With this thickening there is often associated an excessive formation of pigment, both in its diffused and granular state, not only in the cells of the rete but in the root-sheaths of the hair and in the tissues of the corium as well. Such accumulations of pigmented cells often form marked, deep brown, or black discolorations of considerable extent, of the same level as, or elevated above, the general surface. The scaly and roughened condition of such parts is generally accompanied by a uniform dryness and inelastic state of the skin due to a want of activity of the cutaneous glands. The sebaceous follicles are sometimes found almost wholly atrophied, at others greatly distended and converted into a cyst-like structure and incapable of active secretion. Such dilatation gives rise to the distended openings of the surface and the minute milium-like accumulations seen beneath it. The sweat glands, although their functions are often greatly diminished, are generally found but little changed in structure. This dryness of the surface with the loss of elasticity, due to changes in the corium beneath, dispose the skin to chafe easily and to excoriation under trivial injuries. The uniform pallor of the skin in advanced age, although interrupted in some regions by a marked enlargement of the superficial arterioles, is due both to the diminished driving power of the central organ of circulation and to the dilatation of the cutaneous vessels, or the atrophy of those especially connected with the glandular structures. The beautifully serene look of repose of this period of life, poetically attributed to a mind at ease, is in no small measure the result of such physical changes in the texture of the skin. The thinning of the skin is due to a shrinkage in all three of its layers. The cells of the rete are relatively diminished, and approximate in their character those of the horny layer; the panniculus adiposus is often largely absorbed, and the fat cells are not fully distended, and the corium becomes greatly changed throughout. The papillæ flatten down and often wholly disappear, the bundles of fibrous tissue become less distinct, and the fibres themselves infiltrated with granular material, and greatly reduced in size. In another form of degeneration the whole fibrous skeleton of the cutis is converted into a homogeneous, structureless mass, which is brittle and easily split or fissured, the so-called hyaline, amyloid, colloid, or glassy degeneration. In both

<sup>1</sup> Read at a meeting of the Medical Improvement Society, November 13, 1882.



forms the corium shrinks materially in bulk. With the loss of elasticity and plumpness attendant upon these changes it is not to be wondered at that the skin should present a shriveled aspect or be permanently drawn into small wrinkles, or larger furrows and ridges under the action of its muscles, so that in some persons it presents a remarkable multiplicity and complexity of pattern. Such are the principal, functional, and structural changes in the skin which constitute the condition called *atrophia senilis*, changes which affect every individual during senescence in greater or less degree, and which are to be regarded, therefore, as the normal process of decay.

There are, however, certain alterations in its tissues and disorders in its economy, which must be considered as pathological processes characteristic of this period of life, although not peculiar to it. The most important of these will now be briefly described.

#### PRURITUS SENILIS.

Pruritus senilis is a very distressing affection. It is a purely subjective condition of the integument, — not attended primarily by any perceptible changes in its structure. The principal sensation is an intense itching, which may be universal or limited to restricted areas. Sometimes a feeling of burning or formication is a prominent symptom. These sensations occur in marked exacerbations, generally most pronounced towards night. They are most always aggravated on exposing the skin while undressing, but sometimes reach their most intense grade when the patient becomes warm in bed, and continue to torment him with intermissions until morning. Generally the itching is much diminished during the day, but may be readily excited by overheating the skin, or by the use of hot or stimulating drinks. Scratching is invariably resorted to for a relief to the suffering, which it affords by blunting for a short time the sensibility of the part. It is performed at times with intense frenzy, not only with the nails but with any more effective weapon at hand, and until a pitch of general nervous excitement is induced resembling the sexual orgasm, and followed by a like reaction and profound exhaustion. As a consequence of such insults and repeated violence the skin, sooner or later according to individual power of resistance, undergoes various changes in its tissues. Its surface presents scratch marks of different depths, or inflammatory lesions of all grades, from the papule to the ecchymatous type, more or less excoriated by direct violence. The hairs upon the extremities are often worn off by the constant friction to the level of the tips of the prominent papillae, and the skin thus attains a harsh feeling and eventually assumes a dark hue, from the pigmentation induced by the prolonged hyperemia caused by scratching. The seat of the pruritus is chiefly the extremities, especially the legs, where the vitality of the skin is lowest from the enfeebled circulation. The genital region is also frequently affected, the whole district assuming the most advanced grade of secondary eczematous tissue-changes, with the well-known intense suffering peculiar to these parts in that affection. It is not surprising that with the sleeplessness and constant peripheral nerve agitation attendant upon this disease, it should at times eventually lead to disturbances of the central nervous system and intellectual faculties, and thus react upon the whole economy. It is generally aggravated during the winter season, as are other forms of pruritus, owing

to the drier atmosphere, the overheated house, and the rougher texture of the clothing worn next the skin.

The treatment of pruritus senilis does not differ from that in other forms of this neurosis of the skin. The varied list of anti-pruritics offers not a few remedies which, judiciously applied, are capable of controlling in some measure the subjective symptoms of the disease. Their action is always temporary, however, and at times limited to furnishing only momentary relief. Even with this restricted power the patient must often depend upon their constant or intermittent use for his comfort and ability to withstand his sufferings. The use of such applications is often determined by the secondary changes in the skin, the result of long continued scratching before treatment is begun. All grades of eczema may demand their appropriate care before the case is reduced to one of simple pruritus, and sometimes mechanical aids to self-restraint are absolutely necessary in order to obtain any degree of control over it. Among the most reliable anti-pruritic remedies in this affection are carbolic acid, tar, chloral hydrate, camphor, corrosive sublimate, and hydrocyanic acid. They may be applied in several forms, and more or less combined with advantage at times. The most useful formulae are, perhaps, the following: —

- R Carbolic and camphorated cosmoline, p. c.
- R Acid. carbolic, ℥ss, glycerine ℥j, aq. calcis, ℥viij.
- R Oi. cadm. ℥ss, adipis ℥j.
- R Oi. cadm. ℥j, sapon. virid., glycerine, aa ℥ss, alcohol ℥vj.
- R Chloral hydr. ℥j, aq. camph., alcohol, aa ℥iv.
- R Chloral hydr. ℥j, acid carbol. ℥ss, glycerine ℥ss, aque, alcohol, aa ℥iv.
- R Chloral hydr., camphor, aa ℥j, glycerine ℥ss.
- R Hydrarg. bichlor. gr. viii., acid carbol. ℥ss, aque ℥viij, for restricted use.
- R Acid. hydrocyan. dil. ℥j, emuls. amygd. ℥viij.

They are to be applied in the evening as early as practicable in anticipation of the nocturnal exacerbation, at all events at bed-time, and are to be repeated through the night or at other times, as freely and frequently as may be required to relieve the attacks of itching, without producing so much irritation of the skin that they may not be used as freely at the next application. They are never to be rubbed on or in, but sopped or smeared on so gently as not to excite the cutaneous nerves. If the surface should be overstimulated by them some soothing ointment, as "cold cream" or a very mild oxide of zinc salve (gr. v. to ℥j), may be applied to such parts in the morning. In order that any of these formulæ may not lose their effect by prolonged employment, it is well to change from one to another after a time. It may often be necessary to try several of them before that best adapted to the individual case is found. By their properly directed use alone a life of perpetual misery may generally be changed to one of comparative comfort. Internal remedies addressed to the nervous system for the purpose of blunting or benumbing the peripheral nerves are not advisable, for they must be given in increasing quantities to control the sufferings of the patient, and almost always to his general detriment. Granting that their temporary use is sometimes necessary, chloral and the bromides will be found most effective. It must not be forgotten, however, that they are capable of producing serious disturbances of the skin. The patient's diet should be so regulated that no stimulating substances are taken. No hot drinks are to be allowed, tea and coffee, that is, are to be drunk lukewarm, nor any alcoholic liquors after the noon meal. The habit of taking whiskey at bed-time

to produce sleep is especially to be prohibited. The patient is not to be permitted to approach the fire of furnace flue, particularly at night when the desire of warming the feet before going to bed is strongly felt by old people. If necessary warmth may be restored to these extremities by a foot-bath. The thinnest old linen or cotton garments should be worn next the skin, beneath the ordinary woolen shirt and drawers. By such means we may generally make the disease at least endurable in every case.

#### PURPURA SENILIS.

The vessels share in the general enfeeblement of the cutaneous structures in old age. In the most dependent portions of the body they allow their fluid contents to leak, giving rise to a passive oedema of the skin of the feet and lower legs, which may disappear after the horizontal position of a night time. The capillaries undergo dilatation, so that the superficial plexus becomes visible as a greatly magnified mesh-work of a deep purple or blue color, as prominent at times as *navus* tissue. The varicose condition of the larger veins adds to the difficulties of the cutaneous circulation. Under these circumstances extravasations of blood take place easily, sometimes in the form of minute dots, sometimes in areas of considerable extent and irregular shape, which are reabsorbed slowly, and if of frequent recurrence, are transformed into permanent stains of a reddish-brown or black color. Such deposits of modified blood pigment are of frequent occurrence about the ankles of old people. They often follow, moreover, prolonged hyperæmia dependent upon inflammatory dermatoses (of these parts). Sometimes the hæmorrhage is more general, in the form of the petechiæ and vibices of ordinary purpura, occurring without subjective symptoms or indications of constitutional disturbance, and affecting the whole lower extremities. Such forms, the result of simple loss of vitality during senescence, have been called *purpura senilis*. It does not differ from the simple purpura of earlier periods of life excepting in its more persistent recurrence. Internal hæmostatics have little influence in overcoming the tendency to local hæmorrhage at this age, and it must be controlled mainly by such mechanical agencies as rest, a horizontal position for the legs, and the constant use of the elastic stocking or rubber bandage.

#### PIGMENTATION.

Distinct from these permanent stains of hæmorrhagic origin is to be considered another kind of discoloration which often affects the skin of old people. It is a hyperplasia of the natural pigment cells of the rete, and shows itself in the form of more or less circular spots or patches, varying in size from a minute point to a pea or large bean generally, and in color from a yellowish-brown to a deep black. These resemble at times ordinary freckles, when they are not accompanied by any thickening of the cuticle, but as the process continues the whole epidermis thus affected is apt to undergo hypertrophy, so that the spots become elevated above the general surface, forming one of the varieties of *keratosis*, presently to be considered. The favorite seat of such pigmentation is the backs of the hands and fore-arms, the face and neck. Upon the first named parts, especially in old men whose lives have been passed in the open air, the skin sometimes presents an almost continuous discoloration of varying

intensity by the confluence of individual spots of all sizes. Such spots may form, as we shall see, the beginnings of more serious disturbances, but they may continue to extend or last indefinitely without undergoing farther change as a harmless disfigurement simply. They rarely undergo spontaneous involution. Their depth of color is sometimes obscured by a slight scaldiness of surface, but ordinarily, unless the whole epidermis shares in the hypertrophy of the colored cells of the rete, the skin remains smooth. For the removal of these pigment spots no treatment is necessary or possible.

#### DISORDERS OF THE SEBACEOUS GLANDS.

A false pigmentation is sometimes produced by the sebaceous glands, which, when retaining their activity late in life, often secrete in some parts a modified sebum of a cheesy consistence, which forms upon the scalp a continuous, firm coating, gradually changing by the retention of dirt to a brownish or black color, presenting a most unsightly appearance. Similar concretions sometimes form also about the openings of the glands of the face, which may attain a considerable thickness and give rise to bleeding if removed by violence. They are not always to be easily distinguished from other affections of the glands in which a modified cell-growth is transformed into epitheliomatous neoplasm. All such simple collections of sebum may be readily prevented from forming by proper care of the skin, and are easily removed. The scalp should be saturated with sweet oil for a half hour or so daily. A bit of sponge or flannel rag smeared with toilet soap, or dipped in a strong solution of soft soap in alcohol, should then be rubbed into the part, gradually adding water until a thorough lather is obtained. This mixture of fatty scales, oil, and soap is then to be thoroughly rinsed off with much water, and the scalp smeared with lard or vaseline. This is to be repeated daily until the accumulation is entirely removed and ceases to form again. Afterwards the scalp should be washed often enough to keep it active and clean. Upon the face and other parts the concretions may be smeared at night with an ointment (hydrarg. am. chlor. gr. ℥i., vaseline ℥i.), and treated in the morning with oil and soap, as above directed. This course is to be followed until the glands involved return to their healthy action.

That sebaceous cysts, or wens, occur with greater frequency upon the old than upon the young is well known, but they require no special consideration here, as they are in no way peculiar to old age.

#### KERATOSIS SENILIS.

This affection has been described by Neumann under the name *keratosis pigmentosa*, which is not exact, as the increase of pigment, although highly characteristic, is not always present; and under the title *verruca senilis* by Hebra and Kaposi, which is not correct, as the papillary hypertrophy, the essential element of wart growth, is generally wanting. It first shows itself in the form of collections of scales, hardly elevated above the general surface, of somewhat darker color than the surrounding skin, of an irregularly circular or oval outline, resembling in fact, without close inspection, freckles of light tint. The surface of these spots is sometimes shining and smooth, sometimes dry and covered with minute lightly adherent scales. They attract little attention at first, although seated in

greatest abundance generally upon the most conspicuous parts of the person, namely, the upper half of the face and the backs of the hands. They may also appear over more extensive areas, the fore-arms and chest especially. Gradually they become more noticeable by increase of thickness and depth of color, but their development is very slow, and years may pass before they have attained sufficient growth to become troublesome. In their most advanced condition they present elevations an eighth of an inch above the general surface, consisting of dry, horn-like scales, which vary in color from the faintest yellow to the deepest black, and which may be removed with a little violence by the nail or a blunt-edged instrument, leaving exposed a superficial excoriation. Examined by the microscope, according to Neumann, the underlying and surrounding tissues present the ordinary appearances of senile atrophy and an accumulation of pigment in granular form about the vessels. The sebaceous glands are often enlarged, and their mouths plugged or obstructed, so that they project above the surface of the skin in the form of wart-like elevations when the overlying epidermal scales are removed. The growths differ, therefore, from the true wart in the natural condition of the cutaneous papilla; the mass of the excrescences being composed of horny epithelial cells more or less pigmented. When fully developed they may be a third or half an inch in diameter, and they have generally a flat surface. They may occur singly or in considerable numbers upon the face or hands, and they often give to these parts an appearance suggesting, in connection with the age of the patient at which they attain their fullest development, the corresponding tegumentary changes in the bark of an old tree. They rarely appear before the age of fifty in numbers, and are seldom very conspicuous before that of sixty-five or seventy. They are much less likely to develop upon persons who have kept their cuticle and sebaceous glands in proper order through life by sufficient use of soap than upon those who have neglected this custom. When very prominent they are easily knocked off, so that the hands especially often present excoriated, bleeding surfaces, when the growths upon them are numerous. The scales, when reproduced, are then more or less discolored by the admixture of blood pigment.

The prognosis in the case of such simple collections of epidermal scales would naturally seem to be most favorable, and so it generally is if treatment be resorted to in good time, but the most simple changes in the cutaneous tissues of the face in old people are always to be held under suspicion. A wart or mole which has existed through life, a more recent accumulation of sebaceous material or of hardened scales, may eventually be transformed into epitheliomatous disease. So this affection is a very common starting-point of this form of cancer. The transition from this simple epidermal hypertrophy to this more serious new-growth is unmarked by any striking change in the condition of the part. The patient's attention becomes finally attracted to the fact that the scaly patch is not as firmly fixed as formerly, or that the tissues beneath are softer or more boggy when it is pressed upon, or that the covering of scales is changing to a crust or scab, which enlarges at a more rapid rate, or that the part is no longer wholly without unnatural sensations. Little nodules begin to appear at its edge, minute globular elevations, containing a soft material resembling milia, which may be squeezed out, and are found to consist of epithelial

cells. These in turn become excoriated, and add to the size of the crust. Thus in time a circular, prominent patch, of a dull-red color, consisting partly of scales, partly of crusts, is formed, varying in size from a pea to a dime, and eventually the whole central portion softens and is cast off, leaving a shallow ulcerating surface. Its shape is generally irregularly circular, separated from the surrounding skin in part at times by a slightly elevated, hard border, which overlies a deeper infiltration. Such is the final history of *keratosis senilis* in many cases, such the beginning of a large proportion of superficial cancers (rodent ulcers) of the face in old people.

In the earliest stages of this affection it will be sufficient to wash the parts daily with soap and water, to keep under restraint the tendency to accumulation of epidermal cells. Generally the use of a little sweet oil, rubbed into the patch and allowed to remain a few minutes before applying the soap, will make its removal easier. When the growths are thicker and firmer, and when there is much pigment change, it is well to use upon them over night some fatty material like lard, or diachylon ointment, in the form of a plaster, and to rub into them in the morning on a piece of flannel cloth some of the strong soaps, like domestic soft soap or *sapo viridis*, or their concentrated solutions in alcohol. Water is next to be rubbed in until a thorough lather is made, which is then to be washed off. Should any excoriations be thus produced they may be protected by a patch of cloth spread with diachylon ointment until healed. In this way the ordinary growths may be gradually thinned and made to disappear, but the parts will always require extra care and washing subsequently. If the epidermal masses are unusually prominent, or if the sebaceous glands are involved to any great degree, severer measures are called for. Concentrated nitric acid may be repeatedly, if necessary, bored into the underlying tissues upon a sharply pointed stick, or the sharp spoon or curette may be used to scrape out at once all diseased elements. As soon as any suspicion of transition to epitheliomatous growth arises, the part should be dealt with according to the rules for treatment in that affection, which, however, is one in no way peculiar to old age, and therefore not to be here considered.

#### SOME STATISTICS AND OBSERVATIONS CONCERNING LACERATION OF THE CERVIX UTERI, AND ITS TREATMENT.<sup>1</sup>

BY F. B. DAVENPORT, M. D.,

Assistant Surgeon to the Free Hospital for Women

I HAVE thought it might be of interest, and possibly of some value, to tabulate some statistics with regard to the operation for laceration of the cervix as performed in the last six years at the Free Hospital for Women. I am well aware that it is a subject about which a great deal has been written and discussed, and that at present it is receiving fresh attention in societies and medical journals. This is perhaps due to several causes.

In the first place the operation is still of comparatively recent origin, and many points in its pathology are still obscure. Indeed, Dr. Emmet himself, the au-

<sup>1</sup> Read before the Obstetric and Gynecological Section of the Suffolk District Society.

thor of the operation, has recently modified his views as to the cause of the eversion, and in a most interesting discussion at a meeting of the New York Obstetrical Society many new ideas were advanced.

In the second place the operation has now reached a stage where it is on trial in England and on the Continent. The prevailing sentiment in European countries has hitherto with but a few exceptions been opposed to it, as unnecessary, and even unwarranted. It has been the fashion to ridicule it. But the operation is beginning to win favor even in conservative England. In the latest English book on Diseases of Women by Dr. Edis, the whole subject is fully and impartially discussed, and its performance in suitable cases warmly advocated.

The operation has then passed the stage of its first enthusiastic reception by the profession, has gone through the period when it was liable to be performed frequently on insufficient grounds, and is now being judged more impartially and fairly.

The method of operation except in peculiar cases can hardly be said to be a matter of great moment, provided whatever method is used is carefully carried out. Whether we use silver or iron wire, silk or catgut as sutures, whether we denude with scissors or knife, whether we do it with or without carbolic spray, or with irrigation, are points of less importance than that we denude thoroughly, bring the parts in careful apposition, and have our instruments and sponges surgically clean. More important questions than these to discuss, because less definitely settled, are what cases need the operation, what are the contra-indications, and what should be the after-treatment. These are points which the more careful study of cases is gradually helping to elucidate.

There have been in the Free Hospital for Women from November, 1875, to March, 1882, 495 patients. This is not a large number, but they have been admitted as they presented themselves or were recommended, without regard to whether they were operative or non-operative, acute or chronic, and hence may be assumed to fairly represent the average gynecological practice. The diagnosis of laceration of the cervix uteri was made sixty-three times. There have been 423 out-patients seen at the hospital within the last three years, and of these seventy-six were found to have more or less extensive laceration of the cervix. In a total of 918 cases we find 139 with this lesion, or 15.1 per cent. This is by no means so large a percentage as has been stated by many writers on the subject, and certainly differs widely from the general impression of the profession as to its frequency. Dr. Coghlin, in an address on Obstetric Medicine before the British Medical Association in 1881, says: "It is very rare to find a multiparous cervix in any other than a dilapidated condition, with more or less laceration." It agrees singularly well, however, with the result which Dr. Emmet arrives at from his cases, that a little over sixteen per cent. of all women who had passed under his observation, were found to have had laceration of the cervix.

Of the 195 patients in the hospital 183 had borne children, and of the 123 out-patients, 213. That gives among those who had borne children a percentage of 28.8 per cent. of cases of laceration. Emmet's percentage is rather higher, 32.8 per cent.

These proportions are not materially changed if we make use of a still larger number of cases. Dr. W.

H. Baker has kindly allowed me to include in this summary the cases which have occurred in his private practice. Of 992 patients, 456 had borne children, and in 135 of these last, laceration of the cervix was found, which would be 13.7 per cent. of the whole, and of those who had had children, 29.6 per cent. As the result of the whole number of cases, over 1900 in all, we find that 14.4 per cent. of all cases that have come under observation have had laceration of the cervix, and of those who have borne children, 30.4 per cent., or nearly one in three.

We will now consider more particularly as regards the operation those cases which have occurred at the Free Hospital. In a certain proportion of them the lesion was slight, and did not call for operation, and several patients left the hospital, not consenting to the operation when it was advised. In all there have been forty-two operations performed on thirty-seven patients, in four instances a secondary operation being required, as the first was not a complete success, and in one case a third even being necessary. Of the thirty-seven cases where the operation was performed, fifteen had had one child, eight two, six three, four four, and one each five, six, seven, and ten. Twelve had had miscarriages.

The direction of the laceration was not always indicated in the records. As far as noted there were seven to the left, seven to the right, seventeen bilateral, and two stellate. This does not agree with what is generally taught, that laceration to the left is much more common than to the right. It does, however, show that a bilateral tear is more apt to give rise to symptoms than a unilateral one, as it often happens that no eversion occurs when the tear is confined to one side. Goodell,<sup>1</sup> in a late paper on the subject, states that he operates only when they are bilateral.

All the operations were done under ether, with the patient on the side, in the semi-prone position, and many of them under carbolic acid spray. The denuding was done with knife or scissors as seemed most convenient, and silver wire was used, except once or twice in a secondary operation, when catgut was employed.

The after-treatment is simple, but certain precautions are used to prevent too much motion on the part of the patient. She is kept quiet on the back for the first few days, after which she is allowed to move carefully to one side or the other. The knees are tied and flexed, and a roll placed under them as a support. After forty-eight hours the vaginal douche is given night and morning. The catheter is used until the stitches are removed, except that the patient may be allowed to pass water while the douche is being given.

It has been claimed that the operation is in itself so simple that such precautions as to quiet are unnecessary, and that the operation might be performed without ether in an out-patient clinic, and the patient sent home in a carriage. Not feeling justified in dispensing with all precautions, we nevertheless allowed one patient to sit up on the third day, and to take solid food, but a sudden rise in the temperature to 102° F., a temperature which repeated itself on three successive evenings, a somewhat longer convalescence, and the failure to obtain perfect union, were sufficient reasons for returning to the more tedious but certainly safer plan of treatment.

The bowels are kept confined until a day or two

<sup>1</sup> American Journal of Obstetrics, January, 1882.

after the stitches are taken out, and are then moved by injections of sweet oil at intervals of two hours, followed by an enema of warm water.

As a rule the stitches were removed on the eighth day. When the menstrual flow came on earlier they were left in some days longer.

The results in the forty-two operations were as follows: perfect union in thirty; failure of one or more stitches to unite, but not sufficient to need a secondary operation, eight; four needed a slight secondary operation. In seven of the twelve cases, where the operation was not absolutely perfect, the menstruation came on, making it highly probable that its occurrence interfered with union.

For thirty-eight of the cases there are temperature charts. These show that in twenty-one of the cases, just fifty per cent., the temperature did not reach 100° F. at any time; in eleven the highest point was between 100° F. and 101° F.; in six the highest point was 101° F. and a fraction, and in two cases it reached 102° F. One of these last cases was the one where the patient was allowed more freedom; in the other it touched 102° F. one evening, and then rapidly subsided.

In not a single case was the operation followed by an attack of pelvic cellulitis or peritonitis. In one case, reported by me before the Suffolk District Society, two years ago, the operation was followed several weeks later, after the patient had gone home, by phlebitis of the left leg.

One great inconvenience formerly was the irritation of the bladder, often amounting to cystitis, which was induced by the use of the catheter. At present that is avoided, and usually successfully, in two ways. In the first place, as soon as the vaginal douche is given, after forty-eight hours, the patient is allowed to pass water at that time, thus making only one or two catheterizations a day necessary. In the second place, as soon as the bladder becomes at all irritable, and the urine neutral or alkaline, benzoate of ammonia is given frequently in doses of from thirty to fifty centigrammes. This controls the irritability better than anything else which has been tried. When the urine is acid, citrate of potash will sometimes prove of service.

The limits of this short paper will not admit of touching on a great many points of interest in connection with this subject, such as the necessity in a great many cases of preparatory treatment, the modifications in the operation which are necessary when the lips are much hypertrophied, the effect of displacements on eversion, the connection between eversion and cellulitis, and many other questions of pathology which are being gradually elucidated as time goes on. The few facts which I have presented will, perhaps, serve to show the frequency of the affection, and lead, in suitable cases, to the performance of the operation as a radical cure, instead of attempting what must be merely a palliative measure, the healing over of the everted and eroded cervical mucous membrane. Any one who has tried to heal permanently a bad case of lacerated cervix with the use of astringent applications, or, worse still, has seen the disastrous results of the use of caustics, will, I am sure, welcome this operation as a shorter, more rational, and sure method of treatment.

—Mark Gray, the would-be assassin of Edwin Booth two years ago at Chicago, has been released from the Illinois Insane Asylum on a habeas corpus.

## Reports of Societies.

### PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

T. M. BOTCH, M. D., SECRETARY.

NOVEMBER 13, 1882. DR. J. C. WARREN presided. DR. J. C. WHITE read a paper entitled

#### THE SKIN OF OLD AGE.<sup>1</sup>

DR. MIXOT stated that he had found the application of borated cotton in a severe case of pruritus ani of the greatest service, and he also mentioned other cases where it had been found to be valuable.

In answer to a question from Dr. F. C. Shattuck, DR. WHITE said that he had never given arsenic in cases of senile pruritus.

DR. WARREN spoke of the success attending the treatment of warts with preparations of salicylic acid.

DR. WHITE said that he had tried it in various forms of keratosis, and that the effect is good where there is merely an accumulation of epidermal cells, but if there is an inflammatory condition below it has little effect. In warts where the papillae are hypertrophied it will remove the epidermal layers, but they will soon return, and on flat epitheliomatous disease he had tried it without success.

DR. WARREN spoke of destroying effectually epithelial growths, when removal is attempted by escharotics, and not applying mildly, which merely stimulates the growth and changes the slighter forms of epithelial disease to those of deeper growth. He also described the method employed by him for removing these growths, namely, the curette, followed by nitrate of silver where the gentle scraping of the curette did not reach. Where large surfaces are involved it is advisable to give ether and use a larger curette, followed by the actual canter. In this way an extensive cicatrix is avoided, which is especially important when the tissues around the eye are affected.

DR. F. C. SHATTUCK reported the following case, with autopsy:—

#### CIRRHOSIS OF THE LUNGS. ENORMOUS CAVITY. HYPERTROPHY OF THE RIGHT VENTRICLE.

J., a shoeblack, twenty-seven years of age, was sent to me by Dr. James J. Putnam, December 11, 1880. His father died of "abscess of the lung," his mother of consumption. His brother, his wife, and several children also succumbed to consumption. The patient lost a brother with the same disease last summer, and has another brother, a hard tickler, who suffers from cough. The patient is sufficiently intelligent, and states positively that he has never been free from cough since he had measles when five years of age. He has always taken pretty good care of himself, except during a short period some years ago, when he smoked and drank to excess. Gave up the use of both tobacco and alcohol about a year ago, without benefit as far as he can see. For many years he suffered from gradually increasing dyspnoea on exertion. Has had a number of attacks of moderate hæmoptysis and one profuse one. Seven years ago consulted one of our most prominent physicians, and was told by him that both lungs were affected, and three years ago obtained a similar opinion from another gentleman of the high-est standing. Has never been confined to bed for

<sup>1</sup> See page 484 of this number of the JOURNAL.

a whole day, and has worked most of the time, his stand being in a narrow, damp alleyway between high buildings, where the sun scarcely ever penetrates. Of late he has not worked in the worst weather.

He complains of shortness of breath on exertion, and reports that he cannot sing or speak continuously by reason of his dyspnoea. Suffers also from severe pain in the cardiac region, shooting through to the back at times. Expectoration is abundant, sometimes yellow, sometimes white, never fetid as far as he knows. The breath is not offensive. The expectoration is sometimes evidently from a cavity, several ounces of white sputum being rapidly ejected, after which he has immunity from cough and expectoration for a time. The appetite is fair, the digestion easy, and the bowels regular. Is forced to rise several times every night to urinate, and micturition is frequent also during the day, but no great quantity is passed at a time. This symptom disturbs him at night more than his cough.

Urine. Specific gravity 1020; no albumen; nothing remarkable under microscope.

The patient is small of stature, but sufficiently well nourished, and has a fair muscular development. The ends of the fingers and toes are markedly clubbed, and the nails incurved. Slight exertion provokes marked dyspnoea, but when at rest he would not strike one as a sick man. The pulse is 96, regular, and the skin is natural to the touch.

Marked dullness on percussion over both apices front and back, especially the left, and under the left clavicle a metallic clang. The dullness diminishes over both fronts downwards, and over the bases is not remarkable. Marked dullness over left lower back; fair resonance over right.

Over the left apex the respiration is cavernous, without bronchophony or whispering bronchophony, but metallic tinkling is occasionally heard over the whole left front as well as over the apex. The left supra-scapular fossa corresponds in every way with the infra-clavicular region. At the left base in the back respiration is tubular; over the other region of the left chest the respiratory murmur is extremely harsh and often jerky. Abundant coarse râles are also heard.

Respiration is rude at the right top in front, with coarse dry and a few fine moist râles. In the right supra-scapular fossa very abundant fine râles, obscuring the respiratory murmur. Both front and back the respiration improves in quality from the apex down, and the fine râles disappear.

The heart sounds are very loud all over the lower left front, and the second sound is very strongly accentuated over the pulmonic orifice.

I made the diagnosis of cirrhosis of the lung, with bronchiectatic cavity and enlarged right heart.

He was given digitalis and cod liver oil, under which his pulse came down to 84, and his symptoms improved decidedly, the pain in the cardiac region disappearing, and the dyspnoea diminishing somewhat.

After a month or two I lost sight of him, and did not see him again till November 10, 1882, when he summoned me.

Three days previously a profuse hæmorrhage had set in, and he had been raising blood very freely ever since. I learned that during the last two years his dyspnoea had been gradually increasing, but that he had been up and about constantly. For the last six months he has been unable to work at all, and, after a short walk on level ground from the horse-car to his house,

he has often been obliged to sit on the door-step for half an hour before he could get sufficient breath to mount one short flight of stairs.

When I saw him he was pale, very restless, sitting up and leaning forward in bed, and suffering from intense dyspnoea. Every few moments he raised some blood mixed with purulent matter, apparently, and a vessel under the bed contained nearly a pint of similar sputa raised during the last five hours. The pulse was quick and small; he could take scarcely any nourishment, and begged for sleep. He was in no condition to submit to a complete physical examination, but putting my ear to the left lower back I heard very loud amphoric respiration. He had been seen by another physician, who had prescribed ergot, but his stomach could not retain it.

The extent and hopeless character of the disease and the suffering of the patient seemed to me to warrant the administration of an opiate in spite of the danger of opium where so little healthy lung tissue remains and the blood comes apparently from a pretty large vessel. I accordingly gave him a sixth of a grain of morphia in pill, and ordered mustard to the chest with hot water to his feet. Soon after taking the pill he became more comfortable, the cough diminished, and he got some sleep. At ten P. M. he died quietly, nine hours after my visit.

Autopsy, eighteen hours after death, by Dr. Cutler. There was no marked disparity between the two sides of the chest externally; the tissues were very bloodless; the position of the diaphragm was normal; the heart lay in its usual place. The left pleural cavity was obliterated, and the left lung was practically an enormous cavity partially divided into compartments. Some of these compartments were evidently dilated bronchi, and the whole was filled with an offensive fluid containing much blood. The right lung was adherent about the apex and posteriorly somewhat lower down, was very voluminous and emphysematous. The apex was indurated, and the upper lobe contained several caseous masses, while in the posterior portion of the lower lobe was a cavity the size of the fist, lined with pyogenic membrane. No tubercles were seen anywhere. The pericardium contained a slightly increased quantity of serous fluid, and the right ventricle was very greatly hypertrophied, so much so that its walls were scarcely thinner than those of the left ventricle, and remained rigid when the ventricle was opened; at least half of the volume of the heart was formed by the right side. The valves were healthy. There were some old adhesions about the liver and spleen, but those organs appeared healthy. The other organs and the brain were not examined.

To sum up: a man of twenty-nine has almost completely lost the use of his left lung, which contains an enormous cavity, while the right lung has been invaded to a considerable extent. He gives a history of constant cough and expectoration, with gradually increasing dyspnoea since he had the measles at five years of age, and yet he has never been laid up a whole day in bed all this time; has been practically free from fever, and is very fairly nourished. What a contrast between this case and one of ordinary consumption!

Some gentlemen may remember a man whom I showed at this Society two years ago, and whose organs were exhibited at a later meeting.<sup>1</sup>

<sup>1</sup> Vide JOURNAL, 1880, vol. cii., p. 240.

The two cases illustrate two of the different methods by which cirrhosis of the lung may originate. The case of 1880 began apparently as one of ordinary phthisis, in which the pneumonic element was after a time arrested, but the fibroid element progressed. With increasing dyspnoea, due to the advancing destruction of the air vesicles, he gained many pounds of flesh, and died of thrombosis of the pulmonary artery. The disease in our present case was the consequence, probably, of lobular pneumonia and atelectasis complicating measles at five years of age. I have recently seen two other cases which seem to have originated in and followed croupous pneumonia. The books speak of the thick, false membranes which sometimes remain after the fluid part of a pleuritic effusion has been absorbed as occasionally furnishing the starting-point for an interstitial process in the lungs; I do not recall having met with one of these cases.

Cases similar to this just reported are very interesting on account of the great disparity which exists between the physical and the rational signs. Physical exploration reveals more or less disorganization of the lungs while the nutrition of the patient may be excellent, and his chief complaint is apt to be of shortness of breath on exertion.

In reply to Dr. Bowditch, who asked why the disease should be called cirrhosis, Dr. SHATTUCK said that he did not especially hold to the term "cirrhosis." He had called the other case to which he had alluded "fibroid phthisis," and the disease has been called also interstitial phthisis, Corrigan's phthisis, and even chronic pneumonia. The point which he wished to bring out was that in these cases the lungs are destroyed by a slowly advancing connective tissue growth, the tubercular and pneumonic elements of phthisis being very subordinate or even almost entirely absent. Cirrhosis of the lung is at one end of the scale of which galloping consumption is at the other, and in between we have mixtures in every possible varying proportion; in general terms, the more chronic a case of phthisis the greater the amount of connective tissue growth. The dilatation of the bronchi, so often met with in these cases, and so well marked in that under consideration, has usually a mixed causation, the chief factors in which are persistent cough, the contraction of connective tissue up to a certain point as it grows older, and the effect of atmospheric pressure in preventing a vacuum within the chest. As the lung tissue wastes the space which it occupied must be filled either by the falling in of the chest wall, which of course has its limits, or by the dilatation of the bronchi. The same force which dilates the bronchi acts also, though in a far less degree, to dilate the blood-vessels; hence the comparative frequency of little aneurisms in the lungs in these cases.

DR. WARREN asked how Dr. Shattuck thought opium could do harm under such circumstances.

DR. SHATTUCK said that it seemed as if the benumbing effect exerted by opium on the respiratory centre might result in an accumulation of the blood as poured out, its insuflation into the sound pulmonary tissue, and thus contribute to death by suffocation.

DR. FITZ asked if opium was not the most efficient method of stopping the hæmorrhage, by quieting the nervous excitement of the patient.

DR. SHATTUCK expressed his entire agreement with Dr. Fitz as to the great value of morphia in cases of hæmoptysis such as occurs early in the course of a

phthisis. The only question in his mind was whether astringents, ergot, etc., should not be pushed, if possible, when the blood seems to come from a cavity; in these cases the bleeding is not from capillaries, but from larger vessels, as a rule, and it would seem to be desirable to do something more, if one can, than simply to allay nervous excitement, and, by allaying the cough, restrict the movements of the chest. Dr. Shattuck now regretted that he had not, by placing ligatures high up on the extremities, sought to obstruct somewhat the return of venous blood to the heart. Dr. H. Holbrook Curtis, in a recent number of the *New York Medical Record*, reports a case of pulmonary hæmorrhage, where this method succeeded brilliantly in checking the bleeding after other means had signally failed.

DR. FITZ pointed out the fact that such a variety of drugs had been used at different times to arrest hæmorrhage, that they probably did not any of them have much direct effect on it.

#### SCARLET FEVER AFTER CONFINEMENT.

DR. J. B. AYER reported the case of a lady, twenty-five years of age, whom he had attended in her second confinement.

After an easy labor she did well until the third day, when a slight erythema was noticed upon the chest, accompanied by a moderate amount of febrile disturbance.

Redness and fever increased next day (temperature  $102.5^{\circ}$  F.), and on the day following the disease reached its height, a large portion of the body being involved; the temperature  $103.4^{\circ}$  F.

On the fifth day the fever subsided, and the eruption had partly faded. Desquamation continued upwards of a fortnight.

Excepting a very offensive vaginal discharge there was nothing in this attack of scarlet fever peculiar to the puerperal state. Contrary to usual experience it was mild and uncomplicated.

The baby nursed the breasts, though at times there was insufficient secretion of milk. At the beginning of desquamation the baby fretted, and a slight erythema was noticed upon the body, whether scarlatina or not it was impossible to decide. The symptoms were very mild, and there was no desquamation. There was no history obtainable of exposure to scarlet fever. The disease is very rare in pregnancy, but much more common in the puerperal state, giving origin to the theory that the period of incubation in pregnant women may be prolonged until after confinement.

#### PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

##### OBSTETRICAL SECTION.

BY J. B. SWIFT, M. D., SECRETARY.

MAY 4, 1882. DR. FRANCIS MINOT presented two cases of

##### PUERPERAL SEPTICÆMIA,

which had been previously reported at the Obstetrical Society, and are published with the report of that Society.

DR. HARLOW asked if the first case was considered as one of scarlatina?

DR. MINOT replied that he did not consider it as such. There was a rash with sore throat but no other

symptoms. The child was not affected, nor any other person in the house.

DR. J. P. REYNOLDS said that the first and most obvious inquiry in regard to the paper just read was, whether the two cases were fairly entitled to be called instances of septicæmia. The heading of the essay naturally prepares us for an account of acute septicæmia with all the terrible history of that disease, or at least for cases of some severity, even if they be of longer and more moderate development. There had been but little continuance of febrile symptoms in either patient. Was not the mammary disturbance mentioned in the first instance, and the threatening of phlegmasia dolens in the other, possibly enough to explain the general symptoms? He did not, however, wish to be understood as opposing that view which explains many cases of phlegmasia dolens as extension of morbid changes, severe or slight, in the pelvic connective tissue, along the course of the femoral vessels; nor to deny that at times even the connective tissue of the breast may be invaded by disease of similar history and development. Possibly we may all before very long be forced to admit the septic origin of ailments even of this class. Replying to a question of Dr. W. L. Richardson the speaker would not ascribe every acute disturbance in the health of lying-in women to septic influence. And yet if we acknowledge that, in the severer forms, parts remote from the pelvis are not infrequently invaded, why may not such results also attend the milder attacks? In these cases we can seldom have the witness of post-mortem appearances.

We ought not to overlook the statement, that in many, perhaps in most, instances of phlegmasia dolens, the cardinal fact is such a diseased process as that which has just been suggested, to which the obstruction in the vessels is only subordinate and secondary. In by far the greater number of patients it is by the route of the connective tissue, and not through the uterine cavity, that the invasion of puerperal disease takes place; and to make this possible we need only that septic material be found in the neighborhood of some fresh, non-granulating wound or tear.

DR. E. M. BUCKINGHAM inquired if the patient had been exposed to cold in any way? The sore throat at the time of year might be explained in that way.

DR. MINOT did not think so; care had been taken against exposure to cold, and there was an open fire always in the room.

DR. BUCKINGHAM asked if Dr. Minot made it a routine practice to give carbolyzed vaginal injections in all his cases.

DR. MINOT replied that formerly he had done so, but after two cases with alarming symptoms following their use, he had abandoned the practice except in cases where the lochia were offensive. In the cases reported this evening no injections were given until the lochia became offensive.

DR. C. M. GREEN said that he was not aware it was commonly supposed that phlebitis was due to septic origin. He spoke of two cases which he had seen where there was extensive phlebitis, but did not regard it as due to septic poison in either case. He thought that the thrombosis was due to the condition of the blood, it being laden with effete material, watery, with an excess of fibrine, this condition being favorable for the formation of coagula.

DR. SULLIVAN asked whether Dr. Minot had any

other cases of a septic or contagious nature at this time, and also, if the length of time after delivery had any influence on the diagnosis of septicæmia.

DR. MINOT replied that he had no contagious diseases under treatment at that time, nor any surgical cases. He thought it was generally considered that septicæmia set in earlier after confinement than in these cases.

DR. GREEN spoke of an article he had seen recently in which it was thought, if the emunctories were not in good order, with the bowels confined, the patient might be poisoned by the effete material in the system, and not by absorption from the genital tract.

DR. G. H. LYMAN thought that Dr. Minot's diagnosis was the correct one. The symptoms could not be explained in any other way. The rigor was severe; it was too late for so-called milk fever; the rash, the sweating, the hectic every evening, were all symptoms pointing to septicæmia. Had they been his cases he certainly would have regarded them as of that nature. Septicæmia was not always due to absorption from the uterus, but the poison might enter by other channels.

DR. W. L. RICHARDSON thought that every one admitted the septic origin of phlegmasia dolens. A phlebitis such as Dr. Green had spoken of was not necessarily of septic origin, but a phlegmasia was.

DR. COBB asked the treatment in these cases.

DR. MINOT said the treatment in cases like these, not of a grave character, would be to relieve the symptoms as they arose. In the first case he gave three drops of tincture of aconite every hour. After three doses sweating came on, the symptoms were alleviated, and the medicine was suspended. He also gave acetate of ammonia and laxatives, and was careful about the diet. In the second case the patient had a good appetite, slept well, and was without pain. The first patient had a great deal of pain, especially in the limbs, so much so as almost to prevent her moving them. It was not in the joints, but was rather muscular.

DR. F. H. DAVENPORT spoke of the alarming symptoms in connection with the vaginal injections, and asked if they were considered as due to the entrance of water into the uterus?

DR. MINOT said he considered them as due to that cause. The patients had used the injections before, and on these occasions they had been given with equal care. There was a sudden sharp pain in the abdomen, and the patients collapsed, but soon recovered.

DR. DAVENPORT said he had seen the same symptoms in non-puerperal cases, and therefore always stopped up the central hole in the vaginal nozzle.

DR. RICHARDSON said that vaginal injections were always given at the Lying-in Hospital. Their nozzles were always made without the central hole. Formerly they used the ordinary nozzle, and then there had been unpleasant symptoms in a few cases. Since they had used the nozzle without the central hole they had not had a case.

DR. LYMAN asked if after delivery the axis of the uterus did not lie in such a position that the stream from the central hole of the nozzle would not strike the os?

DR. RICHARDSON did not think so. He thinks the stream might strike the os, but regarded it as a rare accident. In thousands of cases of vaginal injections he never saw the slightest trouble follow their use, the central hole being closed. He has seen symptoms



similar to those of anæmia of the brain in cases of intra-uterine injection. When the water was very hot, 120° F. These soon passed off, however, and if the temperature was reduced to 110° F. there was no ill effect.

In closing the discussion Dr. MINOT said that the idea of the first case being due to mammary disturbance could not be held, for lactation had been established and the child had nursed. The first symptoms occurred eight days after confinement. There were no serious symptoms until the eleventh day; then, with the other symptoms, the patient had some pain, but no hardness, in one breast, but it soon passed off. Twelve days after confinement she had a rigor, lasting twenty minutes, and then the milk stopped.

As to the diagnosis there may be a difference of opinion. For his part he has no doubt of its being septicæmia. All the symptoms pointed to it. He spoke of a fatal case, in which the autopsy showed septic absorption about the uterus, and the hygienic condition of the house was very defective. In both the cases reported the patients' rooms communicated with water closets. In both cases there was an open fire in the lying-in room, and he thinks the patients owe their lives to this fact. He spoke of the importance of making an examination of the premises before a case of labor, and said he would always have an open fire-place in the lying-in room.

#### LACERATION OF THE CERVIX UTERI.

DR. F. H. DAVENPORT read a paper entitled, *Some Statistics and Observations concerning Laceration of the Cervix Uteri and its Treatment.*<sup>1</sup>

In opening the discussion, Dr. MINOT said he was surprised to hear that so many precautions were taken in the after-treatment. In the cases upon which he had operated, he merely kept the patient in bed, and only used the catheter when necessary. His experience was limited, but he had obtained perfect union in every case but one, and in that case there was a bridge which seemed to answer every purpose. He never tied the legs together. A cathartic was given before the operation, and a laxative two or three days after, if necessary.

DR. C. M. GREEN thought the operation had often been resorted to unnecessarily, but that in suitable cases its performance would cure or prevent a long train of otherwise intractable symptoms.

DR. W. L. RICHARDSON spoke of a case of bilateral laceration which had been operated upon by Dr. Baker with perfect union. He took care of the patient in her first confinement after the operation, and carefully watched the dilatation of the os. Noticed a slight laceration recurring on the left side of the cervix, which two weeks after delivery could not be found.

DR. GREEN had charge of the same patient in her next confinement, and noticed the same laceration which Dr. Richardson had spoken of.

DR. CHENERY asked if there were any accidents connected with these cases, as cellulitis, and also inquired as to the cause of the cystitis following the operation.

DR. DAVENPORT replied that in none of the cases was there any cellulitis following the operation. He thought that the cystitis was caused by the nurses, who, in introducing the catheter, would often slip it into the vagina in attempting to find the meatus. It was the

custom at the hospital to keep the catheters carbolized, and the nurses were instructed not to pass the catheter beneath the clothes, but to always see where it was going.

DR. MINOT suggested the use of iron wire for sutures in operations on the cervix and in lacerated perineum after labor, the advantages being: its fineness, so that a small needle can be used; it is stronger than silver wire of the same size, and so flexible that a knot can be tied in it; it keeps its hold perfectly, does not corrode, and is cheap.

DR. LYMAN thought the operation had been abused. He sees many cases of even bilateral laceration where he does not advise the operation. He makes it a rule not to operate unless there is eversion of the lips. Very extensive laceration may exist without any eversion, the symptoms being due to something else. He cited a case which had come from a long distance, the patient being in a miserable condition, with a profuse leucorrhœa. Found a lacerated perineum and cervix. She was suffering from an extensive acute eczema at the same time, for which she was under treatment. He advised no operation at that time, but thought she would come to it. Ordered tonics with a regulated diet, and vaginal douches. Being cured of the eczema she went home, returning to Boston last fall, all her uterine symptoms having disappeared. An examination showed that the enlarged uterus and cervical lacerations had contracted without an operation. Had had another case very similar. Patient was anæmic, nervous, and debilitated with a profuse leucorrhœa. Did not consider her in a suitable condition to be operated upon, and put her upon treatment preparatory to the operation, but she improved so much that he did not eventually deem the operation necessary. At the present time, after a lapse of nearly two years, she seems perfectly well.

He has operated on a good many cases, and once had a bridge form such as Dr. Minot had described. As it held the edges well he let it alone. Does not keep the patient in any particular position, but merely keeps her comfortable. Catheter is not used unless called for. Generally speaking, nothing is done, but quiet in bed, with weak carbofic douches. Authorities say that in subsequent confinements patients always did well.

An important question has arisen in connection with this trouble, namely: Is laceration of the cervix a point of departure for epithelial disease? Many cases seem to show that it is. Dr. Lyman thinks it a very dangerous condition for a woman to be in, and therefore would advise the operation when the laceration looks irritable or there is ectropion of the cervix.

The indications for the operation are an enlarged uterus, causing bearing down pains, reflex symptoms, neuralgia about back of neck, flatulence, constipation, generally poor health, a profuse leucorrhœa, with the lips of the cervix everted and eroded.

DR. CHENERY asked if subinvolution of the uterus would not cause these symptoms. He had a case where there was also a lacerated perineum, which had never been attended to, which had the symptoms enumerated by Dr. Lyman. An examination showed an enlarged uterus and congested cervix with everted lips. He thought that involution had never taken place. Did not think there was sufficient laceration to cause the eversion, but rather thought the eversion was caused by the subinvolution.

DR. LYMAN said subinvolution would cause the same

<sup>1</sup> See page 487 of this number of the *JOURNAL*.

symptoms, but thinks that the uterus remains enlarged on account of the irritation of the laceration. If the eversion is rectified by an operation, the subinvolution will be cured in the majority of cases.

# PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. W. SWAN, M. D., SECRETARY.

## FREQUENT AND PAINFUL MICTURITION FROM VASCULARITY OF THE NECK OF THE BLADDER.

APRIL 15, 1882. DR. BAKER described the disease, its symptoms and treatment, and gave illustrative cases.

In answer to Dr. Minot, Dr. Baker said that the urine was received from the fistulous opening in the bladder either into a common rubber urinal or into Skene's urinal, a hard rubber cup which fits over the fistula in the vagina and carries off the urine by a tube.

In one instance a soft Meigs' rubber ring was worn, to which a condom was attached by being sealed all around the edge of the ring. In many other cases where the skin was tough the oxide of zinc ointment was applied, and the patients simply wore napkins; in the case of some nervous individuals ninety or a hundred thick napkins becoming saturated in a single night.

In answer to Dr. Reynolds, Dr. Baker stated that most of the cases had arisen after very prolonged retention of the urine, two of the instances occurring immediately after marriage. In another instance there was a similar history, complicated by extreme constipation.

In answer to Dr. Boardman, Dr. Baker said that in all the cases he had seen at least a year had elapsed before they had come under his observation.

DR. BOARDMAN said he had never dilated the urethra, but had had some cases in which dilatation had been performed, and in these there was a constant desire to micturate, or inability to retain the urine. He could recall cases in which he had assumed the existence of an irritation of the urethra, similar to that described by Dr. Baker, cases due to violence in the newly-married, etc. These troubles had subsided with the removal of the cause, rest, and mild means. If such cases had undergone treatment at some hands there might have resulted a condition of things which, possibly, would require such treatment as Dr. Baker had found necessary in the cases detailed by him. It would seem as if temporary retention of the urine would hardly give rise to changes in the urethra sufficient to call for such extreme measures as Dr. Baker had taken.

He also inquired of Dr. Baker why it was necessary to keep the fistula open for so long a period, or rather how he determined the proper time for closing it.

DR. BAKER remarked that these cases should not be confounded with the frequent micturition arising from too concentrated urine or the extension of an inflammatory process from other parts. Such cases would easily get well with appropriate measures.

## VENTILATION IN THE LYING-IN ROOM.

DR. MINOT reported the following cases:—

I. A lady was confined for the second time March

25, 1882. The labor was normal. She did well till April 2d (eight days), when the lochia ceased to flow, and she complained of a feeling of weight in the pelvis, with some pain. A hot vaginal douche was given. The flow returned, but it was scanty and continued so till April 5th, when it stopped. She felt no special inconvenience till twenty-four hours afterwards, when she had a rigor, lasting twenty minutes, with a temperature of 105.4° F. The next morning, April 7th, she complained of sore throat. The soft palate was red, and a red rash, resembling that of scarlatina, was observed on the cheeks, neck, and hands. She vomited. There was some pain and tenderness, but no hardness in the right breast. At noon there was a profuse sweat, and the lochia returned, though scanty. (Three drops of tincture of aconite every hour.) She had some vomiting in the night, but awoke on the 8th feeling much better. She had taken three doses of aconite. Pulse, at nine A. M., 104; temp. 99.8° F. She then complained of much pain and stiffness in all the limbs, so that she could hardly move them, and this lasted for several days. The rash and the sore throat disappeared. The secretion of milk, which had been abundant, ceased, and did not return. She improved rapidly and was well in a few days. She had not left her bed previous to the attack. She had no pain or tenderness in the region of the uterus.

This patient was perfectly well before her confinement. She lay in the same room in which she had been confined fourteen months before, when she did well. The room communicates by a door near the bed with the bath-room, in which there is a water closet and a "set basin," but there was an open fire always burning in the chamber, and everything about the plumbing and drainage was believed to be in good order. After the first symptoms the door was closed and kept locked.

II. A patient was confined for the second time March 27, 1882. Her first labor, which took place in the same room, was not followed by any untoward symptoms. After the second she did well for five days, and then had quick pulse, some rise of temperature, flushing followed by perspiration in the evening, chilly sensations (but no rigor), and anxiety about her safety, despondency, etc. These symptoms corresponded with diminution of the lochia and their occasional cessation; when the discharge became free the patient was better. April 7th there was some swelling of the left leg, below the knee, which increased, and the limb became cedematous. The swelling did not diminish until April 21st, and the limb is still larger than the corresponding one, and the joints are still, but there has been no pain, and the pulse and temperature have gradually fallen to the normal condition. There has been no loss of appetite or sleep, but the patient is still unable to leave her bed on account of the stiffness of the knee and ankle. There was no pain or tenderness in the region of the uterus.

The room in which this patient lies is large and airy, and there is a fire constantly burning in the fire-place, but it communicates by a door with a dressing-room in which there is a "set basin," and which opens into a bath-room with a water closet. The bed was close to the door of the dressing-room, but soon after the first symptoms appeared it was moved to another part of the room, opposite the fire-place.

Although both these patients had been previously confined without accident in the same rooms respect-

ively as on the second occasions, Dr. Minot could not help suspecting that a minute quantity of sewer gas might have found its way into the apartments, sufficient to give rise to slight septicæmic symptoms, although the dose was fortunately not large enough to cause more dangerous accidents. He desired to call attention to the importance of looking to the sanitary conditions of the room in which a woman is about to be confined. No "set basin," or other communication with the soil pipe, should be considered safe in the lying-in room, or in another room opening into it; and there should always be an open fire-place, with a good draught, in which a fire could be lighted, or a lamp be kept burning, to insure free ventilation of the premises. He thought the patients in the cases reported may have owed their preservation from more serious results to the fact that the means of establishing a free current of air were provided.

Dr. ABBOT said he knew of a case of effusion into the cavities of both knee-joints, the trouble coming on during two winters, and disappearing in following summers. In the third autumn a peculiar odor was noticed in the bedroom of the patient, which was found to proceed from an untrapped set basin. The basin was taken out, and the knee trouble, which had already begun to show itself, disappeared and has never returned.

which are entirely dissimilar to a hard cellulitis. Such cases, in spite of rest and dressing and the most careful treatment, often go on to an active, severe, and deep-seated inflammation, which makes surgical interference imperative. Several cases under my charge have needed operation to relieve the diseased bone beneath the synovial membrane. The question of temperament has an important bearing on the causation of such affections. They are not so likely to be found in the strong, broad hand with thick fingers, but rather in the long, slim, delicate hand, in a frame of finer fibre. A similar affection is often found in the tarsus of a heavy person whose vocation compels him to be constantly on his feet. Nothing will relieve it but fixation and rest, and attention to the general health.

Dr. J. J. PUTNAM asked if it was common in case of injury to wrist or hand to find muscular spasm continuing for some time after. He has now under treatment a case in which the injury and spasm seem to stand in the relation of cause and effect. The patient is a girl who was formerly subject to epilepsy, though she has had no attack for several years. One week ago she bruised her hand in a drawer. When examined there was no trace of the injury except a little heat, but the muscles of the hand and fore-arm and upper arm have been since in a state of tonic spasm. The little finger is drawn towards the middle finger to an extent which is impossible for a person in health. The biceps and triceps are also slightly involved, and possibly the muscles of the shoulder.

Dr. BRADFORD had seen no case so marked. During the winter one case of spasmodic action of the muscles of the wrist had come under his observation, the muscles of the fingers not being involved. The subsequent history of the case, so far as he had been able to follow it, had been steady improvement; in this case there was no trace of hysterical element.

In the cases reported to-night there was no difficulty in moving the wrist, the radio-carpal articulation not being affected. The carpus are generally at rest with reference to each other, and the motion between the carpus and the metacarpus is slight, hence the mobility of the hand and wrist was very little affected. The muscular atrophy which took place he considered due, not to spasm, but rather to want of tone in the muscles.

Dr. PUTNAM reported three cases, illustrated by microscopic specimens, for the purpose of calling attention to Professor Leyden's views on

#### THE RELATION BETWEEN POLIOMYELITIS AND DISSEMINATED NEURITIS.

The latter disease occurs, in Leyden's opinion, much oftener than it is diagnosed, and complicates, if it does not cause, the inflammation of the cord itself in many cases of so-called poliomyelitis.

The first case had occurred two years ago, at the Massachusetts General Hospital under the care of Dr. Abbot, who had kindly allowed Dr. Putnam to examine the specimens. It had been characterized clinically by great pain, anesthesia and parasthesia, referred to the four extremities, muscular wasting, and great diminution or loss of electrical irritability, finally delirium and stupor. After death spots of softening were found in the optic thalami, but the cord and membranes were nearly healthy, certainly showed no marked disease. The peripheral nerves had not been examined, but it was plain that they had been diseased, and probable that this disease was primary.

#### PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL OBSERVATION.

C. M. JONES, SECRETARY.

MAY 1ST. DR. H. W. WILLIAMS pre-ided.

DR. BRADFORD reported three cases of

#### A PAINFUL AFFECTION OF THE WRIST-JOINT.

One case was chronic in character, and lasted nearly a year before complete recovery took place. The symptoms were slight swelling and tenderness over the carpus, with the complaint of severe pain in the middle of the wrist, and but little interference with mobility at the radio-carpal articulation. The patients all improved under a treatment by fixation. All eventually recovered completely. The symptoms appeared without known cause, and no other except the wrist-joint was affected.

Dr. Bradford stated that Gosselin described an affection of the medio-tarsal articulation combined with a healthy condition of tibio-astragalar joint, and he felt inclined to consider these cases of wrist affection as analogous.

Dr. INGALLS said that many similar cases come under the observation of surgeons in hospitals like the City Hospital, which treat especially the laboring classes and those liable to abuse each other and themselves. When the first symptoms of the affection appear patients of this sort do not think it needs medical attention or rest, for there are no outward manifestations. They persist in their work, which often requires the use of the whole hand, as, for example, in wringing clothes and other hand work, thereby bringing a heavy, continued strain on the wrist-joint. At last they are compelled by the severity of the pain to seek advice. Superficial inspection, as a rule, yields no sign, but on careful manipulation there is found a pulliness on the posterior aspect of the wrist, and a delicacy of skin and softness of the subjacent tissues,

The second case had occurred under the care of Dr. B. S. Shaw, to whom the reader was also indebted. The symptoms had been those of poliomyelitis, except that localized and continued pain had been so prominent that the diagnosis of meningitis had been entertained.

After death no trace of meningitis had been found, but an inflammation of the gray matter of the anterior cornua of the cord running throughout its entire length. The nerves had not been examined.

The third case had just occurred under the service of Dr. Minot, by whose permission it was reported. Here, as in the first case, acute symptoms referable to the peripheral nerves of all four extremities had been the predominating feature. The pain had been even greater, though the loss of electrical reaction and the paralysis not so great. There had been no great headache and no rigidity or opisthotonos until within the last days of the patient's life, unless, possibly, to some extent at the outset, in connection with the prolonged vomiting with which the attack had been ushered in.

After death well-marked and extensive meningitis had been found, also pronounced disease of the nerve roots and peripheral nerves (median, ulnar, popliteal), while the spinal cord appeared to be healthy. The reader thought it not improbable that the first lesion had been that of the peripheral nerves, while the meningitis might have been secondary, or at any rate simultaneous.

DR. WEBBER said: The first case seems not proved to be a case of general neuritis. There were found many lesions of the brain where softening has begun, but the causation of other symptoms was not clearly made out.

The second case appears to be a good case of poliomyelitis, but primary neuritis is not proven because the peripheral nerves were not examined.

The third case seems more properly to be a case of cerebro-spinal meningitis. The symptoms are such as are quite characteristic of it, namely, fever, hyperaesthesia, diminution of motor power, opisthotonos and pain. In cerebro-spinal meningitis the functions of the nerves are often affected, also the nerves themselves, and after recovery atrophy of the muscles may occur and loss of electric reaction, which may be complete and persistent. In this case there is only a partial loss of electric reaction, and there is also hyperaesthesia, such as frequently exists in cases of cerebro-spinal meningitis.

The report is hardly clear enough to establish a general neuritis. Although the nerves were partially affected, the reaction, somewhat weakened to be sure, continued.

DR. PUTNAM said: In the first case the spots of cerebral softening existed, but no connection could be traced between them and the loss of electric reaction. The cord was indeed somewhat decomposed, when hardening was undertaken, but, so far as the examination could be carried, it was essentially healthy, and since the peripheral symptoms, namely severe pain, wasting of muscles, and loss of electric reaction, were so marked, the peripheral nerves were certainly affected, and the central lesions were not the cause of the manifestations.

The second case was no doubt poliomyelitis. It had been brought forward in this connection, because the symptom pain, due probably to an affection of the peripheral nerves, had been so prominent throughout

the history of the case. Since it is possible, as Leyden has suggested, that this neuritis may accompany or precede the myelitis.

As regards the third case, the question of cerebro-spinal meningitis or neuritis was considered. A positive diagnosis was difficult. But the absence of frontal headache, the rapid pulse, the absence of delirium, the unperturbed mental condition all opposed the idea of cerebro-spinal meningitis, and it was therefore set down as doubtful. If the retraction of the head at the outset was due to meningitis, why did it not continue and become greater. Vomiting is not a rare symptom in poliomyelitis as shown by Seguin's cases. He records forty-five cases in all, from many observers and covering many years, and in three of these vomiting is distinctly mentioned, and it is not improbable that it may have occurred in others without having been recorded. The case is not proved as one of disease of the peripheral nerves, but it makes a fair showing.

DR. WEBBER. My objection is this, disseminated neuritis is a new named disease whose existence *sui generis* is still a matter of doubt. These cases are not sufficiently made out to prove a new disease. The affection of the intellect depends on the locality of the meningitis. I have seen cases of undoubted meningitis where with the naked eye could be seen no pus, and but slight congestion, where there was simply excess of serum. Opisthotonos is a variable symptom, sometimes not present. It depends on the amount of the disease and its locality. If the cord is chiefly affected, the cerebral symptoms might be slight. And the last case seems rather one of meningitis than of disseminated neuritis. I do not think the existence of this disease is yet established at all.

DR. PUTNAM. Have you seen a case where the pain and tenderness were so great?

DR. WEBBER. Sometimes in cerebro-spinal meningitis and in meningitis the pain is severe, and also appears quite early in the disease. The affection of the nerves was not extreme, for motion continued pretty fair. I have seen extreme and hopeless atrophy resulting from cerebro-spinal meningitis. But in this case life was not long enough to determine.

DR. PUTNAM in conclusion admitted the justice of Dr. Webber's criticisms and agreed that these cases could not be used to prove the existence of primary disseminated neuritis. If, however, we may consider on Leyden's authority that such a disease is pretty well made out, he thought the early and striking prominence of the symptoms referable to the peripheral nerves in these cases might justify their use as possible illustrations of the diagnosis.

#### PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, OCTOBER 9, 1882. The President, DR. JAMES TYSON, in the chair.

#### MYXOMATOUS TUMOR OF THE POSTERIOR CERVICAL REGION.

Presented by DR. NANCREDE for Dr. W. G. MacConnell.

The tumor was removed by Dr. J. H. Brinton, at the Jefferson College Hospital Clinic, some ten days since. The patient was a little boy aged four years, whose parents had first noticed the growth about two years ago. Latterly it has grown with considerable

rapidity. It was of firm consistence, lobulated, and movable beneath the skin, giving the impression that it was a fibrous tumor. After removal, in addition to the above-mentioned characteristics, it was found surrounded by a capsule, and on section looked somewhat suggestive of myxoma; still it was thought by some to be merely a fatty tumor containing more fibrous tissue than usual.

Microscopic examination by Dr. MacConnell. Upon examining a frozen section, stained with iodine, meshes of capillaries are displayed, in the walls of which the endothelial cells composing the vessels can be distinctly seen. The aforesaid meshes contain the mucoid structure traversed by large pale fusiform cells, the processes of which anastomose with each other. In addition many leucocytes are seen, and, interspersing the growth in every direction, numerous yellow elastic fibres are readily distinguished.

When presenting the specimen Dr. Nancrede commented on the rarity of such growths.

Dr. S. W. Gross said he had himself presented several gelatinous polypi of the nose a number of years ago, which were most characteristic examples of myxomatous tissue. He could also recall a specimen of subcutaneous myxoma of the fore-arm, as well as the hæmatoid myxoma of the breast referred to by Dr. Nancrede. He was disposed to consider it the rarest of all neoplasms of the breast; indeed, he had never personally met with one, and, when preparing his work on tumors of the breast, he had written to numerous surgeons throughout the country, who all replied that they had never met with one affecting the breast.

Dr. Formad remarked that he had exhibited a myxomatous fibroma of the labium some years since, and said that the peculiar milky appearance assumed by the fluid when such growths were thrown into alcohol was a good diagnostic point.

Dr. SHAKESPEARE said that his personal experience as to the rarity coincided with that of Dr. Gross. This specimen is one of the rarest forms, as most of the fibrillæ consist of yellow elastic tissue. The rarity of myxomatous tumors seems to him to have much bearing on the views of Cohnheim and others as to the ætiology of tumors. The observers insist that all tumors spring from the remains of fetal tissues not made use of in tissue construction, which remain dormant in their embryonal condition until subjected to some irritation, when they develop into the various neoplasms. Now tissue practically identical with that found in myxomata pervades the fetus. How, then, is it that portions of this do not remain to give rise to myxomata? On the contrary myxomata are among the rarest of the neoplasms.

SPECIMENS FROM A MAN WHO DIED WITH BRAIN, LUNG, HEART, LIVER, SPLEEN, KIDNEY, AND BLADDER LESIONS.

Presented by Dr. J. T. ESKRIDGE.

The specimens showing the above lesions were removed from the body of a man aged sixty-eight years. The patient had become deaf in the right ear thirty years before, while suffering from some brain disturbance. Attacks of jaundice, with gradually increasing permanent discoloration of the skin, had extended over a period of ten years. Since the early part of the year 1877 he had complained of incontinence of urine, an oppressed feeling over the hepatic region, dropsy in the feet and face, and a gradual loss of flesh and

strength. The two years preceding his death he had been unable to work, but was only confined to bed five days. During the latter period his symptoms were in the order in which they were developed, great prostration, scanty secretion of urine, blindness for twenty-four hours preceding repeated convulsions, loss of speech, and almost total inability to swallow, although consciousness was preserved until coma ushered in the death scene. His temperature (axillary) did not rise above 100.5° F. The surface head temperature nearly equalled that of the axilla. No paralysis of the muscles of the face or extremities preceded death. The liver during life did not appear to be enlarged or altered in its outline.

The post-mortem examination revealed—in the brain, engorgement of the veins, with some effusion, slight pia-mater inflammation in the neighborhood of the fissure of Rolando, apparent degenerative changes in the left island of Reil, and anterior portion of the left temporo-sphenoidal lobe; in the pleura and lungs, old and numerous pleuritic adhesions, lobular and vesicular emphysema of the lungs, congestion of both lower lobes, and a nodule (probably cancerous) of the left apex; in the heart, fatty degeneration, dilated right ventricle, and incompetent mitral valves from ossific change; in the liver, multiple cancer without an increase in size or a nodular condition of the organ; in the spleen, marked increase of fibrous tissue and atrophy of the gland to one half or less its normal size; in the kidneys and ureters, the last stages of pyonephrosis, the glandular tissue being nearly all destroyed, the pelvis were as large as a good sized orange, and the ureters dilated so as to admit a man's thumb; in the bladder, great hypertrophy of the mucous membrane and decrease of the capacity of the viscus.

#### PRIMARY CARCINOMA OF PANCREAS AND LIVER.

Presented by Dr. E. T. BRUEN.

The interesting features pertaining to this case are the age of the patient—twenty-four years—and the rapidity of the abnormal processes. These rendered the diagnosis of malignant disease doubtful, until the appearance of nodular tumors in the liver. The family history was free from hereditary disease. The commencement of the disease dated from September, 1881,—death occurred on the 15th January, 1882. At first the symptoms related solely to the digestive tract, such as dull and heavy sensation after eating, with acid eructations, and occasional vomiting. Subsequently sharp, cramp-like pains in the abdomen were a prominent symptom. After the lapse of a week there commenced general itching, and two weeks later the skin became yellow. This yellowness and itching never disappeared during the history of the case. At the autopsy the gall-duct was obstructed by the enlarged head of the pancreas, so that extreme dilatation of the gall-bladder had ensued. This was probably the cause of the jaundice and not the liver disease itself. The bowels were regular and the appetite good when first seen. The case presented evidences of partial obstruction of the gall-duct with digestive disorder, but without the symptoms characteristic of malignant disease of the stomach or bowels. By the middle of December, 1881, the liver dullness had extended from the fourth interspace to three inches below the ribs in the nipple line, and from the ensiform cartilage the line of dullness extended to within one inch of the umbilicus. The hepatic region was tender on pressure, especially

over the epigastrium. The patient complained about this time of dull pain over the liver, with gripping pain in the abdomen. The pulse was 76 per minute. He had lost four pounds since admission, and looked thin. About this time a small inequality was noticed on the surface of the liver, three inches above and a little to the inner side of the umbilicus. The spleen was enlarged. By January 7th the lobulation of the liver became distinct, and the enlarged gall-bladder, rendered irregular by gall-stones, presented a slowly-increasing, elastic, tender tumor, situated to the right of the epigastrium and umbilicus. By January 12th the pulse became rapid, — 130 per minute, — the patient rapidly failed, and death occurred January 15th.

*Autopsy.* The pancreas was enlarged to double its size, the growth chiefly occupying its head and compressing the common bile-duct. Microscopic examination showed it to be scirrhous carcinoma. The liver was thickly studded with nodules of medullary carcinoma, explaining the ante-mortem lobulated feel of the organ. The gall-bladder was distended to twice its normal size, and contained a number of gall-stones.

*Remarks.* The duodenal end of the organ, as is usual, was the seat of the disease. In a paper on thirty-nine cases of primary carcinoma of the pancreas, in St. Bartholomew's Hospital Report for 1881, jaundice is stated to be always present, while in twenty-four cases of secondary carcinoma this symptom was noted in but seven cases. This is presumably from the secondary growth occurring in some other portion of the organ than its head. Murchison says that the characteristic symptoms of carcinoma of the pancreas are pain in the pancreatic region, sensible tumors, and persistent jaundice. To these Dr. Bruen would add, intestinal dyspepsia, which differs in some essential features from the dyspepsia of organic disease of the stomach.

DR. MUSSER remarked that he could vouch for the presence of a distinct tumor of the pancreas, as he was present at the autopsy. The case had been under his observation in the Dispensary one month prior to admission to the hospital. On account of the age, he was puzzled as to an exact diagnosis, although confident that the cause of the jaundice was obstruction. He noted, among other symptoms, the intense itching of the skin, a point of importance, Sims says, in the diagnosis of obstructive jaundice from that due to suppression. In five cases of tumor of the pancreas he had lately seen, all were accompanied by jaundice.

DR. BRUEN called attention to the uncertainty of borrelation as a symptom of malignant disease of the liver. He had presented to this Society only two weeks since a liver exemplifying this condition in a marked degree, where nothing beyond cirrhosis in the stage of enlargement existed. The occurrence of carcinoma of the liver at so early an age is unusual, although Dr. Pepper had shown a specimen of the disease to this Society some years ago occurring in an infant.

DR. TYSON said that there were two points in this case of great interest to him: Firstly, jaundice in carcinoma of the pancreas, while it is a frequent symptom, it is by no means an invariable symptom. Seven years ago he presented to this Society the specimens from a case of primary pancreatic carcinoma, where no jaundice had been present, and six months ago he presented to the Society a specimen of enlargement of the head of the pancreas from a

patient who also presented no symptoms of jaundice. Secondly, as to the diagnosis from cancer of the stomach, he had noted in his experience, as was mentioned in the history of Dr. Bruen's case, the absence of gastric symptoms. This negative symptom is of importance, since the tumor is often detected in precisely the same spot in both these diseases. The absence of gastric symptoms with intestinal indigestion, irrespective of fatty diarrhoea, he considered the most reliable diagnostic points between carcinoma of the pancreas and stomach.

#### SPINDLE-CELLED SARCOMA OF THE SMALL INTESTINE.

Presented by DR. W. A. EDWARDS.

On September 23, 1882, I was asked to assist Dr. W. F. Atlee in the removal of an abdominal tumor. The patient, aged forty-eight years, whose menstruation had ceased at thirty-one years, first noticed the swelling in April last; on the day of operation she measured thirty-eight inches around the abdomen. The usual incision was made and the tumor reached, when its surface was seen to be of a dark purple hue, with a net-work of large veins ramifying in every part of its serous covering. A trocar and canula was introduced, but nothing but blood followed the withdrawal of trocar. The sac was then torn open, and its contents, of a soft, brain-like consistence, was emptied out. The growth was now turned out of the abdominal cavity. There was no distinct pedicle, but an attachment to the intestine of about the size of a half dollar was seen. Dr. Atlee says, "When I emptied the sac of its soft contents, I examined carefully, with extreme care, the part fastened to the intestine, and my fingers passed into the intestinal tube." A silk cord was tied around the attached portion and the remainder of the growth removed. The omentum was attached to the growth for a space of two inches; this was ligated and cut away, and the abdominal wound was closed, etc.

Death occurred September 25th at four A. M.

This growth sprang primarily from the submucous tissue of the small intestine, and grew with great rapidity, as the patient was only aware of its presence last April, and by September she measured, as above stated, thirty-eight inches. Microscopical examination of preparations taken from several portions of the growth clearly show it to be a spindle-celled sarcoma, and a most typical one at that. The small intestine is an unusual site for this neoplasm. As far as I am able to ascertain, there is no recorded instance of its occurrence in this situation. My friend Dr. Formad, to whom I have shown the growth, concurs with me in this statement. On the day of operation I noted as well as I could the absence of all secondary deposits. The surrounding intestines and peritoneum were apparently normal, not even unduly hyperæmic. No post mortem was permitted.

#### CHRONIC PARENCHYMATOUS NEPHRITIS COMPLICATING PHthisIS PULMONALIS.

Presented by DR. JAMES TYSON.

My object in showing these kidneys is to illustrate the morbid anatomy of the renal complications which so frequently attends the later stages of phthisis pulmonalis. It is very well understood that when œdema of the feet and legs present themselves in cases of consumption, the end is not far distant; but the renal

complication which is at the bottom of such œdema is often overlooked. It is, of course, not impossible that there should be œdema in the last stages of phthisis from simple alteration in the composition of the blood, — a watery state of it, — but in the majority of instances it means that the kidneys have become involved. As to the form of disease affecting the kidneys, it is acknowledged that it may be either lardaceous disease or chronic parenchymatous nephritis, but I think the impression prevails — it was at least my own until recently — that the amyloid kidney is the most frequent complication. I believe, however, that the chronic parenchymatous nephritis is more common, and it becomes a matter of interest, if not of importance, to be able to diagnose between these two conditions. It is well known that the microscopic and clinical characters of the urine in these two forms of kidney disease are often identical, so that no assistance is afforded by a study of the urine. The history of the case, of course, leads to neither particular form, but suggests both. One criterion only can I recall to aid us, and that is the presence of enlarged liver. So commonly associated is the enlarged amyloid liver with amyloid kidney, that the absence of it almost necessarily precludes the presence of amyloid kidney. At least, I am sure we would err less frequently if we were to consider all cases of renal disease attending consumption, unattended by enlarged liver, to be parenchymatous nephritis rather than lardaceous disease. It is true we often have enlarged fatty liver in consumption, but the degree of enlargement never reaches that of the amyloid liver, and hereafter I shall be inclined to consider all cases of renal disease complicating consumption to be parenchymatous nephritis, unless they are associated with enlarged liver, when I shall conclude that they are instances of amyloid disease.

Dr. BRUEN considered that the passage of large quantities of urine and the history of specific disease or of prolonged suppuration preceding the kidney trouble, would warrant a diagnosis of amyloid renal disease.

Dr. MUSSER would ask whether the heart was hypertrophied, and what was Dr. Tyson's experience regarding hypertrophy of that organ in cases of amyloid disease and of chronic tubal inflammation of the kidneys. If not too late he would like to call attention to the absence of cardiac hypertrophy with an infinite degree of obstruction in the renal circulation in the case Dr. Eskridge had presented. This is in direct opposition to the view held by some, that the hypertrophy of the heart is a sequence of the renal obstruction in chronic interstitial nephritis.

Dr. TYSON replied, that in this particular instance he did not see the heart, and could not tell whether it was hypertrophied or not. The same law holds good for amyloid kidney as for chronic nephritis; if the case last long enough, hypertrophy is sure to be found sooner or later.

#### ECCHYMOSES OF THE MUCOUS MEMBRANE OF THE STOMACH.

Presented by DR. J. M. BARTON.

The history of the case was that of chronic lung trouble. The stomach upon being opened presented an irregularly shaped extravasation of blood, about two thirds of an inch in diameter. The mucous membrane covering the effusion was healthy, as it was in the rest of its extent.

Dr. TYSON remarked that these effusions are not uncommon, but he had never seen them except in their pin-point form.

Dr. ROBERTS asked if there had been violent vomiting.

Dr. BARTON replied that nothing of this sort had been observed for some months prior to death.

### Recent Literature.

*Medical Electricity: A Practical Treatise on the Applications of Electricity to Medicine and Surgery.* By ROBERTS BARTHOLOW. Second Edition, enlarged and improved. Philadelphia: Henry C. Lea's Son & Co. 1882. Pages xx.—291.

As the first edition has been recently noticed, the second appearing only about a year after, it is not necessary to add much to what was then said. The more important changes are additions to the consideration of the measurement of electricity and a description of the rheostat. The normal formulae for the galvanic reaction of muscles is more fully explained and the German lettering is retained. This is much better than attempting to use letters which correspond with English spelling. A chapter is introduced on Magneto-Therapy, and that on Static Electricity is enlarged.

The book retains its practical character and small bulk.

*Cerebral Hyperæmia: Does it Exist? A Consideration of some Views of Dr. William A. Hammond.* By C. F. BUCKLEY, B. A., M. D., formerly Superintendent of Haydock Lodge Asylum, England. New York: G. P. Putnam's Sons. 1882. Pages 129.

Apparently Dr. Buckley is now in California. He has done good service in calling the attention of the profession to the unsoundness of Dr. Hammond's views regarding cerebral hyperæmia. Wrong views, popularly expressed, upon a subject of general interest may do much harm, and probably many physicians have been asked by anxious, overworked patients if they have not cerebral hyperæmia, the thought that they have too much blood in their brain giving rise to vague fears of apoplexy, paralysis, or other serious terminations. Dr. Buckley very truthfully says: "The effect of the work is misleading, if not pernicious, not alone to the non-professional reader who may happen to consult its pages, but even to the professional reader who may be disposed to follow blindly in the glamor of a great name."

Not only is Dr. Hammond's little book on cerebral hyperæmia analyzed and its contradictions and inconsistencies pointed out, but his other works are laid under contribution to increase the effect and show that they do not uphold the work under consideration.

Dr. Buckley is much too intemperate in the way in which he has performed his task. Unfortunately, it is difficult to combat that which is believed to be entirely erroneous without showing somewhat of a partisan spirit, and Dr. Buckley has not avoided this danger. So unnecessarily partisan is he many times that his readers may be tempted to lay down his book with a feeling that he has a personal spite against Dr. Hammond.

# Medical and Surgical Journal.

THURSDAY, NOVEMBER 23, 1882.

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## THE CONTAGIOUSNESS AND TRANSMISSIBILITY OF CONSUMPTION. THE INTERNATIONAL CONGRESS OF HYGIENE.

THE subject of discussion at one of the meetings of the International Congress of Hygiene at Geneva last September was the contagion of pulmonary phthisis [consumption] considered from the point of view of history and of public hygiene. The limited time allotted to the discussion of the subject rendered a debate commensurate with its importance impossible. Some interesting remarks were, however, evoked.

Dr. Corradi, of Pavia, opened the question by presenting a series of conclusions in the form of propositions. (1.) A belief in the contagiousness of consumption may be traced to a very early period, and has exhibited itself at various periods, not merely as a common opinion, but also as a scientific doctrine. (2.) This belief reached its height in the second half of the last century, probably because the malady was especially prevalent at that period, so much so that at several points government felt forced to interfere, and attempt to control its spread. (3.) In the first half of the present century, on the contrary, the doctrine of contagiousness lost ground, anatomico-pathological investigations superseding questions of aetiology. (4.) Of late years experimental pathology has again taken up the subject, and sought to give the doctrine of contagion the support of results gained by inoculation of tuberculous products, and this has been followed still more recently by an effort to prove that the virulent principle of the malady is represented by a microphyte—a bacillus. (5.) Clinical observation should solve the problem which experimentation places so plainly before us; pathology has many other questions to settle while the doctrine of the parasitic nature of tuberculosis rises, and to place that doctrine in accord with the facts of predisposition and heredity. (6.) If contagion and transmission are possible, they arise under conditions still to be determined. (7.) In the mean time hygiene should treat phthisis as a dangerous malady, that is, as one capable of communicating and transmitting itself under certain conditions. (8.) Especial attention should be given to the relations established by cohabitation, and all influences which, apart from any specific action, by enfeebling the organism predispose to phthisis should be controlled. (9.) Although not demonstrated that foods can communicate tuberculosis, it would, nevertheless, be prudent to abstain from the flesh and the milk of

tuberculous animals. (10.) The utmost care should be exercised in regard to the animal or human lymph used in vaccination. (11.) The establishment of separate hospitals or at least of separate wards for phthisical patients is to be strongly recommended. (12.) Further researches must be awaited to determine the particular prophylactic measures to be adopted. (13.) A regard to such hygienic practices as secure the physical and moral well-being of the people will in any case prove one of the strongest barriers to the diffusion of this scourge of our civilization.

In the course of the discussion which ensued, members expressed themselves as more or less in accord with the abstract propositions of Dr. Corradi; the president of the Congress, the venerable Dr. Lombard, of Geneva, reminding them at its conclusion that however correct their abstract propositions for preventing the transmission of the disease, they must not forget in regard to marriage that love blindfolds the eyes, and the first thing to do to make their counsels efficacious would be to try to remove this bandage.

An increasingly mercenary age may spare them this effort, though substituting another passion no more amenable to the dictates of prudence.

Dr. Leudet, director of the Medical School at Rouen, contributed some facts gathered by personal observation in the course of a professional practice inherited from his father, which are interesting as confirming previously held opinions announced in the pages of this and other American Medical Journals. As bearing upon the contagiousness of tuberculosis, he has been able to study fifty-six families, all belonging to the better classes. From among these fifty-six families in fifteen the husband was tuberculous at the time of marriage, and the wife healthy then or for a longer or shorter time after; in forty-one, on the other hand, the wife was the only one affected. Among the fifteen first mentioned cases, in a third, or five cases, the wife became subsequently affected, but of these five women one had a rachitic derivation, and became tuberculous ten years after the husband's death; a second had lost a sister a few years before of consumption, and a third had lost a maternal aunt of the same disease.

Among the forty-one families where the wife was alone or first affected, only three husbands developed the disease, and of these one had previously lost a sister with tuberculosis.

In regard to the offspring of these tuberculous parents, Dr. Leudet states that four of the five wives who became tuberculous after marriage had children, and but one only lost children from tuberculosis. Of the ten women married to tuberculous husbands who did not contract the disease nine had children, and five lost one or more from tuberculosis, the wives and mothers themselves escaping during periods of ten, fifteen, and twenty years.

Dr. Leudet concludes from his experience that (1) after marriage the wife is more apt to contract tuberculosis from the husband than the husband from the wife. (2) That a wife not herself affected by a tuberculous husband may give birth to children who die



of phthisis without herself developing the malady. (3.) Marriage is apt to hasten a fatal termination of the disease. (4.) The development of tuberculosis among different members of the same family at short intervals, even without hereditary predisposition, is sufficiently common.

These observations, though numerically limited, seem to have been carefully followed up, and the conclusions coincide in general with those reached previously by others. It is evident, however, that experimental pathology and clinical observation have both enough work still to do in this field before definite results can be reached warranting positive statements as to what we know.

#### THE USE OF TOBACCO.

This old-fashioned subject is again brought to our attention by a very sensible editorial article on the Physiological Effects of Tobacco in the London *Lancet* of November 4th. The tendency of the present day toward denials and abstinence in the discipline of self and the policy of domestic life is spoken of approvingly, and this praiseworthy tendency, the writer thinks, is especially noticeable in the British Isles.

Abstinence from tobacco is one of the forms of denial much advocated by the moral hedgers and ditchers, who desire to cure the small vices of mankind by capital punishment. The *Lancet* has, however, only preached against the abuse of tobacco in its pages. It rather approves of its use in true moderation.

In the use of tobacco the three points to be considered are, according to the *Lancet*, the local effect of the oily vapor from the burning leaves, the immediate effects, and the secondary effects. There can be no question that smoking produces an important local effect on the mucous membrane of the lips, mouth, tongue, fauces, larynx, etc. There is at first dryness, then hyperæmia of the membrane itself, next excitation of the nervous filaments distributed throughout the region, with direct irritation of the centres, and reflex stimulation of the glands. The effect on the latter is considerable, and saliva may be washed or flow into the stomach, affecting digestion. It is easy to see how local disturbances, such as epithelial growths, may be induced by smoking.

The immediate effects may be stimulating, sedative, or narcotic, according to the quantity of nicotine actually introduced into the system and the idiosyncrasies of the smoker. The secondary effects are not cumulative, but gradually affect the system. "A man may exhaust the strength of his nervous system, and lower its tone, or he may impair his digestion by habitual excess in smoking, but these results are in no way cumulative."

A young man should not smoke before his majority, and it would be well to wait until the age of twenty-six, or the extreme limit of development.

The dangers to be avoided are: irritation of the mucous membrane of the mouth and fauces, the loss of salivary secretion, and superexcitement of the nerves and nerve centres.

Cigars are better than pipes, and far better than cigarettes, but not more than two thirds of a cigar should be smoked, the last third containing the poisonous oil, which will be given off in the smoke. The smoke should be taken into the front of the mouth, and ejected as rapidly as possible.

The tobacco chewer is not referred to in this article of the *Lancet*; he is, we fear, indigenous to our own country, a product of American soil. We have occasionally seen some old man who enjoyed a harmless quid and was the happier for it, and his neighbors none the worse, but the average American chewer, with hydra-mouth, who penetrates into every phase and aspect of public life, is a national disgrace. As great as this evil still is, however, we believe that it has already lessened, and will continue to grow less as social refinement becomes more wide-spread.

Our greatest danger now seems to be from the excess of cigarette smoking. The number of young men who smoke cigarettes is almost startling. It is not only students, but even school-boys in their teens, who vigorously and openly indulge in this dangerous habit.

We very well remember that we ourselves experimented on a "short six" at the age of sixteen, but this was done in the greatest seclusion, in the depths of the back pasture, and several hours were allowed for fumigation before calling on our friends and family.

At that time we should not have dared to smoke in public before the age of twenty-one.

The times have changed now, and boys begin to smoke when young, and the introduction of cigarettes seems partly accountable for this change. A little cigarette, filled with mild tobacco which lasts for only a few minutes, appears harmless enough. But the very ease with which these bits of paper can be lighted and smoked adds considerably to the tendency to indulge to excess. Then, too, young men and boys with vigorous and partly developed bodies do not feel the bad effects of tobacco, which nevertheless will eventually tell on the vitality of the nervous system, and feeling no immediate bad effects smoke on *ad infinitum*.

One of the pernicious fashions connected with cigarette smoking is "inhaling." The ideal cigarette smoker is never so happy as when he inhales the smoke, holds it in his air-passages for some time, and then blows it out in a volume through nose and mouth. If he realized the force of the statement of the *Lancet* that "the smoker who draws the greatest amount of smoke and keeps it longest in contact with the lining membrane of the air-passages undoubtedly takes the largest dose of the oil," he might at least endeavor to modify his smoking in this respect.

The dangers, then, which are incident to cigarette smoking are, first, the early age at which it is taken up; second, the liability to excess; and, third, the bad custom of inhaling the smoke. These are dangers superadded to those attendant on the ordinary use of tobacco, and should be carefully considered by all medical men.

## THE USE OF TOBACCO BY CHILDREN.

CONSIDERABLE attention is being paid both in the medical and lay press to the subject of tobacco-using among young lads. A well-known female correspondent has made the statement that seventy-five per cent. of school-boys over twelve or thirteen years old smoke cigarettes, probably without the knowledge of their parents, but not unknown to their teachers. She says further that the principal of one of the largest private schools in the country assured her of its pronounced evil effects upon his boys, but that he was so convinced of the firm hold the habit had gained upon them that he considered it as time thrown away to remonstrate or interfere with it.

The principal of a grammar school in a neighboring city found on investigation that of the boys under his charge, in age from eight to fifteen, four fifths confessed to using tobacco in some form. The deleterious effects of the drug in arresting the development of children are sufficiently known, but perhaps their importance is hardly realized. A correspondent of the *British Medical Journal* describes a case in which arrest of growth in the organs of generation seemed to be due to this cause. He was twenty-five years of age, and five feet nine inches and a half in height. His penis was small and the prepuce rather long, but not in a condition of phimosis. The testicles were remarkably small, neither being larger than a French bean, or, perhaps, what more nearly expresses their size and shape, no larger than the testes of a rabbit. The scrotum not relaxed, nor was there any varicocele. There was short dark hair on the pubes.

The voice was somewhat high pitched, yet not like that of a woman or eunuch. Though twenty-five, he had not a trace of beard, whisker, or mustache; nor was there any hair on the chest or around the nipples. The breasts were flat, yet the contour of the lower extremities and lower part of the trunk resembled that of a woman more than that of a man. In observing this man one could but be struck with the evidence of development on a manly type up to a certain period, and then of a cessation of further virility.

His manly height and muscular development ill accorded with the entire absence of beard and weakness of expression. In these respects he differed from the short, rounded, plump eunuchs produced by robbing children early of their testicles.

In searching for a cause of this arrest of development, we ascertained that he had not suffered from mumps, nor from any inflammation of the testes. There appeared, indeed, to have been no disease which could have checked the growth of these organs. He, however, stated that he was an inveterate tobacco-chewer, preferring a good "quid" to victuals; and that he had commenced this habit at the early age of nine, by stealing from his father's pouch what he could not afford to buy. His mouth, at the time of examination, was occupied by a "plug," and there was further evidence of the habit in the staining of the teeth where the denture was exposed. In the absence of any other cause to which this condition of genera-

tive organs could be referred, the writer was inclined to attribute their arrest of development to the poisonous effects of excessive chewing of tobacco.

## ANOTHER MALPRACTICE SUIT.

WE learn with pleasure that the second trial of the case against Dr. David Clark, of Springfield, has ended with a verdict for the defendant. The first trial resulted in a disagreement of the jury.

The case was a suit for damages for impaired ability in the use of the plaintiff's arm, broken on July 4, 1881, with the usual allegations of malpractice and unskillful treatment. The defense maintained that, aside from an imperfect rotation, the arm is as good as ever, and that this imperfection is due to the plaintiff's own carelessness. Judge Pitman, in his charge to the jury, is said to have set forth very clearly and impartially the bearings of the case. He instructed them that the burden of proof rested with the plaintiff, and that if the evidence furnished reasonable ground to believe that the imperfect condition of the arm was due to any action of the plaintiff, they should find for the defendant. Also that if they found that the defendant possessed the average skill of his profession, which was all he claimed for himself, and that in this instance he exercised this skill, they should find for him. The *Springfield Republican* believes that this decision of the case will probably nip in the bud some similar suits against local doctors.

## MEDICAL NOTES.

—In our issue for November 2d we referred to the brain of a Leadville gambler, which weighed sixty-two and a quarter ounces. Following the authority of one of our exchanges, we spoke of it as the heaviest brain that had been weighed in this country. Our attention has since been called by Dr. D. S. Lamb, of the Army Medical Museum, to a brain in that collection of the remarkable weight of seventy-three and one half ounces avoirdupois. It was taken from a Chipewa Indian squaw, hydrocephalic and a dwarf, whose skull has a capacity (measured by No. 8 shot) of 2760 cc.

## NEW YORK.

—At the last meeting of the Medico-Legal Society, held November 15th, a paper was read by Dr. J. Clarke Thomas on Death by Drowning Medico-Legally Considered. In the course of it he reviewed the testimony in the Malley trial in New Haven, and arrived at the conclusion that Jennie Cramer committed suicide. The paper was discussed by Dr. Fennell, Dr. Spitzka, and others.

—The New York Society for the Relief of the Ruptured and Crippled held its nineteenth annual meeting at the hospital of the Society November 16th. The report of Dr. James Knight, surgeon-in-chief, showed a large increase of patients over the preceding

year. There were treated in the out-door department 1300 patients, of whom 299 became in-patients. This was an average increase of more than fifteen per cent. over the number of the previous year. Of the operations performed in the hospital during the year, 97 were for the relief of club-foot. The city and county of New York pay about two thirds of the expense of the in-door department.

—A reception was given to Mr. Seymour Haden, the distinguished English etcher and surgeon, by the Lotos Club on Saturday night, November 11th, which was attended by a large number of the medical profession of New York. The remarkable feature of Mr. Haden's career is that it is only his leisure hours that he has devoted to the pursuit of art, and yet, while maintaining a high position as a surgeon, he has become known the world over as the finest etcher of modern times. A large part of the proceeds of his etchings he has devoted to charitable purposes, and almost the entire amount realized from his perhaps most celebrated work, *The Breaking Up of the Agamemnon* (which alone brought him in many thousand pounds), he gave to the hospital for incurables, which he founded. In the course of his remarks on this

occasion he alluded to Mr. Herbert Spencer's recent address at the dinner at Delmonico's as follows: "Strange to say, that very reputation for energy which has been found fault with by Herbert Spencer has been a great attraction to me in the visit which I am now paying you. I only wish that we had a great deal more of it on our side of the Atlantic. I disagree *in toto* with Mr. Herbert Spencer. It has been my business and my pleasure to see the effect of work, and to judge of it, and I can honestly say that I never saw, in all my professional career, the least injury to life or health result from what Mr. Spencer calls overwork. Only the other day — just before I left England — I was met in consultation by one of the most eminent physicians in London, Sir William Gull. The case before us was that of a man who was said to be suffering from overwork. I asked Sir William Gull if he had ever met with a case of mischief or injury arising from this cause, and he said he had not. So for once at least the doctors agreed." In the parlors of the Lotos Club there was a magnificent collection of Mr. Haden's etchings, and it was certainly a rare treat to see the distinguished master present in the midst of his works.

#### REPORTED MORTALITY FOR THE WEEK ENDING NOVEMBER 11, 1882.

| Cities.                          | Population by Census of 1880. | Reported Deaths in each. | Deaths under Five Years. | Percentage of Deaths from         |                |                      |                |                       |
|----------------------------------|-------------------------------|--------------------------|--------------------------|-----------------------------------|----------------|----------------------|----------------|-----------------------|
|                                  |                               |                          |                          | The Principal "Zymotic" Diseases. | Lung Diseases. | Diarrhoeal Diseases. | Typhoid Fever. | Diphtheria and Croup. |
| New York.....                    | 1,206,590                     | 563                      | 218                      | 19.53                             | 10.05          | 3.80                 | 2.31           | 5.68                  |
| Philadelphia.....                | 846,984                       | 323                      | 97                       | 19.16                             | 3.71           | —                    | 4.33           | 13.59                 |
| Brooklyn.....                    | 566,689                       | 255                      | 107                      | 21.17                             | 16.07          | 5.10                 | .78            | 7.45                  |
| Chicago.....                     | 503,304                       | 187                      | 84                       | 26.70                             | 11.21          | 2.67                 | 3.74           | 10.15                 |
| Boston.....                      | 362,535                       | 164                      | 48                       | 18.18                             | 13.33          | 5.45                 | 2.42           | 8.48                  |
| St. Louis.....                   | 350,522                       | —                        | —                        | —                                 | —              | —                    | —              | —                     |
| Baltimore.....                   | 332,190                       | 200                      | 75                       | 36.50                             | 4.50           | 4.50                 | .50            | 18.00                 |
| Cincinnati.....                  | 255,708                       | 119                      | 48                       | 17.95                             | 18.70          | .86                  | .86            | 3.40                  |
| New Orleans.....                 | 216,140                       | 119                      | 35                       | 22.23                             | .86            | 9.46                 | —              | 1.72                  |
| District of Columbia.....        | 177,638                       | 87                       | —                        | 26.18                             | 9.52           | 5.95                 | 2.38           | 10.71                 |
| Pittsburg.....                   | 156,381                       | 71                       | 28                       | 32.38                             | 11.26          | 5.36                 | 7.04           | 14.08                 |
| Buffalo.....                     | 155,197                       | —                        | —                        | —                                 | —              | —                    | —              | —                     |
| Milwaukee.....                   | 115,578                       | 46                       | 20                       | 44.72                             | 4.34           | —                    | 2.17           | 19.53                 |
| Providence.....                  | 104,857                       | 47                       | 13                       | 29.82                             | 6.39           | 4.26                 | 21.30          | 2.13                  |
| New Haven.....                   | 62,882                        | 20                       | 9                        | 25.00                             | 15.00          | 5.00                 | 20.00          | —                     |
| Charleston.....                  | 49,999                        | 35                       | 12                       | 5.72                              | 2.86           | —                    | 2.86           | —                     |
| Nashville.....                   | 43,461                        | 18                       | 4                        | 22.22                             | 11.11          | 11.11                | —              | 5.55                  |
| Lowell.....                      | 59,485                        | 20                       | 6                        | 30.00                             | 5.00           | 10.00                | 10.00          | 5.00                  |
| Worcester.....                   | 58,295                        | 17                       | 6                        | 23.55                             | 11.76          | 5.88                 | 5.88           | 5.88                  |
| Cambridge.....                   | 52,740                        | 22                       | 8                        | 27.27                             | 4.54           | 13.64                | —              | 13.64                 |
| Fall River.....                  | 49,006                        | 16                       | 7                        | 31.25                             | 31.25          | 12.50                | 6.25           | 6.25                  |
| Lawrence.....                    | 39,178                        | —                        | —                        | —                                 | —              | —                    | —              | —                     |
| Lynn.....                        | 38,284                        | 9                        | 0                        | 11.11                             | —              | —                    | 11.11          | —                     |
| Springfield.....                 | 33,340                        | 10                       | 0                        | 10.00                             | —              | —                    | —              | —                     |
| Salem.....                       | 27,598                        | 8                        | 2                        | —                                 | —              | —                    | —              | —                     |
| New Bedford.....                 | 26,875                        | 11                       | 2                        | 9.09                              | —              | —                    | —              | —                     |
| Somerville.....                  | 24,985                        | 9                        | 0                        | 22.22                             | 11.11          | —                    | —              | 22.22                 |
| Holyoke.....                     | 21,851                        | 11                       | 7                        | 63.63                             | 18.18          | —                    | 18.18          | 45.45                 |
| Chelsea.....                     | 21,785                        | 8                        | 2                        | 25.00                             | 12.50          | —                    | —              | 25.00                 |
| Taunton.....                     | 21,213                        | 6                        | 0                        | 16.66                             | 16.66          | 16.66                | —              | 16.66                 |
| Gloucester.....                  | 19,329                        | 6                        | 2                        | 33.33                             | —              | —                    | —              | —                     |
| Haverhill.....                   | 18,475                        | 6                        | —                        | —                                 | 16.66          | —                    | —              | —                     |
| Newton.....                      | 16,995                        | 2                        | 1                        | —                                 | —              | —                    | —              | —                     |
| Brookton.....                    | 13,608                        | 8                        | 4                        | 12.50                             | 25.00          | —                    | —              | —                     |
| Newburyport.....                 | 13,537                        | 2                        | 0                        | 50.00                             | —              | —                    | 50.00          | —                     |
| Fitchburg.....                   | 12,405                        | 2                        | 0                        | 25.00                             | 25.00          | —                    | 25.00          | —                     |
| Malden.....                      | 12,017                        | 4                        | 1                        | 12.50                             | 2.50           | 2.50                 | —              | 2.50                  |
| Fifteen Massachusetts towns..... | 117,603                       | 40                       | 6                        | —                                 | —              | —                    | —              | —                     |

Deaths reported 2469 (no reports from St. Louis and Buffalo); under five years of age 850; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 558, consumption 361, lung diseases 224, diphtheria and croup 217, diarrhoeal diseases 100, typhoid fever 75, scarlet fever 56, malarial fevers 31, small-pox 28, whooping-cough 17, cerebro-spinal meningitis 11, measles 10, puerperal fever seven, erysipelas six. From *scarlet fever*, Cincinnati 14, Brooklyn 13, Chicago 11, New York six, Baltimore and District of Columbia three each, Milwaukee two, Philadelphia, Boston, Worcester, and North Adams one each. From *malarial fevers*, New Orleans 12, New York nine, Brooklyn five, Baltimore and District of Columbia two each, Springfield one. From *small-pox*, Baltimore 16, Chicago six, Philadelphia three, Pittsburg two, New Orleans one. From *whooping-cough*, New York 11, Brooklyn and Chicago two each, District of Columbia and Lowell one each. From *cerebro-spinal meningitis*, New York four, Milwaukee two, Pittsburg, Fall River, New Bedford, Gloucester, and Northampton one each. From *measles*, New York six, Baltimore four. From *puerperal fever*, Boston and Milwaukee two each, New York, Pittsburg, and Providence one each. From *erysipelas*, Baltimore two, New York, Cincinnati, Nashville, and Newburyport one each.

One hundred and twelve cases of small-pox were reported in

Baltimore, Pittsburg five; typhoid fever 38, diphtheria 34, scarlet fever 16, in Boston; scarlet fever 17 and diphtheria 12, in Milwaukee.

In 33 cities and towns of Massachusetts, with a population of 993,641 (population of the State 1,783,086), the total death-rate for the week was 19.42 against 20.00 and 19.11, for the previous two weeks.

In the 28 English towns, with an estimated population of 8,469,571, for the week ending October 28th, the death-rate was 21.4. Deaths reported 3477: acute diseases of the respiratory organs (London) 355, scarlet fever 120, fever 103, diarrhoea 95, measles 91, whooping-cough 54, diphtheria 17, small-pox (London three) 5. The death-rates ranged from 16.9 in Bristol to 34.2 in Preston; Leicester 17.4; Brighton 18.6; London 19.6; Birmingham 20.6; Nottingham 22.1; Manchester 23.8; Plymouth 24.5; Liverpool 25.4; Leeds 26.4; Birkenhead 28.3. In Edinburgh 17.7; Glasgow 25.7; Dublin 22.5.

For the week ending October 28th, in the Swiss towns, there were 20 deaths from consumption, lung diseases 14, diarrhoeal diseases 14, diphtheria and croup eight, typhoid fever six, scarlet fever one. The death-rates were, at Geneva 13.4; Zurich 6.1; Basle 13; Berne 10.3.

The meteorological record for the week ending November 11th in Boston, was as follows, according to observations furnished by Sergt. O. B. Cole, of the U. S. Signal Corps:—

| Date.            |    | Barom-eter. | Thermom-eter. |             |          | Relative Humidity. |            |            |             | Direction of Wind. |            |            | Velocity of Wind. |            |            | State of Weather. <sup>1</sup> |            |            | Rainfall.   |                       |
|------------------|----|-------------|---------------|-------------|----------|--------------------|------------|------------|-------------|--------------------|------------|------------|-------------------|------------|------------|--------------------------------|------------|------------|-------------|-----------------------|
|                  |    |             | Daily Mean.   | Daily Mean. | Maximum. | Minimum.           | 7.23 A. M. | 3.23 P. M. | 11.23 P. M. | Daily Mean.        | 7.23 A. M. | 3.23 P. M. | 11.23 P. M.       | 7.23 A. M. | 3.23 P. M. | 11.23 P. M.                    | 7.23 A. M. | 3.23 P. M. | 11.23 P. M. | Duration, Hrs. & Min. |
| November, 1882.  |    |             |               |             |          |                    |            |            |             |                    |            |            |                   |            |            |                                |            |            |             |                       |
| Sun.,            | 5  | 30.439      | 33            | 37          | 30       | 68                 | 62         | 68         | 66          | N                  | NE         | N          | 14                | 15         | 11         | O                              | O          | C          | —           | —                     |
| Mon.,            | 6  | 30.364      | 38            | 44          | 29       | 57                 | 62         | 68         | 62          | N                  | NE         | E          | 17                | 16         | 12         | O                              | O          | C          | —           | —                     |
| Tues.,           | 7  | 30.348      | 38            | 44          | 36       | 89                 | 83         | 100        | 91          | NW                 | N          | N          | 11                | 8          | 8          | R                              | O          | R          | —           | —                     |
| Wed.,            | 8  | 30.231      | 40            | 46          | 36       | 89                 | 78         | 100        | 89          | NW                 | NW         | NW         | 6                 | 13         | 4          | O                              | O          | C          | —           | —                     |
| Thurs.,          | 9  | 30.144      | 43            | 59          | 33       | 79                 | 59         | 84         | 74          | W                  | SE         | SW         | 5                 | 5          | 3          | F                              | F          | C          | —           | —                     |
| Fri.,            | 10 | 30.188      | 52            | 58          | 41       | 77                 | 75         | 72         | 75          | SW                 | SW         | SE         | 6                 | 3          | 2          | O                              | O          | C          | —           | —                     |
| Sat.,            | 11 | 30.226      | 47            | 54          | 43       | 96                 | 98         | 94         | 96          | SE                 | SE         | SW         | 1                 | 6          | 10         | G                              | G          | O          | —           | —                     |
| Means, the week. |    | 30.277      | 41            | 49          | 35       |                    |            |            | 79          |                    |            |            |                   |            |            |                                |            |            | —           | —                     |

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; X., clearing.

# OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM NOVEMBER 10, 1882, TO NOVEMBER 17, 1882.

MOORE, JOHN, surgeon. The leave of absence granted by S. O. 145, C. S., Department of the Columbia, extended one month. S. O. 175, paragraph 2, Military Division of the Pacific, November 3, 1882.

WILLIAMS, JOHN W., major and surgeon. Assigned to duty at Fort Coeur d'Alene, Idaho. S. O. 161, paragraph 3, Department of the Columbia, October 26, 1882.

ATSWORTH, F. C., assistant surgeon. The leave of absence granted November 1, 1882, is extended one month. S. O. 121, Military Division of the Missouri, November 3, 1882.

GRUNTER, ERWIN F., captain and assistant surgeon. Ordered to Fort Walla Walla for duty. S. O. 161, paragraph 3, Department of the Columbia, October 26, 1882.

ELLI, WALTER, captain and assistant surgeon. Relieved from duty in the Department of the East and assigned to duty in the Department of the Platte. S. O. 266, paragraph 4, A. G. O., November 14, 1882.

OWEN, WILLIAM O., Jr., first lieutenant and assistant surgeon. To proceed to Astoria, Oregon, and report to First Lieutenant E. B. Rheem, 21st Infantry, for duty with his command. S. O. 164, paragraph 5, Department of the Columbia, October 30, 1882.

WYETH, M. C., first lieutenant and assistant surgeon. To report to Fort Snelling, Minn., for temporary duty. S. O. 185, paragraph 3, Department of Dakota, November 5, 1882.

DEGREES CONFERRED.—At the graduating exercises of the Medical Department of Dartmouth College, on November 14th, the following gentlemen received the degree of M. D.:—

Newell Wesley Bean, New Hampshire; Hermon Cooper, New Hampshire; Ruggles Allerton Cushman, Massachusetts; Charles Byron Drake, New Hampshire; Oliver Davis Eastman, Vermont; John Argillo Gregg, Massachusetts; Herbert Ernest Jones, Maine; Enice Floyd Lamb, New York; Joseph Eugene LaRoque, Canada; Charles Colby Larrabee, Maine; Reginald Barkley Leach, Indiana; Henry Russell Lowe, Massachusetts; Albion Sullivan Marden, Vermont; Hilary John Moore, Liberia, Africa; Eugene Norton Mullins, New Hampshire; John Nottage, New Hampshire; George Atwood Pettigrew, Vermont; John Benson Raynes, New Hampshire; Marvin Fisher Smith, New Hampshire; Caleb Soper, New York; Deliah M. Wells, Massachusetts.

ERRATUM.—In the report of the Proceedings of the Obstetrical Society, published in last week's journal, the misplacement of the word "no" in the last paragraph of Dr. Abbot's remarks, at the foot of the first column on page 469, gave an entirely false impression of what he said. The last three lines should read: "In previous labors, with one exception, artificial aid, either by turning or forceps, had been required; no bad symptoms followed."

ERRATUM.—On page 447, second column, of JOURNAL, for Dr. Nathaniel Allen read Dr. Nathan Allen.

## Lectures.

### ON THE TREATMENT OF PNEUMONIA.

BY PROFESSOR DUJARDIN-REAUMETZ,

Physician to the Hôpital St. Antoine, Member of the Academy of Medicine, Paris, France.

#### LECTURE III.

GENTLEMEN, — In the preceding lectures I have set forth the principal methods of treatment of pneumonia. It now remains for me to tell you how and in what measure you should utilize these different therapeutic agents. In a word, I have to speak of indications and contra-indications of treatment.

#### TREATMENT OF ACUTE LOBAR PNEUMONIA.

I shall first indicate the management of acute lobar pneumonia without complications, then we will consider such complications as are likely to arise, and what ought to be done to meet these complications.

You have, we will suppose, a young patient of fairly robust constitution, who, under the influence of cold, has contracted pneumonia of one or more lobes. What shall be your mode of treatment? Three considerations should first engage your attention: (1.) When did the disease begin? (2.) What does physical examination reveal as to the state of the lung? (3.) What is the general condition of the patient?

The date of invasion of the malady, which is generally easy of determination, owing to the chill which accompanies it, is of importance, because, knowing this, you know that about the seventh or the ninth day, if everything goes on favorably, the disease may be expected to terminate in resolution. The local examination enables you to be cognizant of the extent of the pulmonary lesion and of complications. Lastly, the general condition of the patient tells you how his system supports the local phlegmasia. You proceed, then, thermometer in hand, waiting for the period of defervescence, and giving careful heed to the three points above set forth.

This is nothing but expectancy, you will say. I admit it, but it is a rational expectancy, and you shall see that, as circumstances indicate, you have something to do beside acting the part of a passive spectator. First of all, admitting that a favorable evolution is taking place, it is well to give certain ptisans and mixtures. Expectancy, pure and absolute, is not possible except at the hospital; it is impracticable in private practice. The patient and his family demand of the physician applications and remedies, and we should yield to this desire as long as it does not compromise the normal evolution of the malady.

You can, then, prescribe some simple emollient ptisan for the cough; infusions of senga, of pectoral flowers,<sup>2</sup> sweetened with syrup of tolu or wild cherry. You may add to these herb teas, to allay restlessness during the night, calmative potions, and among these the following will be found useful: aconite, bromide, the compound tincture of ipecac (or fluid Dover's powder), or any other medicament may be added to it as occasion may require.

<sup>1</sup> Delivered in the Hôpital St. Antoine, and translated, by permission, from advanced sheets, by E. P. Hurd, M. D., Newburyport, Mass.

<sup>2</sup> [The pectoral flowers of the French Pharmacopœia consist of mullein, mallows, cat's-foot, and colt's-foot. — TRANS.]

R. Aquæ laurocerasi,  
Aquæ tilis Europ.,  
Aquæ lactuæarii,  
Syrup. papaveris  
Dose, one or two teaspoonfuls.<sup>3</sup> . . . . . aa ʒi. M.

In fine, for nourishment you may give milk, broths (not made too rich), and wine and water sweetened a little.

I am supposing that everything is going on for the best, that at the seventh day of the sickness defervescence takes place, and that the thermometer, which before marked 39° or 40° C. (102° to 104° F.), now indicates a sudden fall to 38° C. (100° F.). Your rôle is not yet terminated; indeed, it ought to be more active than it was in the first period of the disease.

At the moment of defervescence a very important phenomenon may be noted: while the general symptoms disappear the local symptoms persist. You hear a blowing sound and subcrepitant râles, and this often a fortnight after defervescence, owing to the fact that the intra-alveolar fibrinous deposit is very slow to undergo resorption. You ought, then, to try and hasten this absorption of inflammatory products, and you can attain this end by resorting to two sorts of medicaments, revulsives and expectorants.

#### VESICATORIES IN PNEUMONIA.

This question of the utility of revulsives in pneumonia has been much discussed. Some claim excellent results from them; others pretend that they are useless, and even injurious.<sup>4</sup>

Let us examine, then, this debated subject and first see what experimentation teaches.

Revulsion [or counter-irritation] practiced upon any part whatever of the cutaneous surface, modifies the vaso-motor circulation of points of the economy more or less remote from the place where this revulsion is made. You are all familiar with the experiment of Hallmann, who, on irritating the skin of a frog's back with cantharidal collodion, observed upon the interdigital membrane, vaso-motor disturbances characterized by an acceleration of the circulation and by a very marked constriction of the capillary vessels, phenomena which soon give place to a slowing of the course of the blood, with dilatation of these same vessels. Cutaneous revulsion, then, modifies the capillary circulation in points more or less remote from the place of application of the revulsion.

Moreover, clinical observation gives an evident demonstration of the action of revulsion in pulmonary affections. When we see pneumonia develop in individuals affected with eczema of the legs the eczematous secretion ceases with the invasion of the phlegmasia, and does not return till the stage of resolution

<sup>3</sup> [Among the pectoral ptisans commonly prescribed in this country we may enumerate infusion of marsh mallows (*althæa officinalis*), of slippery elm, of colt's-foot (*tussilago*), with or without licorice. Instead of the formula above given, which it is not easy for our apothecaries to fill, the following may in some cases be used to advantage:

R. Aquæ lauro cerasi,  
Acid. hydrobromic dil.,  
Syrup. papaveris,  
Syrup. prin. Virgin., aa. Dose, ʒi. as required. — TRANS.]

<sup>4</sup> Based on certain vesicatories useless in pneumonia; Laennec taught that they were harmful; Andral says that they are a torment to the patient rather than a relief; Rostan, that by blistering we add another disorder to the one already existing; Louis "never saw any good from blisters"; Fossagrives condemns them; Grissolle is hesitating. . . . Despite all the objections, the vesicatory continues to be a part of current practice in pneumonia, and Jules Besnier has shown, in his masterly thesis, the advantages of this medication in the treatment of pleurisy. Jour. de Thérap., 1876, page 376.

is well established. In fine, do we not observe, on the other hand, when the revulsion is too considerable, as in the case of a very extensive burn, even of the first degree, grave visceral disorders manifest themselves on the part of the intestines or lungs?

When you determine revulsion by cantharides you undoubtedly obtain some effect from the absorption of the active principle of the vesicant and its stimulant action on the general circulation and on innervation. Gendrin and Galippe have both treated of the vaso-motor excitation produced by cantharidine.<sup>1</sup>

I believe, then, that cutaneous revulsion, and in particular that made by cantharides, has a positive effect, through the vaso-motor nerves, on the circulation of the splanchnic organs; effect which we can utilize when we are desirous of promoting the resorption of inflammatory products. You know that in therapeutics the name *resolvent* or *discutient* is given to medicaments which hasten this absorption.

The ancient pharmacopœia divided the discutients into *solvents*, *deobstruents*, and *absorbents*: the first having for their object to soften (or melt down) the morbid products; the second to render more free the circulation in the capillaries and lymphatics; the third to promote the absorption of materials which have undergone modifications more or less profound. This old division is still exact in our day, and it gives quite a real explanation of the physiological phenomena which take place in inflammatory exudations. I insisted at considerable length on this point at the recent meeting of the International Medical Congress, held in London, where I had the honor of being appointed, in the Section of Therapeutics, to open the discussion on the question, "What remedies should be used to promote absorption of inflammatory and other morbid products?"<sup>2</sup>

If I were going to class the cantharidal vesicant in any one of the three groups above enumerated I should call it a deobstruent. If numerous discussions have arisen, and arise continually, as to the real value of blistering in pneumonia, it is because care has not been taken to fix the precise time in the evolution of the malady when this revulsion will do the most good. I do not think that blistering has any favorable effect in the active period of pneumonia. When, however, the acute symptoms have subsided and defervescence has arrived, there is, in my opinion, no more powerful means to hasten absorption of the exudation. I would recommend that you use large blisters, say fifteen centimetres square (about six inches by six). As soon as vesication is produced remove the blister and substitute a poultice; you will thus be likely to avoid the stranguery which sometimes follows the fly-blisters.

The vesicatory is not the only revulsive measure that has been advised. Aran has proposed Mayor's hammer. Power the essence of turpentine, and Weber mustard sinapisms and baths, but these means are exceptionally employed.<sup>3</sup>

<sup>1</sup> Gendrin, Des larges Vésicatoires, Bull. de Thé., 1852. Galippe, De la Cantharidine, Thèse de Paris.

<sup>2</sup> Dujaclin Beaumetz, Extrait du Congrès international de Londres, 1881. Bull. de Thérap., September 1, 1881.

<sup>3</sup> Weber, On the Value of Mustard Baths in the Pneumonia of Children, Am. Jour. Obstet., vol. xi., 1878.

[Whether it is right or wrong, it is almost the universal practice of physicians in this country to apply mustard sinapisms in the early or formative stage of pneumonia, and to continue them, over the inflamed lung, as long as they can be borne by the patient. Ordinarily the family of the patient apply the mustard poultice before the physician arrives. Speaking from personal experience I should say that it never does harm, and I have seen it followed by relief to the pain and dyspnoea. — TRANS.]

## EXPECTORANTS IN PNEUMONIA.

At the same time that you use blisters to hasten absorption of the exudation you give expectorants to facilitate the discharge, in sputa, of products that have undergone the granulo-fatty degeneration. I believe, for my part, that abuse has been made of expectorants. I see a good many of my *confrères* give kermes, or some other antimonial, from the very onset of pneumonia. I think that in the earlier periods kermes does little or no good, and would limit its use to the declining stages of the disease, when, for instance, the subcrepitant rale gives place to the souffle; this is the time to promote, by every means in our power, removal of the exudative products of the inflammation. In broncho-pneumonia, as you are aware, the case is different, and we give expectorants and emetics from the very first.

To sum up, then, in ordinary cases of acute lobar pneumonia in the adult, your treatment will consist of calmative potions, expectorant pûsions, wine and water, and liquid nourishment of a simple kind, and when defervescence takes place the application of revulsives and the use of expectorants. But quite often certain complications appear which require a more active intervention. Let us examine these in their order.

## LOCAL SYMPTOMS THAT DEMAND TREATMENT.

The pain in the side may be severe, and may so aggravate the condition of the patient that you will be obliged to do something for its relief. Apply, then, wet cups; it is a heroic remedy, but do not forget that the farther removed your patient may be from the onset of the disease the less, as a rule, the pain will be felt.<sup>4</sup>

The dyspnoea is sometimes intense, and necessitates an active treatment. You will have, first of all, to search with care for the cause of this dyspnoea, which may have origins widely different. It may depend on the extent of the lesions, on the concomitant pulmonary congestion, on the intensity of the fever, and, lastly, on oppression of the pulmonary and cardiac plexus of nerves. Several authorities, and particularly Coomins, have attributed to functional troubles of nervous origin an important part in the evolution of pneumonia; they have maintained that the cardiac perturbations, and above all the dyspnoea, are due to the action of altered blood on the nervous centres.<sup>5</sup>

For this dyspnoea you have two powerful remedies at your command, blood-letting and hypodermic injections of morphia. When the pulmonary congestion is intense, the dyspnoea appalling, and asphyxia imminent, then blood-letting gives your patient a real amelioration, but do not forget that this amelioration is momentary, that the mass of blood, diminished by the venesection which you have just made, will quickly

<sup>4</sup> The pain in the side in pneumonia may be due to different causes: pleurisy, hepatic congestion, pericarditis. An old belief that the pain is always the result of a concomitant pleurisy. Beau has shown that it is an intercostal neuritis that causes the pain.

To summarize in the words of Peter, the pain in the side in pneumonia is a pleuritic pain, and is the expression of an intercostal neuroathy. This pain has its maximum of intensity the first day of the malady, and disappears generally the third or fourth day.

<sup>5</sup> The theory is that the blood is altered by a morbid agent, and the cardiac and respiratory disturbances are due to the toxic action of this altered blood on the spinal marrow, it may be, or on the ganglia of the cardio-pulmonary plexus. Vide Coomins, Des Causes de la Mort dans la Pneumonie, Union Médicale, September 8, 1881, p. 298. Coomins's theory is based on the experiments of Michael Foster, Wagner, Goltz, Heidenhain, Ludwig, DuBois-Reymond, and of Mûlger.

undergo replenishment, and before having recourse to this means weigh well the advantages and disadvantages. Often it is of importance to gain a few hours, and attain, without mortal danger, the expected moment of defervescence. In such cases blood-letting can render you great service, and it is for you to decide the opportune moment to intervene.

You all know the value of morphia as a respiratory and cardiac stimulant; this property you can utilize in this asphyxiating period of pneumonia. Do not hesitate to have recourse to this remedy, and inject boldly under the skin one centigramme of morphia (one sixth grain); it will sustain the vital forces of the patient, and enable him for some time to breathe more freely.

Another symptom, not quite so common as the intercostal pain and the dyspnea, is delirium. It may depend on a variety of causes, the extent of the pneumonia, the susceptibility of the patient, whom the least febrile movement renders delirious, the very intensity of the fever, in fine, the intemperate habits of the patient. Leave at one side, for the present, this last complication, due to alcoholism, to which we shall return, and let us see what shall be the treatment of the delirium in ordinary cases.

Three medicaments may be employed: musk, bromide of potassium, and chloral. Musk has been especially vaunted by Trouseaut; you may give it in pills or in potions in the dose of fifty centigrammes (seven or eight grains). I prefer the bromide and chloral, which give excellent results when administered together, calming considerably the delirium and agitation of the patient.

A good preparation is the following:—

|                    |             |
|--------------------|-------------|
| R Potassii bromid. | 5 ij        |
| Chloral hyd.       | gr. xlv.    |
| Syrup              | aa 5 ij. M. |
| Aque               | aa 5 ij. M. |

Sig. Give a tablespoonful in a glass of egg and milk.

Each tablespoonful contains fifteen grains of bromide and a little more than five grains of chloral.

Be not unduly alarmed at the delirium and its intensity, for it follows the thermometric curve of the malady, and generally disappears with the defervescence.

#### ADYNAMIC PNEUMONIA.

In other circumstances it is the *ensemble* of general phenomena which ought to guide the physician in determining what shall be the treatment. This is the case when the pneumonia is accompanied with a considerable depression of the vital forces, and takes on a strongly marked typhoid character. This is a form frequently seen in our hospitals, whose very frequency, at certain times, justifies the inquiry whether, in such cases, pneumonia ought not to be considered a contagious disease. However we may regard it, a tonic treatment is demanded, and here we behold the triumph of the alcoholic medication.

In what form shall you prescribe alcohol? In the hospital practice you often hear me order Todd's mixture.<sup>1</sup> There are numerous formulas of alcoholic

mixtures; the *potio alcoolique* of the hospitals of Paris is as follows:—

|                 |                   |
|-----------------|-------------------|
| R Cognac or rum | gr. 60 (3 ij).    |
| Potio diacode   | gr. 60 (3 ij). M. |

The alcohol which we use is not of vinous origin; it is a distilled product of fermented grain, which, before being an article of commerce, is diluted with water, and designated "trois-six;" it marks 50° on the areometer of Gay-Lussac.

I am of opinion, gentlemen, that when you can do so, and your patients are in circumstances to afford it, you will find it an advantage to substitute good, generous wines for the Todd mixture and potions containing alcohol or whiskey. M. Andigé and myself, as you are aware, have experimentally shown the harmful effects of alcohols obtained by distillation, and especially those which come from grain, beets, and potatoes.

The least dangerous are the alcohols that are obtained from wine. But since the *phylloxera* has destroyed our vineyards in Charente, vinous *brandiés* have become scarce, and if the word *cognac* continues to be inscribed on our flasks be persuaded that in the immense majority of cases the contents are an artificial mixture, in which vinous products are completely lacking. In such a case there is no alternative but to eschew cognac, and choose the mellow wines of Southern France and Spain, diluted with water, which your patient may take freely. The various grogs and good old West India rum may be conveniently employed, and aromatic wines with canella or calisaya often give good results.

Give, then, plenty of alcoholic stimulants, varied as occasion may prompt, and sweetened to render them less irritating: to mitigate the uncomfortable gastric heat and oppression produced by this regimen, give raw milk; and if this treatment does not suffice add the preparations of cinchona to your alcoholic potions.

#### BILIOUS PNEUMONIA.

In other circumstances there exists, concurrently with the pneumonia, a strongly marked *sadurral* state. The tongue is white, there is anorexia, and often even a light sub-icteric tint. When this icteric condition is clearly pronounced, we have to do with what was called by Sydenham and others bilious pneumonia. There is more or less jaundice, great prostration, constipation, epigastric pains, nausea, and vomiting; headache and vertigo are frequent accompaniments. These pneumonias, with gastric or hepatic complications, are best treated by the emeto-cathartics. Ipecac and tartar

#### POTIO ALCOOLIQUE DE JACCOUD.

|                         |                             |
|-------------------------|-----------------------------|
| R Red wine.             | 100 gram (3 ij and 5 iss).  |
| Spts. of canella        | 8 gram (3 ij).              |
| Watery extract cinchona | 4 " (5 i).                  |
| Cognac                  | 30 to 90 gr. (3 i to 3 ij). |
| Syrup aurantii corticis | 30 gr. (3 i). M.            |

Sig. Tablespoonful every two or three hours.

#### MISTURA VINI GALLICI, R. PH.

|                     |          |
|---------------------|----------|
| R Spts. vin gallici | aa 5 iv. |
| Aque cinnamon       | ij.      |
| Vitel. ovi          | 5 ss.    |
| Sacchari            | 0 ij. M. |
| Ol. cinnaom         |          |

Sig. Tablespoonful *pro re nata*.

The *potio diacode* of the hospitals contains syrup of poppies 30 parts, infusion of tilia 100 parts.

The rum and cognac mark 50° in the scale of Gay-Lussac.

There are a number of formulas of tonic wines. Most of these are flavored with canella, some with bitter orange. [A good *potio coedole* is a mixture of equal parts of elixir calisaya and madeira, sherry, or port.]

<sup>1</sup> The following formulas for the potion of Todd are given:—

#### POTION OF TODD (BOIVIAULT).

|                     |                          |
|---------------------|--------------------------|
| R Old brandy        | 60 gram (3 ij).          |
| Distilled water     | 96 " (3 ij).             |
| Simple syrup        | 40 gram (3 i and 5 iss). |
| Tincture of canella | 10 gram (5 ijs). M.      |

#### GULLER'S ALCOHOLIC MIXTURE.

|                         |                        |
|-------------------------|------------------------|
| R Alcohol at 85 degrees | 50 gram (3 i and 5 v). |
| Water                   | 50 " (3 i and 5 v).    |
| Syrup aurantii corticis | 50 " (3 i and 5 v). M. |

Sig. A tablespoonful every two hours.

emetic give excellent results. Give scruple doses of ipecac or grain doses of tartar emetic; these clear the *prima viæ* of vitiated matters.<sup>1</sup>

#### MALARIAL PNEUMONIA.

At other times pneumonia takes on a special character which indicates a malarial origin, and without entering into the disputes so prevalent as to this matter, there is no doubt that marsh miasm is one of the factors in the development and spread of pneumonia. It is in these cases that the tonic *régime* and sulphate of quinine are indicated. Quinine is here both useful and necessary.<sup>2</sup>

#### PNEUMONIA IN THE INTEMPERATE.

At other times it is the state of the patient that furnishes therapeutic indications; the patient may have been a drunkard, and our hospital service furnishes abundant examples of this kind. That alcohol predisposes to pneumonia there can be no doubt. When we administer alcohol in large doses to animals we note at the necropsy apoplectiform congestion of the lungs, and, in the case of the patient of whom I have spoken to you, who killed himself by swallowing a quart of raw brandy, we observed a great number of apoplectic foci in the pulmonary parenchyma. This fact is easily explained by the elimination of alcohol on the surface of the pulmonary mucous membrane.

This well-nigh permanent congested state of the lungs in hard drinkers gives an explanation of the readiness with which, under the influence of the least exposure to cold, pneumonia is engendered.

Pneumonia in the intemperate calls for alcoholic treatment, and this for two reasons: first, because the sudden suppression of the accustomed stimulus produces a grave depression of the vital forces; second, because, despite the agitation and the activity of the delirium, these patients have very little vital resistance, and fall into a state of profound adynamia, which contra-indicates any spoliative medication. Give, then, and give freely, bark and wines and grog, and you must add chloral to assuage the delirious manifestations.

#### PNEUMONIA IN DIABETIC PATIENTS.

In other cases the patient is diabetic. Pneumonia is of frequent occurrence in diabetes, is likely to be of grave character, and to terminate by suppuration and gangrene. Here, too, you must prescribe the tonic régime. You must not think of bleeding nor even of blistering, for it is dangerous to use revulsives in glycosuria. The dietetic *régime* of diabetes must, moreover, be continued while the pneumonia lasts.

#### PNEUMONIA OF BRIGHT'S DISEASE.

Pneumonia is a frequent complication of Bright's disease. Here, too, you must eschew blood-letting and

#### 1. POTO-EMPHO-CATHARTIC OF THE HOSPITALS.

|               |           |
|---------------|-----------|
| R. Am. tart.  | gr. iss.  |
| Sulph. sulph. | ss.       |
| Warm water    | ℥viij. M. |

Take in three doses, a quarter of an hour apart.

<sup>2</sup> It has been pretty clearly pointed out these late years that pneumonia has not always for origin the influence of cold, and that besides pneumonia *a frigore*, there is an infectious pneumonia characterized by the *serpiginous* march of the localization, and by general typhoid or bilious symptoms. These facts have been observed in France by Marriotte, of Bonne-Maison, who believes in the specific and contagious nature of pneumonia; in Germany by Jürgensen, Frederich, and Leichsternstein, in America by Rodman, and in England by Hardwick.

[In America it is held by eminent authorities (as Dr. Austin Flint) that pneumonia is always a specific fever. TRANS.]

revulsives, also subcutaneous injections of morphia. The importance of these restrictions you readily comprehend.

#### PNEUMONIA DURING PREGNANCY.

Pneumonia is a grave complication of pregnancy, and often determines abortion. Although there is a difference of opinion as to the utility of blood-letting in these cases, I nevertheless think that where the congestion is intense, it is well to have recourse to this measure. We must avoid antimonials which provoke uterine contractions and thus favor abortion. When, however, this latter is imminent, and cannot be prevented, then I believe, with Ricau, that tartar emetic may do good; it will kill the child, but it may save the mother.<sup>3</sup>

#### PNEUMONIA IN THE INFANT.

It remains for me, before finishing this lecture, to say a few words about the pneumonia of infants and of old age. In infancy fibrinous pneumonia is rare, oftener by far you have to deal with broncho-pneumonia. Here you witness the triumph of expectancy, the little patient getting well without any treatment; therefore I cannot too strongly recommend you to be chary in your medication: a little bromide to quiet restlessness; cordial drinks, such as wine and water sweetened, to support the strength; a blister or two; and a little white oxide of antimony at the moment of defervescence. This is about all that it behoves you to do in the lobar pneumonia of little children.

#### PNEUMONIA OF OLD AGE.

The pneumonia of old age demands always stimulating treatment. Every other medication gives bad results. Bleeding and antimony must be utterly discarded. Give your patient plenty of wine and other good alcoholic liquors, and at the moment of defervescence apply a blister, and give some simple expectorant. These are the essentials of treatment in the pneumonia of old people.

Gentlemen, I have finished what I wished to say respecting therapeutic indications in pneumonia. If I have made myself understood, you see that there do not exist for this disease ready-made formulas or any routine procedure, and that the science and skill of the physician will find their proper exercise in modifying the treatment according to the march of the malady and the symptoms which it presents. We cannot say, in fact, that such and such remedies are good in pneumonia, for what is good in one case may be harmful in another. In this department of internal pathology, then, we witness the practical application of that system of clinical therapeutics of which I make myself the defender, and if it were incumbent on me to sum up in one phrase all that I have set forth in these three lectures, I would say: *There is no treatment for pneumonia, there are only treatments for pneumonic patients.*

—“From all false docterin', good Lord, deliver us,” is the way a poor English woman, unfortunate in her medical adviser, puts it. She told her curate that she never really understood what that passage in the litany meant before, but evidently takes great comfort in the prayer since her new illumination.

<sup>3</sup> Ricau. Thèse de Paris and Bull. de Ther., t. lxxxix., p. 95.



## Original Articles.

### THE TREATMENT OF A FORM OF PAINFUL PERIARTHRITIS OF THE SHOULDER.<sup>1</sup>

BY JAMES J. PUTNAM, M. D.

THE cases which form the basis of the following paper were, for the most part, seen by me together with the late and sadly missed Dr. T. B. Curtis. It was our intention to have published them together, and, in fact, the present paper is, to a great extent, only a reflection of his work.

The principal symptoms which cases of this kind exhibit are the following:—

(1.) Inability to raise the arm above the horizontal plane of the shoulder.

(2.) Spontaneous pain, generally worst at night, and felt either in front of or behind the shoulder joint, or at the neighborhood of the insertion of the deltoid.

(3.) A slight degree of muscular wasting of the deltoid and other muscles of the shoulder itself, as well as sometimes of the arm and even of the hand.

An examination of the patient with his clothing removed, usually reveals, also, the following facts:—

(4.) That any attempt to move the arm at the scapulo-humeral articulation, either by abduction or by rotation, causes sharp and severe pain, and is, indeed, nearly or quite impossible, partly on that account, and partly on account of the reflex spasm which it excites, or which may have been already present. (This persistent spasm is considered by Roustan (vide below) to be rather characteristic of periartthritis as distinguished from true arthritis.)

(5.) That there is tenderness on pressure over certain points about the shoulder, especially over the coracoid process, and just behind and below the acromion, and occasionally over the nerve-trunks of the brachial plexus.

(6.) At the same time there is little or no swelling or other sign of any considerable local inflammation within the joint.

As a rule the deltoid is somewhat flattened, from atrophy, and this, combined with the fact that the arm is usually carried clinging closely to the side of the chest, with the elbow semi-flexed, gives to the point of the shoulder a degree of prominence which is rather characteristic.

A leading question to put to such a patient is to ask him if he can place the palm of his hand on the back of his head, or bring the arm well behind the back. These movements are impossible, and any forced attempt to make them excites sharp pain. On the other hand, the very great mobility of the scapula allows the arm to be carried forward quite freely, giving a false impression of motion at the shoulder-joint.

These patients must have come to other physicians, as they have to me, seeking relief from pain, or from a supposed paralysis of the muscles of the shoulder.

I should hesitate to offer the result of my limited experience as a guide toward the solution of the essentially surgical questions which are involved in their treatment, had it not seemed to me, and to Dr. Curtis as well, that these are cases of the well-known kind that are apt to be referred by the surgeon to the physician and by the physician to the surgeon, each regarding them as a little out of his own department. Doubtless the surgeons see the greater number, and many of them have, without question, overcome the stiffness by

forceful mobilization, regarding it as a trivial operation, and as the natural and proper treatment where no active disease is present.

On the other hand, there exists a very common and very just prejudice against forcible mobilization in general, which will only disappear when the conditions which justify it have been definitely ascertained. It is well known that these conditions are different with the different joints, and the facts to which I shall call attention may help to define them as regards the shoulder.

In looking back over record books of the Out-patient Department for Diseases of the Nervous System at the Massachusetts General Hospital for the past three years, I find that I have seen about a dozen. So far as I had studied them at all, I had supposed them to be some form of a noli-me-tangere arthritis up to about two years ago, when Dr. Curtis called my attention to two journal articles in which they seemed to be perfectly described (in essentially the same terms as those which I have used above), and their nature and curability, as it appeared, thoroughly demonstrated. Further study has induced me to give that demonstration modified credence, to be sure, but also to rate it as of real and great value.

The articles in question were respectively by MM. Duplay<sup>2</sup> and Desplats,<sup>3</sup> the former well-known as a surgeon, the latter as a physician. In them the attempt is made to show that, pathologically, this affection is a sub-acute, or chronic inflammation of the sub-acromial bursa and of the loose, bursoidal, connective tissue beneath the deltoid muscle, often resulting in the formation of adhesions external to the joint, the joint-surfaces themselves remaining unaffected; while clinically it is characterized by impairment or loss of motion at the scapulo-humeral articulation, due, in part, to pain, in part, to limitation of the movement by adhesions, but for the most part to reflex spasm; and, it might be added, to a real reflex inhibition of muscular activity.

Periartthritis, they maintain, is to be distinguished from arthritis by the absence of changes in the outline of the joint and of any swelling characteristic of effusion within it. Swelling may, it is true, be present, in the acute stage, but in that case it is over the upper end of the humerus (moignon de l'épaule), and due to inflammation beneath the deltoid.

Furthermore, it is claimed that if the patient be etherized and the adhesions broken up, the joint is bound to be healthy; that this operation—repeated, it may be, and followed by suitable after-treatment—is sufficient to bring about a cure.

The prognosis in cases left to themselves is, Duplay thinks, absolutely unfavorable.

The unaided influence of time is, he says, very likely to render the adhesions more dense and unyielding; very little likely to remove them.

An energetic after-treatment, consisting in cold douches, manipulation, electricity, and passive motion, is regarded as in many cases absolutely essential to the success of the operation; and the same means if employed early may sometimes prevent the development of the adhesions altogether.

Eight cases are reported by Duplay, in all of which the operation was performed with a greater or less degree of success.

In every case adhesions were found, which yielded to moderate force, leaving the joint smooth, and the

<sup>1</sup> Read before the Boston Society for Medical Observation, October 16, 1882.

<sup>2</sup> Arch. gén. de Méd., 1872.

<sup>3</sup> Gaz. Hebdom., 1878.

motions of the arm (during the anæsthesia of the patient) perfectly free.

In a single case the diagnosis was confirmed by autopsy, the patient having died of an intercurrent disease one month after the operation had been performed, with successful result. The essential lesions found were, thickening of the walls of the sub-acromial bursa, though without signs of old adhesions within its cavity; thickening, roughness, and opacity of the bursal connective tissue around the capsule and beneath the muscles, and of all the tendons that converge about the joint. Several of the nerves of the arm were likewise embedded in thickened fibrous tissue. The articulating surfaces themselves were perfectly normal.

This is the proper place to remark that an acute suppurating form of periarthritis is also recognized, and has been well described by Dr. Gibney, of New York.<sup>1</sup>

Anxiety might be felt lest the chronic non-suppurative form might be converted into the latter by too violent mechanical treatment, but, as a matter of fact, nothing of this kind has occurred even in the unsuccessful cases, and those where the operation has given rise to much pain, and has had to be several times repeated.

To this paper of Duplay's, that by Desplats forms an admirable supplement. The latter shows that not only are injuries of the shoulder, as in the cases of Duplay, capable of exciting this periarthritis, but that it may occur as a distinctly rheumatic symptom and yet be amenable, if less readily, to the same treatment.

Agreeing in the main with Duplay's descriptions, he dwells at greater length on certain symptoms, especially the atrophy, which may involve widely the muscles of the shoulder-blade, arm and hand, and is, as he believes on good grounds, due to a neuritis,<sup>2</sup> which, starting in the nerve filaments distributed about the joint, may involve eventually the brachial plexus. I shall refer to other important articles on the subject in the course of the paper.

The questions which have chiefly interested me in this matter are the following:—

(1.) To what extent do all these cases, clinically so similar, form a pathologically homogeneous group? and, especially, can we be sure that true arthritis is not present in some of them?

(2.) Is the prognosis in cases not treated really as unfavorable as has been indicated?

(3.) Is their operative treatment attended by any special dangers? What are the indications in its favor?

(4.) What is the effect of other modes of treatment?

Let me first state briefly the results of my own experience.

I have more or less accurate accounts of twelve cases, which might be ranged under the following heads: (1.) Those left entirely to themselves, one in number. (2.) Those operated on once and cured or benefited, six in number. (3.) Those operated on once or more without benefit, but eventually cured by other means, one in number. (4.) Those operated on and not cured, within the time that they were under observation, five in number. To these may be added one very interesting case now under treatment.

All of these cases have presented themselves since Dr. Curtis first brought the matter to the notice of his friends two years ago. Several of them were treated by him, others by Dr. J. C. Warren, who kindly al-

lows me to use his notes, and I have operated myself upon four patients, besides repeatedly assisting Dr. Curtis.

Under the first head I will mention the case of a coachman who dislocated his shoulder by a fall. The arm was reduced and treated in the usual, though perhaps not the best, manner (vide the observation by Le Fort, quoted below); but after the bandages were finally removed, was found to be almost immovable at the scapulo-humeral articulation by voluntary effort, and great pain was induced by attempts at passive motion.

The patient was encouraged to use the arm, but no special treatment was applied. It improved after a time, but a year passed before the joint entirely regained its freedom of motion.

It is certain that the history of dislocations and injuries would furnish a plenty of instances of this kind. This one at any rate will serve to show that the positively unfavorable prognosis given by Duplay, based, be it observed, largely upon cases of dislocation, deserves to be modified.

It will be noticed that the time occupied in the return to a normal state was a year, whereas one only of Duplay's cases was of as much as six month's standing at the time of the operation, the duration of the rest varying from four to six weeks.

Another case, which strictly belongs under another head, may be mentioned to advantage here. It is that of a woman, of past middle life, in whom the periarthritis of the shoulder came on in the course of the treatment of a Colles' fracture, due to a fall. The usual symptoms were present, including great spontaneous pain and considerable atrophy of various muscles of the arm. No signs of inflammation of the shoulder being present, Dr. J. C. Warren, in whose care the patient had been, moved the arm about at the shoulder, under ether. The stiffness and pain recurring, however, Dr. Warren kindly referred the patient to me for treatment by electricity. This treatment was continued for about two months in all, with a good deal of relief to the pain, though but little to the loss of motion. I then lost sight of the patient, but saw her again recently, and learned that she had continued to improve, and that after a year, or fourteen months, from the time of the injury she had fully regained the use of the arm. Of course it must remain an open question, and one which Duplay would have been inclined to answer in the negative, whether the motion of the arm would have returned if the adhesions had not been once forcibly broken.

Under the head of *cured or benefited* by the operation, I would record the following cases:—

The first is that of a healthy negro woman, twenty-two years of age, in whom the affection of the shoulder was induced twice, by two separate injuries, both being falls upon the sidewalk.

The first accident happened two months before I saw her, and although, as the sequel showed, the local inflammation was but slight, there had been no progress toward recovery, and the patient was suffering from pain at the shoulder and along the arm. This pain was worst at night, or from four o'clock in the morning onward, as is apt to be the case, and was referred to the arm in its whole length and to the hand. It was associated with a sense of numbness and prickling, and—at the time of the early morning exacerbation—with a feeling of coldness. There was tenderness on pressure over various parts of the shoulder and over the

<sup>1</sup> N. Y. Medical Journal, 1880.

<sup>2</sup> Compare also Vallat, *De l'Atrophie Musculaire Consécutive aux Maladies des Articulations*. Paris, 1877.

brachial plexus, but especially just in front of the point of the shoulder. Passive motion at the scapulo-lumeral joint excited sharp pain.

After various remedies and applications suitable for the treatment of the neuralgic symptoms in themselves had been faithfully but unsuccessfully tried, the patient was etherized, and the arm put through all its physiological motions. No crepitation within the joint was observed, nor were fibrous adhesions distinctly felt to give, as in most of the other cases. From this time forward the patient was free, or practically free, from pain, and the motion of the arm was entirely restored. Some months later she fell again, bruising this shoulder slightly, and the old trouble returned in a measure, but again yielded to another operation. Probably the second fall would not have caused a relapse, had not the tissues remained in a state of impaired vitality from the first, as in Duplay's case, of which the autopsy was reported.

The second case is that of a large, heavy, laboring man, who hurt his left shoulder by a fall upon an icy sidewalk, in January, 1879. He suffered great pain from the moment of the accident, and this continued up to and for some time after the operation, which was done in March, two months later.

Meantime the arm had been seen by two physicians, and diagnosed as paralysis and as sprain. When I saw him the arm was as if glued to the scapula, but there was no paralysis, the deltoid contracting both under the influence of the will and under the faradic current. In accordance with Dr. Curtis's advice, the same treatment was employed as in the former case, and with like result. I have received a letter from the patient within a few weeks, stating that he uses the injured arm as well as its fellow. Here, also, the adhesions must have been trifling, as their rupture was not felt or heard during the operation.

In neither case was there the slightest inflammatory reaction about the shoulder after the operation.

Of the third case, in which the operation was done by Dr. Curtis, I have no notes, but can say that it was closely the same with the last in history and symptoms.

The first operation gave partial, but only partial, relief. It was repeated by Dr. Homans without ether, with further improvement, but of the final history of the case I cannot speak.

In another case operated upon at the hospital by Dr. J. C. Warren, the result was also quite satisfactory, the patient moving his arm better, though not perfectly well, after the operation, and becoming almost entirely free from pain.<sup>1</sup>

I have not the slightest doubt that further repetitions of the operations, with appropriate after-treatment, would have brought these two cases, likewise, to a favorable end.

A second case of Dr. Warren's, to which he kindly allows me to refer, is especially noteworthy, as showing that the recovery of at least pretty good motion does not necessarily imply disappearance of pain, a symptom which sometimes requires special treatment apart from the operation (Desplats).

This was the case of a man who, five years before, had injured the right shoulder by a fall. He remembers that the use of the arm was impaired for some months, and that he had pain at the insertion of the deltoid.

One year before entering the hospital, while drilling

stone, he was again seized with severe pain in the right shoulder, and in a few days had to give up work (a liability to relapse in these cases has already been referred to). Six months later, while lifting heavy plank, he felt a sensation as of "something giving way" in his left shoulder (compare Jarjavay's cases), and began to suffer pain at the neighborhood of the insertion of the deltoid, as in the right arm.

At his entrance both shoulders were tender on pressure. Both arms were freely moved by Dr. Warren, under ether, and adhesions found and broken up. The effect of this operation was to restore a very considerable degree of motion to both arms, and this improvement in motion went on increasing. The pain also, except for a day or two after the operation, was relieved, but persisted to a considerable extent, requiring the use of electricity and other measures for seven weeks, when he was discharged, improved and improving.

Desplats makes it clear that in one of his cases, of which the history was similar to this in some respects, the pain was due to a neuritis, which, originating in the peri-arthritis, had extended so as to involve the nerve-trunks of the brachial plexus, and to call for special treatment.

Finally, I have operated twice, with good result, upon a patient still under observation. The case was of rheumatic origin, and the chances for cure without treatment were almost *nil*.

These cases, together with the eight reported by Duplay and several more by Desplats,<sup>2</sup> Howard Marsh,<sup>3</sup> Bruce Clarke,<sup>4</sup> and others, suffice to demonstrate that a successful issue of this affection is possible enough under operative treatment.

It remains necessary, however, to recognize the fact that the picture is not always so bright.

All of Duplay's cases seem to have been benefited by the operation, combined with the subsequent treatment, though not all completely cured. As much even as this cannot be said of all of ours.

The last case of my own was that of a woman fifty-six years of age, of lymphatic constitution, large and flabby, who presented the usual symptoms, but complained chiefly of severe pain of dull, aching character, which was worst just behind the point of the shoulder. Motion at the scapular joint was not lost, but much impaired. The affection was of spontaneous development, but without other symptoms of rheumatism. After etherization was complete the arm was taken hold of at the wrist and elbow and rotated gently outwards.

Adhesions were distinctly felt, arresting the movement at a certain point. The application of a very slight amount of force, however, so little that the weight of the arm itself seemed the really active agent, was sufficient to overcome them, and they gave way with a series of audible snaps, just as when one pulls up a weed with a number of small rootlets spreading through the soil. During the recovery from the ether the patient was in great pain, which, however, soon passed away in great measure with the help of a little morphia. The next morning she appeared to have gained a little motion, but although the after-treatment of passive motion was immediately begun, and was persisted in as regularly as was practicable, that is,

<sup>1</sup> Gaz. Hebdom., 1878, pp. 311, 312, 313, 314.

<sup>2</sup> St. Bartholomew's Hosp. Repts., 1878.

<sup>3</sup> Ibid., pp. 343, 344.

<sup>4</sup> W. Surg. Rees, M. G. II., vol. xciii., p. 130.

nearly every day for about a week, no permanent gain was effected. Indeed, the pain seemed to have become a little worse, although to judge by my experience in other cases it is not likely that this was a more than temporary result.

The Out-patient Department of a hospital is not a place to try after-treatment to the best advantage, especially when, as in this case, the patient lives at a distance, and is in feeble health so that the attendance necessarily entails fatigue. Yet energetic prolonged after-treatment seemed in several of Duplay's cases to have been what really turned the scale.

Still more strikingly is its importance exemplified in a case reported by Mr. Howard Marsh, of St. Bartholomew's Hospital, London.

This was the case of a gentleman who fell from his horse while hunting, bruising his shoulder very badly, and dislocating his arm.

He came to London two months afterwards with the limb almost absolutely stiff. The adhesions were broken down, but at the end of a week the joint was as stiff as ever. The operation was then repeated, but with like result. He was then told that he must make up his mind to a stiff shoulder for life, but, being unwilling to accept this verdict, he consulted another surgeon. The same operation was then repeated a third time, and immediately after he was placed under the hands of a manipulator who rubbed and shampooed him for six weeks; by the end of this time the stiffness had entirely disappeared and it never returned again.

One cannot help wondering whether in this case what was called the after-treatment may not have been in fact the primary treatment, and whether it might not have been effective if applied with equal thoroughness in the first instance.

Attention is also called to this point in the excellent paper by Mr. Howard Marsh.<sup>1</sup>

It is certain that, animated by the desire to prove a new operation successful, the surgeon will often apply his after-treatment with a zeal that might be compared to the touch-stone of the alchemist, transforming an indifferent into a useful method. Certainly in some of our cases the early action of after-treatment was not glowingly encouraging although it was carried out with some care. Perhaps our methods were not the best; but of that I will speak again later.

I have very accurately in my mind the case of one patient on whom I assisted Dr. Curtis to operate. This was a lady of vigorous mind, though of frail health, and a great sufferer from neuralgia. She was first seen by Dr. Curtis, in consultation with Dr. Calvin Ellis.

The affection of the shoulder was secondary to a severe wrench, which had occurred some months before, and in consequence of which she had been compelled to keep the arm bandaged to the side for a considerable time. For some time before we saw her she had been suffering greatly from spontaneous pain, which was worst at night, and the arm was completely helpless and as if glued to the scapula.

The operation was performed in the usual manner, and distinct adhesions were felt to give way. During the recovery from the ether, and for some hours afterwards, excessive pain was felt, so that more ether had to be given. Passive movements were begun on the next day, and were persistently kept up so far as the state of the patient admitted, which to be sure was very little, but without avail. No motion seemed to

have been gained, and after a short time the operation was again repeated, and later, I believe, a third time.

For many weeks the pain in arm and shoulder was certainly worse than before the first operation, though they were materially relieved by prolonged application of galvanism and of ice, as is commonly the case with the pain of neuritis.

As a final result, however, some slight relief was, I believe, obtained from the worst symptoms, and the patient expressed herself as satisfied, and declared that she should recommend the operation to any one else in the same condition. Still it must be confessed that the effects of the operation itself, as distinguished from those of the after-treatment, were not very manifest.

(To be concluded.)

#### A PROPOSED CHANGE IN THE METHOD OF EXAMINING CANDIDATES FOR THE MASSACHUSETTS MEDICAL SOCIETY.<sup>2</sup>

BY EDWARD T. WILLIAMS, M. D.

I HAVE thought it my duty, as Chairman of the Board of Censors of the Norfolk District, to bring before this meeting some account of a proposed change in the method of examining candidates for the Massachusetts Medical Society. The law as it now exists is contained in sections 1, 2, 3, 20, 21, and 22 of the By-laws of the Society, which fix the manner of electing censors, the times at which their meetings are to be held, and the subjects in which they are to examine, but leaves to *them* the right to interpret the law, and to draw the lines more or less strictly as they see fit. Candidates must simply *satisfy* the Censors, or at least three of them, that they possess the proper qualifications.

This makes each Board of Censors practically responsible to the District Society which it represents, and to no one else. It gives each district practical control over its own board, and this I conceive to be one of the clear constitutional rights of the district societies.

A year or two since, the Censors of the Suffolk District concluded that this system ought to be changed. They sent out invitations to the several district boards, inviting them to a meeting to be held in Boston to consider this question. Failing to get a meeting, they sent another invitation, with the same result. They then appealed to the councilors to call a general meeting of Censors in Boston, which they did, but without the slightest warrant in the Constitution for doing so. The Constitution gives the Council no right whatever to interfere with the functions of the Censors, nor can the Censors legally meet for any purpose whatever except the examination of candidates, which must always be inside of their respective districts. A committee afterwards appointed by the Council to consider this question (among whom was a late president of this Society, Dr. Amory) subsequently reported to this effect. I had previously taken the same ground myself in a letter addressed to the Secretary of the Suffolk Board in remonstrance against the unconstitutional action of the Council and the Suffolk Board.

In consequence, however, of the fault found with the present system by the Suffolk Censors, the Council, at their last annual meeting, appointed another committee (of which another ex-president of this Society, Dr.

<sup>1</sup> Loc. cit., page 211.

<sup>2</sup> Read before the Norfolk District Medical Society, October 31, 1882.

Stone, is a member) to consider and report on the whole subject of admission to the Society, and to suggest such modifications of the present system as may be necessary. What action this committee may have taken I know not; but as the rights and interests of the Norfolk District Society are involved in the question, and as no change can be made in the by-laws without ratification by the general Society, it is important to have the whole matter fully understood.

Now, very briefly, what is the change recommended by the Suffolk Censors? A uniform examination for all candidates, or, more precisely, a *written* examination; since it has been repeatedly explained by the friends of the movement that it is a *written* examination which they wish.

What are the objections to such an examination?

(1.) It will take too much time. No physician with any practice to attend to will be able to act as Censor under the proposed plan.

(2.) A written examination in itself is less satisfactory than an oral one to any one who knows how to ask questions. It gives less opportunity to find out a man's weak points. What lawyer, for instance, will be satisfied with a witness's written affidavit when it is possible to bring the witness himself into court? And why not? Because you cannot cross-examine an affidavit. You cannot cross-examine a man on paper. This is the whole case in a nut-shell.

(3.) A written examination favors fraud.

(4.) It will throw too much power into the hands of the Suffolk Censors. To carry out the plan with any semblance of fairness, delegates from all the districts must meet together once or more every year, to prepare examination papers. The delegates from remote parts of the State will certainly not attend regularly, and the whole business will eventually drift into the hands of the Censors living in and around Boston. In this body the Suffolk Censors (the originators of the movement) will be seen to wield the controlling influence. Now the Suffolk Board, as a rule, is chiefly composed of young and inexperienced gentlemen, more learned in the theory than the practice of their art, crammed with the scientific pedantry of the schools, and far less likely than older men to give a fair and practical examination in the real essentials of medicine. It is for this reason that I especially deprecate any change looking to an increase of power in the Suffolk Board, which, from its functions as Censors at large, already exceeds that of any of the district boards.

(5.) The new plan is, as I have sought to show, an invasion of the constitutional rights of the districts, and ultimately of the individual rights of the Fellows. I confess to being one of those who think that the Society has already yielded too many of these rights. As the laws now stand we can neither choose our own officers, call our own meetings, fix our own rates of assessment, nor amend our own by-laws. Worse still, if accused, however unjustly, of professional misconduct, we cannot be tried like free men, before a jury of our peers, but must appear before a packed commission like a court-martial, with right of appeal to the councilors, to be sure, but not to the Society, who must vote on confirmation of sentence *without debate* (By-laws, § 31). Such is the position now occupied by the Fellows of the Massachusetts Medical Society!

Do we not owe it to ourselves to consider carefully before we abandon, without a struggle, one of the few privileges which we have not already thrown away?

## RECENT PROGRESS IN PATHOLOGY AND PATHOLOGICAL ANATOMY.<sup>1</sup>

BY WILLIAM F. WHITNEY, M. D.

### FIBROUS AND HYALINE DEGENERATION.

A FORM of degeneration characterized as above has attracted the attention of pathologists during the last few years, and a paper by Dr. Vallat,<sup>2</sup> a student of Professor Langhans, gives a comprehensive review of the subject.

This hyaline substance consists, —

- (1.) Of a basement substance; and,
- (2.) Of a system of canals traversing it.

The first possesses characters which are easily recognizable. It is glancing, homogeneous, with a high refractive index, which is increased by hardening. Its outline sharp; in this respect looking like amyloid, but does not have as high a lustre, nor does it react in the same manner with iodine.

The spaces cause it to appear as flakes of the size of a blood-corpuscle, or as large polyhedral bands, and all gradations are to be found between them.

The cavities or canals have no proper wall beyond the substance itself. If they are comparatively few in number, they assume the appearance of regular channels with net-like anastomoses. The more finely divided is the substance the more indistinct is their outline. Nuclei are usually found in these spaces. They are shrunken or rod-shaped, but can be readily stained with coloring reagents.

The action of the various coloring matters upon the ground substance is not particularly characteristic. Its chemical relations place this substance among the albuminoids. Mineral and acetic acids render it transparent without dissolving it.

The first notice of this substance was made by Schupel in 1871, although it was not until 1877 that a detailed description was given of it by Langhans. He found on the placental side of the chorion a substance that closely agreed with the one above described, and which he considered as a canalized fibrine. The name of hyaline was first given by Von Recklinghausen in 1879, who considered it as a constituent of cell protoplasm, exuding from this in the form of drops especially at the time of the cell death. He could produce it artificially in the blood after concentration of the tissue fluids, by drying or introducing a concentrated solution of salt.

Several others have studied this process, and as a result it has been found: —

- (1.) In the normal placenta.
- (2.) In the vessels (thrombi, aneurisms of the pulmonary artery, and atheromatous changes).
- (3.) In different inflammatory new formations (diphtheritis).
- (4.) In tubercle, and, as the author hopes to show, also, —
- (5.) In gummata.

From all the observations made up to this time, it is not possible to determine whether we have to do here with a peculiar condition of fibrine as Langhans thinks, or with a particular substance (hyaline), according to Recklinghausen.

The author especially studied the degeneration as seen in tubercle and in the new formations of syphilis.

<sup>1</sup> Concluded from page 466.

<sup>2</sup> Virchow's Arch., vol. lxxix., p. 193.

Its most constant and characteristic occurrence was in the tubercle of the spleen. In many of these there is to be distinguished with the unaided eye an opaque central spot surrounded by a relatively broad glancing zone of a light brown color (after hardening with chromic acid and spirit.) Often this is surrounded by a highly transparent gray zone, which is found to correspond to an accumulation of cells.

The first formation of tubercle, as Arnold has shown, consists in an accumulation of lymphoid cells in the follicles. In a further stage epithelioid cells with one or several nuclei are found to occupy the centre of the tubercle, with here and there giant cells. The periphery is formed of small round cells.

Between the epithelioid cells there is no intervening substance, while between the lymphoid cells of the periphery there is a fine reticulum, as in the neighboring tissue of the spleen. At this period of full development the hyaline substance commences to form, and always at the centre. Its first appearance is that of small glancing scales closely pressed together. As these are found more and more in the periphery, the central scales become larger and polyhedral, leaving between them fine canals. These canals are largest in the centre of the tubercle and gradually diminish towards its periphery, until they are lost in the multitude of fine scales. In their interior are found contracted star-shaped nuclei. Giant cells are never found within the hyaline mass, but only on its outer edge, as if pushed there by its accumulation.

The next change noticed is the appearance of a little cheesy point in the midst of the hyaline mass, and this gradually extends outward always surrounded by a hyaline zone.

The author is unable to state how this substance comes into existence, he not having been able to convince himself of the direct metamorphosis of the epithelioid cells as alleged by some writers.

A variety of tubercle was also met in which the hyaline mass was separated from the zone of small cells by a fibrous layer. This is the so-called "fibrous tubercle." Here the hyaline was found to pass directly into the fibrous substance, and must therefore be assumed to be directly transformed from that. The central portion of the tubercle before it became cheesy was often occupied by an obliterated vessel.

In the forms thus far described the hyaline substance was only found in the tubercles themselves. But in a third series of cases, foci of canalized fibrine were found directly disseminated in the tissue of the spleen itself. Frequently the presence of giant cells was the only indication that this was of tuberculous origin, aside from the fact of the presence of tubercles in other organs.

A careful study of such centres led the author to the conclusion that the canalized fibrine represented only the considerable thickened and homogeneous reticulum of the lymphatic tissue. The steps in this process as follows: First, a slight thickening of the reticulum with an increase of the transparency, with this, the disappearance of a certain number of cells (perhaps by pressure). The rest of the cells lose their protoplasm (which perhaps contributes to the increase of the tubercle). A part of the tubercle may coalesce, at any rate they become still thicker and their homogeneous appearance increases. The meshes become narrowed to irregular shaped canals which contain a few shrunken or staff-shaped nuclei.

In places giant cells are to be seen partially transformed into hyaline substance and in other places with their outline preserved but with a total loss of nuclei.

The relation of the vessels to this process is also of importance. As a rule none are found in these hyaline masses, but here and there an artery of pretty large size forms the centre of one of these nodules. The lumen is contracted or entirely obliterated by thickening of the cellular intima. The media and adventitia are completely changed into fibrine. The canals of this with their nuclei traverse the walls in an oblique or perpendicular direction, often forming a delicate net-work with its meshes parallel to the intima. These are in direct communication with the surrounding canals.

Although the reactions for amyloid entirely fail, as before stated, still the process seen here has a very close resemblance to that which has been depicted by Koster and Erberth for the amyloid degeneration of the lymphatic tissue. Yet when they occurred simultaneously in the same organ there was never seen any direct transition.

As a result of all his observations he concludes that the hyaline or fibrous degeneration is frequent in the tubercles of all organs, but especially in those of the spleen, lymph glands, and liver, and is a precursor of fatty degeneration.

It originates in the reticulum of the peripheral zone of the tubercle as well as in that of the spleen and lymph glands.

It further occurs in the place of the epithelioid and giant cells, the first of which are probably directly changed into homogeneous flakes without nuclei.

In the canals there is a stream of lymph from the periphery of the tubercle towards the centre, as was shown by the way in which particles of soot were distributed.

Frequently the walls of the vessels are changed into fibrine. In becoming cheesy the fibrine directly falls into a finely granular mass, or is replaced by numerous nuclei. These latter are to be considered as derived from the nuclei in the canals or else brought in by the lymph.

#### INFARCTION OF THE HEART.

Ehrlich<sup>1</sup> found, after poisoning rabbits with small doses of nitrophenylpropionic acid (which has the property of being changed to indigo by reducing agents), a white infarction of the greater part of the left ventricle. Besides this there was cloudy swelling of the solid viscera, with appearances indicating a deleterious action of the acid upon the blood.

The microscopic examination showed the presence also of small infarctions in the papillary muscles of the heart. In these the fibres had entirely lost their nuclei, while those of the connective tissue were preserved.

The substance of the muscle still showed a marked striation. In apparently sound spots there were found single tube-like fibres, which he supposed were filled with fluid, and by which the nucleus was pushed to one side.

In the large blood-vessels which supplied the part were red clots, easily loosened from the walls. In the composition of these were to be seen fibrine, blood disks, and leucocytes lying in the periphery.

He also found infarction of the heart under other relations.

<sup>1</sup> Centralblatt f. d. Med. Wissen., October 15, 1881.

In animals which have died from simple inanition there is not infrequently seen a greatly dilated heart, especially on the right side. In this there occur whitish spots formed of muscular cells, which have undergone coagulation necrosis, and many of them in the stage of calcification.

In such cases where at the same time the respiration was artificially impeded, and thereby an increase of the heart's action brought about, the above changes were most marked. The author thinks that this means that inanition, as such, causes an alteration in the vessels, and that this appears earliest in those organs which work continuously, and that increasing the activity of these organs causes it to be more marked.

#### THE RESULT OF PRESSURE UPON THE HEART.

Knoll<sup>1</sup> studied the effect of pressure upon the heart by forcing air into the pericardium, mediastinum, or pleura. At the same time the results of direct pressure applied to the breast were also noted. Air forcibly injected into the pericardium produced at first sinking of the arterial pressure and quickening of the heart's action. As after-effect, there was noticed an increase of pressure, with a slowing of the action of the heart. Here the lowering of the pressure depended solely upon the mechanical disturbance of the circulation, while the after-effect resulted from the irritation of the vaso-motor system, for not only the cutting off but also the reestablishment of the circulation excites the central nervous system, and produces narrowing of the small arteries.

An explanation of the quickening of the heart's action is to be sought in a weakening of the tonicity of the vagus, produced by an irritation of the sensitive fibres of the heart. The slowing of the heart is essentially the effect of an irritation of the inhibitory cerebral centres presiding over the heart.

At the same time there occurred a change in the respiratory movements resulting from a derangement of the circulation in the central nervous system. At the commencement of compression these were a little accelerated and slightly deepened. After a few seconds they became slower, and the expiratory pauses were lengthened. At this stage muscular cramps appeared, forced respiratory actions, and even entire pauses; also nystagmus.

The same sequence was observed when the pleura or mediastinum were forcibly distended.

The author adds to this some consideration of the relation of these experiments to human pathology. There occur at times in pericarditis severe nervous attacks (loss of consciousness, sopor, or even convulsions). These were regarded by the older physicians as frequent and characteristic symptoms of the disease, and which are easily to be explained by changes in the circulation of the brain resulting from the compression of the heart. Also the rapid pulse of a patient suffering from pericarditis results from this. It further appears from these experiments that excessive pericardial effusions, without any complication, can lead to a loss of pulse combined with changes in the respiration. Yet it consists here only in an increased and more easily perceived change in the size of the pulse, which is caused, under normal conditions, by the respiration. The same phenomenon also occurs in large pleuritic effusions. The unpleasant symptoms which sometimes follow the sudden evacuation of large

pleuritic effusions are to be explained by the after-effect, when the pressure on the heart is removed.

In like manner, the unpleasant symptoms which arise when the pleural cavity is washed out forcibly can be easily explained by the compression of the heart. Finally, the author thinks that sudden death after pressure upon the chest (as in great crowds, after earth slides, or through intentional violence) are often caused by compression of the heart.

#### THE EFFECT ON THE HEART OF LIGATURE OF THE CORONARY ARTERIES.

It has often been observed that in some cases of death the only lesion found is disease of the coronary artery, while there is no appreciable change in the muscular substance of the heart itself.

This fact induced Cohnheim<sup>2</sup> to study the effect of ligature of these arteries.

The breast of a dog (properly curarized) was opened and the heart laid bare. Then a branch of the coronary artery was tied, and the effect upon the circulation observed by means of the recording cylinder. The stoppage of one of the principal branches had no instantaneous effect upon the action of the heart. Not until the end of the first minute did the pulse begin to fall; the heart's action became arrhythmic, at the same time slower, but nevertheless remained of good strength. Suddenly both ventricles stood still in diastole, while the auricles continued to pulsate. The arrest of the ventricles was irreparable, and only broken by a few slight peristaltic movements. The irregularity of the beat was very slight, and the blood pressure changes very little until the sudden fall, due to the arrest of the contractions. This last appeared suddenly and in both ventricles at the same moment. After the arrest the contractions could not be reinstated either while the heart was in the animal or after its removal from the body. It was immaterial which coronary artery was tied.

Such must be considered as the direct and constant result of the ligature of at least one large branch. There are various reasons for not believing that the simple want of blood containing oxygen is the cause of this. The course of the blood curve in death by suffocation speaks against this, — where, after a gradual rise, it falls still more gradually with increments at systole. Moreover, the activity of the heart can be excited again after its arrest in this manner.

Further, in the case of ligature, that part of the heart is stopped which is not rendered anemic. This could only be explained on the ground of the action of a substance directly harmful to the heart, a true heart poison, which was produced during the closure of the arteries. This is evidently not CO<sub>2</sub>, for the most extreme degree of congestion, for example, in consequence of the ligature of the sinus coronarius, existed for half an hour without influence on the heart's action. For the first supposition speaks also the fact that the smaller the anemic territory so much longer time elapsed before the appearance of the deleterious action on the heart.

These results are of interest in human pathology. The cutting off of small branches is relatively well borne, and leads to a myocarditis with formation of connective tissue. The stoppage of a large branch can produce sudden death by arrest of the heart's action.

<sup>1</sup> *Lotus* ii., 1881. *Centralblatt f. Med. Wissen.*, April 1, 1882.

<sup>2</sup> *Virchow's Arch.*, vol. lxxv., p. 503.

The same subject has been taken up by French observers,<sup>1</sup> who agree in the main with the results of Cohnheim. In their experiments a simultaneous section of the vagus made no change in the results.

#### THE RESULT OF LIGATURE OF THE DUCTUS CHOLEDOCHUS.

Beloussow<sup>2</sup> studied this subject under the direction of Cohnheim and Weigert. He experimented upon rabbits, guinea-pigs, and dogs. The longest time that any animal survived was eighteen days.

The liver was jaundiced and slightly enlarged. In its substance were seen yellowish gray spots varying from the size of a pin's head to a pea. These were most numerous from the first to the sixth day. The microscopic examination showed them to represent a partial necrosis of the liver substance caused by the pressure of the bile. Around these nodules appeared a zone of reactive inflammation with the formation of young connective tissue in which were newly-formed gall-ducts. This new tissue gradually replaced the necrotic portions entirely.

In this way is to be explained the cirrhosis of the liver observed by earlier experimenters (Wickham Legg, Chareot, Gombault, and others) after the ligature of the ductus choledochus.

This occurred in entirely aseptic cases, and was in no way to be connected with any inflammation starting from the point of ligature and following up the course of the gall-ducts.

Kelsch<sup>3</sup> records two cases where the retention of bile was followed by cirrhosis,—one following closure of the duct by cholelithiasis and cancer of the gall-bladder, the other in which a dilatation of the gall-ducts was found without any formation of concretions.

#### MULTIPLE CYSTS OF THE LIVER AND KIDNEYS.

E. Juhel-Rénoy<sup>4</sup> reports the case of a woman sixty-seven years of age who died with symptoms of dyspnea, weakened heart, and œdema. At the autopsy there was found brown atrophy of the heart, obliteration of the pericardium, and exudation in the pleural cavities and peritonæum. Besides this, the liver was of large size and studded with numerous cysts filled with a clear fluid. The walls of the cysts were smooth, their size varying from that of a hazel-nut to an orange. Very minute cysts could also be made out upon careful examination. Both kidneys were increased in size and crowded with cysts.

Upon microscopic examination an increase of the interlobular tissue was found, especially about the gall-ducts. These last were abundant, in many places obliterated, in others dilated. The origin of these cysts from these dilated ducts was considered as certain.

— Sir Thomas Watson, the distinguished English medical author and practitioner, whose work on the Theory and Practice of Medicine may almost be regarded as a classic, lies in a precarious condition. His advanced age, over ninety years, almost precludes the hope of recovery from suspected cerebral embolism. Though his strength is failing, his mind is quite clear, and he perfectly understands his own position.

<sup>1</sup> Comptes Rendus, January 10, 1881.

<sup>2</sup> Archiv für Exper. Pathol., vol. xiv., p. 260.

<sup>3</sup> Revue de Méd., 1881, p. 269.

<sup>4</sup> Revue de Méd., 1881, p. 923.

## Reports of Societies.

### PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL OBSERVATION.

C. M. JONES, SECRETARY.

OCTOBER 2, 1882. DR. McCOLLOM presided.

#### TRAUMATIC ANEURISM.

DR. M. H. RICHARDSON briefly reported two cases of traumatic aneurism, one of the radial and one of the temporal arteries. The radial aneurism was caused by an injury to the arterial wall. It was about as large as a filbert, pulsated strongly, and was slowly increasing in size. The case was sent to the Massachusetts General Hospital, and cured by Dr. John Homans, who ligatured the radial above the tumor. The second case was similar in its origin. The patient was struck over the left zygoma by a plate. The bleeding was profuse, and checked with great difficulty. In the cicatrix of this wound a small pulsating tumor appeared, which rapidly increased in size. The case was admitted to the Carney Hospital, and the temporal artery tied by Dr. Richardson, just in front of the ear, and below the zygoma. The tumor at once ceased pulsating. Its contents were removed by a free incision, and the wound closed by sutures. In both these cases the aneurism was completely controlled and cured by a proximal ligature.

DR. PORTER said: These cases are rare. In the case of the aneurism of the radial the anastomosis with the ulnar is so free and the palmar arch is so large that one would expect that the pulsation would continue after the application of a single ligature. For this reason, in case of injury to the palmar arch, which cannot be treated *in loco*, it has long been recognized as a better operation to tie the brachial than to attempt any operation lower down the arm.

DR. NORRIS read the regular paper on

#### DYSTOCIA; OBSERVATIONS ON A SERIES OF CASES.

DR. REYNOLDS said the report of such cases as craniotomy should always include the most minute details. The responsibility of the destructive operations of midwifery is so great that the evidence should be fully elaborated in order to demonstrate the existence of the exigency.

There are many cases of disturbance in the abdomen after labor which do not involve the peritonæum as a whole, but only a localized portion in the vicinity of the uterus. These cases are not grave unless attended with high temperature or quick pulse.

DR. McCOLLOM referred to a case in his own practice in which paralysis of one leg followed after natural labor, and asked if this result had been often observed after labor either natural or forcible.

DR. REYNOLDS had seen no such case.

DR. C. M. JONES spoke of a case in which in consultation he had applied the high forceps. It required the united strength of the two physicians to effect delivery, and paralysis and partial anæsthesia of both legs followed. The patient could not take a step for two months. Subsequently she made a complete recovery.

DR. PORTER asked how much danger there was of the passage of fluid through the Fallopian tubes in giving intra-uterine injections either for endometritis or after parturition, and in this connection described a



case in which injections had been used without inconvenience for ten days, the uterus gradually contracting so that only a No. 9 catheter could be used for the injection tube. The patient, who was suffering from septicæmia, collapsed while receiving the injection on the tenth day, although she subsequently rallied. Would it be possible after this space of time, and so much contraction of the uterus, for a portion of the injection fluid to have passed into the abdominal cavity, or were the symptoms due to shock or to tension of the uterus through inability of the fluid to return?

DR. REYNOLDS said he had no positive facts to show that the Fallopian tubes were permeable under such conditions, but he thought it must be possible. Cases similar to that described by Dr. Porter are frequently ascribed to uterine colic, and severe pain and suffering may occur for a half hour or longer without subsequent unfavorable symptoms. He had not personally observed such cases, but they are often reported by others.

OCTOBER 16, 1882. DR. GEO. STEEDMAN presided. DR. J. J. PUTNAM read the regular paper on

#### PAINFUL PERIARTHRITIS OF THE SHOULDER.<sup>1</sup>

DR. WEBER said he had seen a number of cases similar to those described by Dr. Putnam. The patients came on account of pain in the joint, expecting to derive benefit by the use of electricity. I have been accustomed to send them to the surgeons for treatment. When the surgeons have referred similar cases to me I have applied electricity, and generally it has been successful in relieving the pain. I have not been able in any case to carry out thoroughly the treatment by friction, manipulation, massage, etc. I have suggested to various surgeons the question of active, forcible movements of the joints, and have always been discouraged by them on this point. The reader has brought up the subject in a way likely to command attention, and to be of practical value. Similar conditions have come under my observation, arising, probably, from lack of use, as in cases of paralysis. There was considerable pain on motion, and more resistance than the muscular condition alone would explain. The pain may arise from the limb hanging down, the muscles being put on a stretch, and the nerves becoming affected in consequence. I think now, however, that these conditions may be due, in part at least, to the adhesions spoken of by the reader. It is a profitable subject, and worthy of further investigation.

DR. BRADFORD said: In regard to the class of cases alluded to by Dr. Putnam, it has always seemed to me doubtful whether they could all be correctly termed "periarthritis."

This diagnosis is based, I believe, on one or two autopsies, which certainly prove that the lesion is correctly described in a certain number of cases, though not necessarily in all.

The affection usually, if not always, results from an injury, is accompanied by stiffness, more or less complete, at the shoulder-joint, and some local tenderness. In other words, with the symptoms met frequently in the milder articular affections, where a blow or injury may cause fixation of the joint by exciting an exaggerated reflex spasm of the muscles controlling the motions at the joint, and where slight intra-articular adhesions follow either as a result from the inflammation

occasioned by the blow, as has been demonstrated in experiments on animals, or as a result from the fixation of the joint.

That a joint which is not allowed to move is in an unhealthy condition is well known, and has been proved by demonstration. Within the past two months, in the knee-joint of a patient who suffered amputation of the middle of the thigh for necrosis of the shaft, well-marked adhesions were found. The knee-joint had not been at all involved in the necrosis or osteitis, but had been completely fixed by muscular spasm of muscles of the thigh.

It therefore seems to me possible that some of the cases mentioned may be in reality truly articular in character.

DR. H. J. BOWDITCH related the case of a gentleman who had, a long time ago, a dislocation of the shoulder. He had for many months suffered from acute pain and inability to move the arm. More recently, however, the pain has disappeared, and good mobility has returned. The difficulty in this case had been ascribed to rheumatism, and it is a point worthy of consideration if some of the cases such as the reader described may not have a rheumatic element.

In reply to an inquiry by Dr. Reynolds whether all the cases were due to traumatic causes, and whether there might not be difficulty in distinguishing the cases of traumatic origin from those due to rheumatism, and especially rheumatism of the deltoid, the reader said that some of the cases of real periarthritis were undoubtedly of rheumatic origin, but that he did not think rheumatism of the deltoid would prevent passive motion at the humero-scapular joint to the very great extent that is seen in these cases.

DR. REYNOLDS took the liberty of recalling to the members of the Society with reference to ordinary cases of severe rheumatism of the deltoid not due to injury, a variety which it must often be difficult to distinguish from those now under consideration, what had seemed to him a very interesting article on that affection, published some years since in the *Archives Générales*, and translated at that time for the Boston Medical and Surgical Journal. The writer in question pointed out the anatomical peculiarity of a very intimate connection of the integument covering the deltoid region, and also of that in the nape of the neck, and at the lumbar attachment of the great muscles of the back with the parts beneath, making it quite difficult to separate the skin at these points from the subjacent structures. It was urged that on account of this fact impressions, as, for instance, of heat and cold, on the cutaneous nerves of these surfaces very readily set up disturbance in the deeper parts. The writer believed that where in wry neck the sterno-cleido-mastoid was thrown into strong contraction the purpose of this behavior of that muscle was merely an attempt to hold absolutely immovable the real seat of distress, the tendons of the trapezius in the neck, and he pointed out a similar rigidity of the borders of the axilla, resulting from an effort to prevent movement of the deltoid. It was added that a frequent exciting cause of rheumatism in the deltoid is "parmi les gens mariés, qui font lit commun," the throwing out from under the bed-clothes of a shoulder that had been just before warm and perspiring. Some interest may be attached to this suggestion in the present connection.

DR. F. H. BROWN stated that he had studied injuries of the shoulder-joint in a considerable number of

<sup>1</sup> See page 509 of this number of the JOURNAL.

cases in those where dislocation had and had not taken place. While he recognized the fact that peri-arthritis was present in a large number of cases, and to a certain extent induced both paralysis and pain, he felt that due if not equal importance should be given to other concomitants, to paralysis of the deltoid due to concussion, and to injury to the circumflex nerve and the axillary plexus, and that the pain probably owed part of its existence to synovial effusion into the joint, to neuritis, and to the inflammation of the sheath of the tendon belonging to the long head of the biceps (the "crepitation douloureuse" of Nélaton).

DR. PUTNAM said in reply that he had no doubt the pathological condition in these cases is often a complex one. Dislocation of the shoulder may unquestionably injure the nerves of the axillary plexus, and blows on the shoulder may paralyze the deltoid through the circumflex nerve. At the autopsy made in the case reported by Duplay, the median and ulnar nerves are said to have been found matted together. Still, he thought the typical atrophy was generally due, as in the case of hip and other joint diseases, to a secondary neuritis, originating in inflammation of the nerve filaments distributed to the diseased tissues. Paralysis of the deltoid was not present in any of the cases observed.

A part of the pain on passive motion certainly might, as Dr. Brown had said, be due to inflammation of the sheath of the tendons, and, in fact, in some of the cases reported by Desplats and others a symptom was found which is, perhaps, attributable to that cause, namely, a semi-flexion at the elbow which could not be overcome without pain.

DR. INGALLS said: Pertinent to the subject is the case of an inflexible wrist and fingers following a Colles fracture, for which he was asked to prescribe two years ago, and six months after the injury, the patient being an elderly woman. It was not a case which seemed to warrant *immediate* breaking down of the adhesions owing to the age and condition of the patient and her remote residence. Without help from any one, instruction as to manipulation has been carried out persistently. She has now a movable wrist, and the index, middle, and ring fingers can cleverly touch the thumb, and she has quite a firm grip.

DR. J. F. BURN said that during his term of service in the surgical department of the Boston Dispensary he had seen many cases of pain in the joints, especially that of the shoulder, and while he agreed with Dr. Brown as to the injury of the nerve branches, yet occasionally were seen cases such as had been described by Dr. Putnam. One case in particular he recalled. It was that of a large, heavy woman, who had dislocated her shoulder by a fall. Reduction was easily accomplished; but some time afterwards she returned to the Dispensary complaining of inability to move the elbow from her side, or to rotate the arm without experiencing pain, and manipulation of the shoulder produced local pain. The difficulty was removed by forcibly moving the joint in all directions.

DR. FITZ suggested that a more accurate diagnosis of the diseases connected with joints and their vicinity, as well as their appropriate treatment, must result from a knowledge of the nature of the so called inflammatory adhesions.

The prevalent idea of articulating surfaces covered with a smooth membrane directly suggested tough inflammatory bands stretching across the joint cavity,

such as were to be found in chronic inflammation of serous cavities. Even a peri-arthritis was apt to be regarded somewhat in the light of a perimetritis, and the physician imagined himself called upon to destroy bands of adhesions which were nothing else than more or less rigid thickenings of portions of the fibrous tissue surrounding the joint. Dr. Putnam had already mentioned the rarity of adhesive bands of connective tissue uniting the articulating surfaces of the joint, and the so-called adhesions outside the joint were to be looked upon merely as circumscribed thickenings of an otherwise essentially normal fibrous tissue. The inclusion of nerve fibres in such thickened tissue suggested a ready explanation for the persistent pain present, and the happy results of treatment in the cases reported were, perhaps, attributable more to the freeing of nerves from compression or traction than to the tearing of thickened bundles of fibre whose resistance was overcome by the exercise of so little force.

#### FOREIGN BODIES SWALLOWED.

DR. REYNOLDS introduced the subject of swallowing foreign bodies, and said: The profession possesses in its classical treatises accounts of an endless variety of foreign bodies that have passed in safety through the alimentary canal. When, however, unusually large or very ill-shaped bodies are to encounter the delicate structures of the intestine in very young subjects, the attendant often finds it hard to put once more unlimited confidence in the natural powers. It is, therefore, perhaps, not unwise to place on record any such instances.

A girl of eight years, holding between her lips a smooth, oblong stone, as large as the last phalanx of an adult thumb, suddenly threw herself back on the floor, and in so doing swallowed the stone. The enemy was voided at stool between forty and fifty hours later. The child ate heartily after the accident, took no medicine, and suffered neither pain nor disturbance of health. Unfortunately the stone cannot be exhibited, as the nurse, thoughtlessly, threw it away. It was, however, well known, and was easily recognized.

DR. H. I. BOWDITCH related a case in which a little girl, three years old, swallowed a leaden button. The parents, being much alarmed, gave her, with the consent of a physician, a dose of castor oil. Afterward nothing special was done, and at the end of a week the button was passed from the anus without suffering. Dr. Bowditch said that in his opinion the oil was unnecessary. Certainly repeated dosing, from the liability to produce ill health, should be avoided. A plenty of substantial, rather loosening food, so as to keep the bowels easily and normally opened, was better. Bullets often lie in various parts of the body, and are harmless. Why, then, be alarmed in such a case as the above?

DR. BROWN said it was bad practice to give cathartics or watery substances in such cases. The aim should be to solidify the faeces so as to envelop the object, and milk would be a good diet for this purpose.

DR. INGALLS reported a case in which a man had swallowed a peach stone. It had come as far as the rectum, but could not be passed further. As it was too high to be reached with the finger, the patient was etherized, and the stone was extracted by the aid of forceps.

DR. BURN said that it was the custom with persons who attempted to pass spurious coin to swallow them

often to avoid detection. In such cases their diet was composed of hard-boiled eggs, they having found by experience that this diet rendered the foreign body harmless by enveloping it in a coat, and in about three days the coin would be found in the feces.

Dr. FITZ said that if the junction of the pharynx with the œsophagus was the narrowest part of the alimentary canal, anything which will pass this point will pass through the other parts without trouble. Hence if a body of good shape has been actually swallowed, no alarm need be felt.

Dr. FORSTER showed an inexpensive arrangement which could be attached to any table or chair for the purpose of facilitating gynecological examinations.

## Medical and Surgical Journal.

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### DR. J. J. MASON'S MICROSCOPICAL RESEARCHES ON THE CENTRAL NERVOUS SYSTEM OF REPTILES AND BATRACHIANS.

WE are glad to have occasion to chronicle the appearance of a work which reflects great credit on the author, and which cannot but be thought a valuable addition to American scientific literature. Dr. Mason is one of the few among us who, without connection with any institution, devotes himself to scientific studies for their own sake. He has published several magazine articles on the microscopic anatomy of the central nervous system of reptiles and batrachians, and now he has brought out a magnificent volume on the same subject. It is illustrated by more than one hundred full-page permanent photographs of sections. The opinion that photography is inferior to drawing as a means of representing histological facts, has more than once been expressed in the JOURNAL, but we must admit that the beauty of these plates almost compels us to change our mind, or at least to limit our opinion. Dr. Mason, moreover, while furnishing such exceptionally fine photographs, is exceptionally modest concerning them, and aware of the criticisms to which they are subject. He admits that those with high powers are wanting in distinctness, and that no very satisfactory work is to be done with objectives of less than one half inch focal distance. He also recognizes that for the understanding of a section seen through a high objective the use of the fine adjustment is indispensable, and that the want of it is felt in photographs. Nevertheless it cannot be denied that a really good and clear photograph when obtained, and many of these are truly remarkable, carries a conviction

with it which a drawing cannot, and is particularly valuable in settling disputes as to the relative size of certain of the larger parts, or of the minuter elements.

The author has not given a dry and minute account of the central nervous system of each of the many animals he has examined; but, besides giving photographs for others to study, he has chosen to consider certain general features. Thus he gives an interesting discussion on the relative amount of gray and white matter in the different regions of the cord, concerning which he truly says, that no explanation has yet been given which accounts for all its variations in different animals. He gives the relative areas of the brachial and lumbar enlargements in many animals, and, although he declines to propose any theory, his facts appear to show that the amount of gray matter in the lumbar enlargement depends considerably on the development of the tail. There are several photographs giving curious views of the cerebellum.

In an appendix Dr. Mason considers a subject concerning which, if we mistake not, he has been involved in a controversy. We refer to his views on the relative size of the nuclei of motor nerve cells. He has summarized his conclusions as follows: "The nuclei of the so-called motor cells of the central nervous system, have, in the same individual, average diameters which are proportional to the power developed in the related muscles."

One of the chief charms of this work is the true scientific spirit and aversion to hasty theorizing, which characterizes the author, as well as the modesty with which he presents his observations.

The book itself is magnificently made up in the matter of type and paper, only a very small number of copies having been printed, and we infer from a sentence in the introduction that the author is indebted to the Smithsonian Institution for assistance in bringing out the work, which must have been a matter of very great expense. We believe that it will be welcomed as a credit to all concerned in its production.

### TENTH ANNUAL MEETING OF THE NEW YORK STATE CHARITIES AID ASSOCIATION.

THE tenth annual meeting of this State Charities Aid Association was held on the 18th of November, with the Hon. John Jay in the chair. Mr. Charles S. Fairchild, ex-attorney-general, was elected president in the place of Miss Louisa Lee Schuyler, who declined reelection on the ground of ill health. The expenses of the society for the year were reported by the treasurer to have been \$5,139.39, which amount was covered by the receipts. A number of other reports were read, and that of the secretary showed a year of activity in the Central Association and the circle of its local visiting committees throughout the State. The standing committee on children had during the year investigated the causes of the great mortality among infants and young children in the city during the summer months, and had arrived

at the conclusion that it was largely due to the adulteration of milk and the impossibility of keeping milk fresh even when originally pure. Consequently the committee urged the establishment in the poorer quarters of the city of depots where fresh milk could be sold at fixed hours and in small quantities. A statement was also given in the secretary's report of the origin and establishment of the system of teaching all classes to give immediate aid in cases of sudden illness or accident.

The First Aid to the Injured Committee established thirty-two classes, of which ten were pay classes, the rest free, giving instruction to one thousand pupils in all. Gratifying reports of the results of these classes had reached the committee, and it is hoped to establish branches throughout New York and other States. The committee on hospitals, in order to meet the frequent inquiries made of them for information on points of hospital construction, had made a collection of plans for hospitals and almshouses to be loaned for practical application.

The committee on the elevation of the poor in their homes had directed its attention to the best methods of helping the poor to habits of self-dependence and thrift, and a conference held for the purpose of obtaining all possible light on this subject had resulted in the formation of the Loan Relief Association, which taught its beneficiaries to regard as a loan every form of help. Five of the papers read at this conference, together with practical suggestions as to the formation of similar associations, had been issued as Document No. 29 of the Association's publications.

In counties where new poor-houses had been built the visiting committees had interceded for proper hospital accommodations, and for competent nursing and other reforms, and in Rensselaer County the suggestions of the local committee had been regarded in the better model on which the new buildings were constructed. The methods of the Association, it was stated, were attracting very general notice, both at home and abroad, and inquiries from fourteen States had been made for its publications. The London periodicals had reproduced its documents, and the *Charity Organization Reporter* had printed a series of articles upon the Association, quoting from its publications, and strongly advocating the securing of legal right of entrance to volunteer visitors to the English poor-houses.

#### THE USE OF TOBACCO BY BOYS.

A DAILY contemporary presented, a few days since, the results of inquiries relative to the use of tobacco among the Boston school-boys, with figures less startling than those which we recorded last week, but still giving reason for serious consideration.

The head master of the Boston Latin School thought that about half of the boys in his upper classes, averaging from fourteen to eighteen years of age, used tobacco to some extent. A grammar school teacher in Roxbury said that the number of smokers had about doubled in his school in the last sixteen

years, and gave forty per cent. as a high estimate of the proportion. He said that smoking was more prevalent in his younger than in his older classes. In East Boston, in a grammar school of four hundred boys, including one primary class, 33½ per cent. were found on investigation to use tobacco more or less frequently. In Charlestown, in a grammar school of three hundred boys, most had smoked once or twice, but only 13.5 per cent. smoked or chewed habitually.

Of two schools of equal grade at the North End and on the Back Bay the former was estimated to have about thirty-three per cent. of smokers in its upper class, and the latter but very few if any. The master of the Boston English High School believes there is but little smoking among his boys, but it strikes one as at least surprising that there should be such a difference between the habits of the pupils of the High and Latin Schools, both occupying the same building, both representing a very similar social class, and the High School certainly showing no superiority over the Latin in the moral and social influences brought to bear upon its pupils. The statistics available in regard to this question are evidently not to be entirely relied on.

#### THE WARREN TRIENNIAL PRIZE.

As will be seen in the advertising columns the Warren Triennial Prize will be awarded during the coming year, provided any competitor sufficiently worthy shall be found. The subject is one which will interest all practicing physicians, and it is to be hoped that the unusual value of this prize, four hundred dollars, will stimulate some of our young men to prove to the world that Americans are capable of producing the best quality of original work. The nature and mutual relations of the derangements in the circulatory and secretory organs in chronic Bright's disease is a field of research on which much valuable light can still be thrown in spite of the vast amount of labor which has been expended upon this complicated physiologico-pathological problem.

The two prizes that have been awarded since the foundation of the fund have both gone to Philadelphia. It is to be hoped that a third will not be allowed to go to that enterprising city without a struggle.

#### MEDICAL NOTES.

—The *Centralblatt für klinische Medizin*, which has been published for a couple of years at Bonn, under the editorship of Professors Rühle and Finkler, will henceforth appear at Leipzig. Some of the best-known German clinical teachers (Friedrichs, Gerhardt, Leyden, Liebermeister, Notlmagel, Rühle, Binz) are associated in the management, while the direct editorial supervision is intrusted to Professors Brieger, Ehrlich, and Fränkel, of Berlin, and Finkler, of Bonn. In its new form it is hoped that this *Centralblatt* will render clinical medicine the same service that the better known ones have done so acceptably for their

departments. The new publishers are Breitkopf and Härtel.

—At the exposition in Cincinnati during the past fall a record of the visitors' weight was kept. Taking the mixed crowd, the men averaged 151.92 pounds, and the women 130.87 pounds. This beats the Boston weight taken in 1864. The men there weighed 141.5 pounds, and the women 124.5 pounds. The Kentuckians visiting the Cincinnati show averaged 158.43 pounds, and the Kentuckiennes averaged 135.76 pounds—a higher average than from any other State. Government statistics show the inhabitants of Kentucky and Tennessee to be the tallest people in the world. The climate and food in the two States are similar. Blood from the British Isles and abundant native beef and bread are the sources of this superior size, as well as of the extraordinary beauty of the women of these central States. — *Louisville Medical News.*

—A pleasant reception to Dr. John P. Gray, superintendent of the State Insane Asylum at Utica, New York, was given at the house of Dr. Charles D. Homans on Friday evening, November 24th.

#### NEW YORK.

—The annual meeting of the Boards of Governors and Lady Supervisors of the Woman's Hospital was held November 15th, when the usual reports were read. During the year 147 patients were discharged cured, and 219 improved; 122 remained under treatment, and it was stated that the hospital buildings were entirely too small to accommodate all the cases applying for admission.

—The *New York Times* has recently published a carefully prepared article on the church charities of the city, in which it gives an accurate *résumé* of the work of each denomination, and from which it appears that the Protestant Episcopal Church occupies the leading position in this direction. "It may be observed at the outset," the writer says, "that those denominations are doing the most effective work whose structure is most organic. Where there is large individualism there is apparently little for the masses. . . . So far as New York is concerned, and its local charity work, the Episcopal Church stands preëminently to the fore. As a matter of fact, its work is greater than is done by all other Protestant denominations combined. This is a record worthy of emulation, and should other denominations profit by what is now brought to their attention it can do them no harm, and may do the poor and unfortunate an immense amount of good. . . . Catholic charity work is even more conspicuous than that done by the Episcopal church, but this conspicuousness is, in part at least, deceptive. It is true the work is done under Catholic auspices; there is also Catholic self-sacrifice to carry it forward; but the 'sinews' are largely furnished by the community at large." Among the medical institutions under the charge of the Episcopal Church are enumerated St. Luke's Hospital, at which, during 1881, were treated 1665 patients, of whom 1358 belonged to the free class; St. Mary's Free Hospital for Sick Children (founded in 1870, and recently en-

larged at an expense of \$36,000), where about 200 patients are annually treated at an expense of \$10,000; the House of Rest for Consumptives at Tremont, where 114 patients were treated during the year 1881; the House for Incurables at Fordham, and the House of the Holy Comforter, established for the reception and care of incurable women and female children.

—The New York County Visiting Committee for Bellevue and other public hospitals in its report to the State Charities Aid Association on May 11th complained of certain existing abuses in these institutions, and at the first general meeting of the Association since the report was made, which was recently held, it was stated that little or nothing had been done towards correcting these abuses. In regard to Bellevue Hospital it was complained that the defects from bad plumbing grew constantly worse, increasing the unpleasant smells in the wards, while the rats and mice added to the defective plumbing by gnawing away the rotten closets. It was thought probable that the Commissioners of Charities and Correction could not remedy this state of affairs except by tearing down the old buildings, which were, as a rule, overcrowded, and erecting good pavilions on the site, which was believed to be an admirable one. The food at Bellevue, it was stated, was on the whole satisfactory, great improvement in it having been made in the last few years, but there were still too few vegetables provided, and the patients would often prefer salt fish to the constant fresh fish now supplied, which, indeed, was rarely ever absolutely fresh. The complaint of the need of an elevator at Charity Hospital, Blackwell's Island, was reiterated, and there seemed to be no excuse for there not having been one there long ago. The patients were still carried up and down the stairs, and were often compelled to walk, it was stated, when scarcely able to do so. In regard to the Homœopathic Hospital on Ward's Island, it was complained that a hundred and fifty pigs were kept in the immediate vicinity of the institution, and that the stench arising from their pens was almost unendurable.

—The regular quarterly meeting of the State Board of Health was held at Albany on the 18th of November. The question of nuisances affecting health caused by sawdust in streams, lakes, and public waterways was referred to the attorney-general for the preparation of suitable amendments of the law to meet such cases. The petroleum nuisances at Hunter's Point and Newtown Creek were also considered, and measures taken for continued inspection. The infractions of the laws to prevent adulterations of food and drugs, and to regulate the standard of kerosene oil, were discussed, and referred to the attorney-general for aid in their enforcement. The Sanitary Committee reported that since the last quarterly meeting ten samples of drinking water had been examined by the public analyst at the request of the local authorities, and that most of the samples were found to be unwholesome. In regard to dangerous kerosene oils, the committee reported that since the last meeting three accidents had been investigated by Inspector

Colby. Two resulted in loss of life, and all were caused by oil which was found to be below the legal standard. Of one hundred and forty-five samples of oil purchased at one hundred and twenty-three stores in Brooklyn, only five were up to the required standard, and twenty-two emitted combustible vapors at the ordinary temperature. Mr. J. N. Partridge, fire commissioner of Brooklyn, was reported as having adopted the instrument selected by the State Board of Health for testing oils, and as being willing to prosecute offenders in future. It was stated that the law was now uniform for all parts of the State except the city of New York, and it was hoped that the State instrument would be adopted by the fire commissioners there also. At the conclusion of the report it was resolved that the Sanitary Committee should institute prosecutions at once for violations of the law.

— Dr. John Shaw, medical superintendent of the Brooklyn Lunatic Asylum at Flatbush, has just made his annual report to the Commissioners of Charities and Correction. It shows that the number of patients admitted during the year ending August 1, 1882, was 354, while the number discharged was 347, and of those who died 91. He reports that a number of improvements have been made in the institution, and asks for additional land for farming purposes, as there are at least a hundred patients whose condition would be improved by out-door work. Sixty-four patients had recovered and been discharged during the year, and eighty-five were improving.

— The world of science has met with a severe loss in the death of Prof. Henry Draper, the well-known physiologist and astronomer, which occurred, after a brief illness, on the 20th of November. He was just in his prime, having been born in Prince Edward County, Virginia, on the 9th of March, 1837. When he was three years of age the family moved to New York, where his father, Prof. John William Draper, had been appointed to the chair of chemistry in the University. He was graduated in the medical department of the University in 1858, and after spending a few months in scientific study, and serving for a year and a half upon the medical staff of Bellevue Hospital on his return, was elected, in 1860, to the chair of physiology in the academic department of the University, a position which he retained until his death. In 1866 he was appointed professor of physiology in the medical department also, and became the managing officer of that institution. It was during his incumbency, which lasted until 1873, that the new building of the medical department, in the place of that destroyed by fire, was erected, the collections and apparatus were replaced, and the school raised to its present flourishing condition. Upon the death of his father, in January last, he was elected to the vacant chair of chemistry in the academic department of the University, but he soon resigned the position on account of the time which its duties took from his original investigations. He had made at Hastings on the Hudson the largest telescope in the United States, an equatorial instrument of twenty-eight inches aperture, whose construction has been described by President Barnard,

of Columbia College, as "probably the most difficult and costly experiment in celestial chemistry ever made;" and the laboratory connected with his residence in New York is one of the best equipped in the world, furnished as it is with an infinite variety of the most complete and expensive apparatus, much of which has been of his own invention and construction. He is best known for his astronomical researches and his brilliant achievements in celestial photography, which have won for him a world-wide reputation. His services as superintendent of the photographic department of the commission appointed by Congress in 1874 to observe the transit of Venus were recognized by the striking at the Philadelphia Mint of a special gold medal in his honor.

#### PHILADELPHIA.

— The continued sickness of Dr. Charles T. Hunter, demonstrator of anatomy at the University of Pennsylvania, has led to the temporary appointment of Dr. J. T. Deaver to fill his position. Dr. Richard H. Harte has been appointed demonstrator of osteology.

— After an exciting canvass for the positions on the hospital staff of the Jefferson Medical College rendered vacant by the election of Drs. Gross and Brinton to professorial chairs in the College, the board of trustees, at their meeting held October 22d, elected Dr. O. H. Allis and Dr. Joseph Hearn surgeons to the institution.

— An interesting medico-legal case was brought to the Pennsylvania Hospital last week in Dr. DaCosta's wards. A man of intemperate habits was found drunk on the streets, and soon became comatose. He was brought to the hospital with symptoms of compression of the brain without evident hemiplegia, but with irregular pupils (right strongly contracted), and stertorous respiration, followed by death. There was no discernible wound of the scalp. A hæmorrhagic effusion under the membranes, coinciding with a fracture of the right parietal bone, was found in the interior of the left hemisphere, and also a recent clot. It was believed that the small clot first caused apoplexy, and in falling the fracture of the skull was produced. It is further interesting as showing the relation between alcoholic poisoning and cerebral hæmorrhage.

— The following important measure for the prevention of the spread of contagious diseases will be recommended to the coming session of the Legislature of Pennsylvania for action by the judicial committee to which it had been referred for consideration. The committee approved the ordinance to prevent the spread of contagious diseases. It has reference to Asiatic cholera, relapsing fever, yellow fever, typhus or ship fever, cerebro-spinal meningitis or spotted fever, small-pox and varioloid, scarlet fever, and diphtheria. Persons afflicted with any of these diseases are prohibited from entering a public vehicle or assemblage; the sale of infected bed-clothing or other articles is disallowed, and a fine is imposed for permitting any but the immediate family to attend the funeral of a person who dies of such complaints. Any one who lets a room, house, or part thereof, in which any person suffering

from contagious disease has been, to any other person without previously disinfecting according to law is liable to a penalty of \$100.

— The Philadelphia Society for Organizing Charity held its fourth annual meeting November 21st. The report of the Board of Directors stated that during the fiscal year just ended the receipts of the Central Association amounted to \$13,728.22 against \$5731.32, in 1881. The expenditures were \$9912.09 against \$731.32 during the previous year.

It was stated that the twenty-two local organizations, established chiefly for investigation and the benefit of other institutions, are still largely occupied with direct relief. The receipts of these district associations aggregated \$24,436.03, all of which was expended except \$407.74. The Directors desire it to be understood that this money comes from contributors who wish a fair trial given to the experiment of seeing what can be done to prevent pauperism, uplift the dependent classes, protect the community from fraud and imposture, and save charity funds from misdirection.

— Diphtheria has been more prevalent and fatal than usual, there having been 930 deaths thus far this year, and they will probably exceed 1000 by December 30th. Last year the mortality was 475 cases, and in 1880 it was only 323. The Board of Health will shortly issue a set of brief rules for the sanitary management of cases of diphtheria for general distribution, especially insisting upon the communicability of the disease and the importance of isolation. The disease is particularly malignant in the suburban portions of the city, especially in Frankford.

### Miscellany.

#### THE NATIONAL BOARD OF HEALTH.

MR. EDITOR,—My attention has been drawn to your editorial of the 9th of November relative to the National Board of Health. It seems to me that you have overstepped the bounds not only of courtesy but of exact truth when you say "that dissatisfaction has become somewhat general in the medical profession, and in health boards, at least, in this part of the country." Where is the evidence of this? I do not find any. I have never seen public demonstrations of that kind "in this part of the country." You, as editors, may have seen such. If you have, you should present them; otherwise I must think your estimate of medical public opinion is, in your imagination, rather a positive fact.

Then, too, your assertion that it "was an avoidance of responsibility, *if nothing more*, for the Board to ask the opinion of the Public Health Association whether its members should resign, seems to me offensive in its insinuations. What, pray, is the "nothing more"? Your editorial will gratify every member of Congress that voted against farther trusting the Board. It would justify the gross insult heaped upon the Board by President Arthur.

I am not a defender of all the proceedings of the Board, and yet I am not sure that they have not acted more prudently than I should have acted if I had been smarting under such an insult from the head of the nation. I fear I should have resigned forthwith, and

have urged all my colleagues to do so. For reasons which the Board deems sufficient, the present members believe that the Public Health Association had a large influence in the selection of themselves as members of the National Board. Surely an appeal to the Association under such circumstances does not appear to me so widely improper as to justify the language of your editorial.

I remain very truly yours, HENRY I. BOWDITCH.

[Dr. Bowditch's letter does not answer our criticisms, we have no change to make in our statements, and would be ready to substantiate them if it seemed necessary.—Ed.]

#### REMARKS MADE AT A SOCIAL MEETING OF THE MASSACHUSETTS MEDICAL BENEVOLENT SOCIETY—ITS TWENTY-FIFTH ANNIVERSARY<sup>1</sup>

PERHAPS, Mr. President, it were better for me to answer your summons in the words of "My Double,"<sup>2</sup> that, "I agree, in general, with my friend the other side of the room." That, "there has been so much said, and, on the whole so well said, that I will not occupy the time," but, as several professional incidents occur to me illustrative of the reason for the existence of such a society as this, and the need of it, I may, without impropriety, relate them on this occasion.

When I was Secretary of the Massachusetts Medical Society a worthy out-of-town member died owing the Society two or three annual assessments. The committee having charge of such matters were in doubt, and asked aid of two of his former neighbors and associates. "He had a good practice," said one. "He rode a great deal, and was prosperous." "Yes," added the other, "he was successful, and must have left considerable property—as much, I should say, as six or seven hundred dollars!" Think of it, friends; six or seven hundred dollars as the result of a life long successful practice, of much labor, and a great deal of riding! What a legacy for surviving family and dependents! The committee never made a claim on that "considerable property."

While a medical student I was much and kindly assisted by a prominent practitioner, residing not a dozen miles from the city. He had been in practice forty years in a thriving town, without a rival; his rides often extending into neighboring villages. He was prosperous, and had accumulated; yet he told me that had he kept a hired man to take care of his horse and vehicles, the pay of this man would have consumed all that he had been able to save of his income! That is to say, by doing the work of a hired man, in addition to that of his profession, he had been able to save up a hired man's wages.

"Rouse up," said members of the family to one of the first physicians of France, then on his couch, sinking under most painful and wasting malignant disease,—"rouse up—a patient is waiting. Go earn a few francs—there is not any bread in the house!"

It may be that the public require the information, but I need not tell the members of this Society that the medical profession is not one for the acquisition of wealth. Indeed, one may well say in common street phrase, "there's no money in it." One of my elders given to such investigations once told me that if any in

<sup>1</sup> By Dr. B. E. Cotting. See JOURNAL, November 2, 1882, p. 429.  
<sup>2</sup> My Double and How He Undid Me, by Rev. E. E. Hale, D. D.

the profession were seemingly rich, their accumulations were due to parsimonious habits, small savings with fortunate investments, the rise in value perhaps of the land on which they had located, rather than directly to professional fees, no matter how valuable their practice might appear to be. Indeed, we may add, it may be reasonably doubted whether even in the city, where fees are nominally the largest, the average income of the profession allows a greater margin for savings than that of the laborer who sweeps the streets or carries out the garbage.<sup>1</sup>

Besides, the community as well as the profession should be fully aware and ever keep in mind that he who practices medicine, wholly or principally, as a means of money-getting, to that extent miserably degrades himself and his calling, which, as an elegant French writer has said, "is one of the noblest of professions, but the meanest of trades."

Furthermore, the *animus* with which the profession is followed has a wonderful effect on the man himself. An aphorism asserts that "women are either devils or angels." Whether said as a truth or for effect, as by an advocate for his client in a bad case, it matters not; but this may be averred, that any one who practices medicine in its true spirit may be a messenger (an angelus) of mercy to individual sufferers, and in greater emergencies possibly become "more than armies to the public weal."—but he will not get rich by it! While, on the other hand, the money-seeker, if any such by mistake adopt medicine for their purpose, however degrading his methods may be or how *satanic* their effect on himself, will not be likely to accumulate much "for a rainy day," or to be quarreled over and "cut up" by his descendants.

Since these things are so, and since the members of the medical profession must of necessity work more for the good of others and the community than for their own immediate selves or their dependents, it inevitably follows that there will be an urgent need of such a society as this, and that we have a patent right to ask aid for it of those whose callings lead directly to wealth. Nor shall we ask in vain. Our rich men seem to take a peculiar or personal delight in appropriating of their surplus to such purposes, aware that what they thus give *they save*. You have only to make known the necessity, and the means for relief of it will soon be forthcoming.

In the present instance you can well ask of their abundance since you have already "cast in of your penny;" while the good even now resulting from your small beginnings is a moving, an unanswerable argument in the appeal. As the treasurer has told us, your annual mite, small as it seems, has carried comfort to the indigent, has thrown a golden ray into gloomy chambers of starving despair, and has in fact softened down even the sharp edges of the black, appalling shadow of approaching dissolution itself.

#### LETTER FROM LONDON.

LONDON, November 9, 1882.

MR. EDITOR.—The serious, probably fatal, but happily almost painless indisposition of the most highly

esteemed Nestor of modern medicine, Sir Thomas Watson, is a topic that just now occupies a most prominent place in the thoughts of the profession to which he has so long been such a bright ornament. At the very commencement of this attack some three weeks since, when after returning from a Sunday morning divine service he attempted to rise from his arm-chair he almost fell to the left side in consequence of a sudden loss of power in the lower extremity of that side, he was seen by his old pupil and dear friend, Dr. George Johnson, to whom he remarked: "This is the beginning of the end." Sir Thomas has since kept his bed, and has declined to recognize the paralysis which is confined to the left leg and the left side of the face, causing a deviation of the protruded tongue to the right. There is no loss of sensibility, no pain, and happily no impairment of the faculties. The distinguished patient is in his ninety-first year, and is almost impatient for the end of his so happily and exceptionally prolonged life. Taken ill at the house of his only son, a barrister, whom he was visiting, the invalid has been surrounded by those nearest and dearest to him; and it is pleasant to know that his admirable disposition is as much appreciated in his home circle as are his many fine qualities by his professional brethren. For the last three days Sir Thomas has had the services of a trained nurse, though of course the loving attention and devotion of his companion and only daughter is unremitting. That this valued life can be long continued can scarcely be wished in the face of the patient's definite and unswerving desire to pass away speedily and easily; moreover, his repugnance to all forms of nourishment is so strong that he will take nothing more than a little milk, and is daily growing perceptibly weaker. His notoriously unselfish character probably goes far to explain his unwillingness to survive his recent infirmity for many weeks, and is painfully manifest in his unwillingness to be attended to. On Tuesday last he began to be troubled with a frequent desire to micturate, which was at that time attributed to irritation at the neck of the bladder, brought on by the acidity of the urine, in which there had been much uric acid since the diet has been solely milk. Yesterday there was so much discomfort that Dr. George Johnson went down from town especially, but on arriving found that Professor Lister had been telegraphed for by the particular wish of Sir Thomas, who would not credit that his bladder needed emptying, and who was firmly impressed with the belief that he was suffering from a calculus, which would have to be removed. However, the passage of a catheter immediately after Professor Lister arrived gave complete relief, and demonstrated that the suffering had been due to retained urine.

Thus we have another example of the oft repeated experience that the most able physicians are of all persons the least capable of reading aright the symptoms presented in their own persons. Not one of the least estimable of Sir Thomas Watson's many glorious characteristics, has been his singular ability to keep his extensive medical knowledge, and the opinions based thereon, untrammelled by tradition, when tradition was opposed to recent research; thus, without flowing in the tide of medical fashion, his teaching, always based on trustworthy observation, kept pace with the established medical facts of the day, whether they were clinical, microscopical, or purely scientific. I suppose there can be little question that his universal esteem in our

<sup>1</sup> Since the meeting, an eminent clergyman told the speaker that he once investigated the incomes of physicians in one of the larger cities of another State, and found that, after deducting expenses necessary to the practice of the profession, they did not annually receive, on an average, more than workmen in the same city.—*Medical Opinion*.



world-wide profession was very largely due to the real worth and unsurpassably beautiful style and clearness of his lectures on the practice of medicine. No medical writing has yet equalled that of him who now engages our tenderest thoughts. None can ever outstrip it, for elegance, fervor, soundness, power, beauty, or clearness; and I can recollect no technical work, save Sir James Paget's Pathology, which can be named in the same breath with anything from the pen of Sir Thomas. The unexampled popularity in the profession of his lectures was such as to startle their publisher into an almost unparalleled act of grace, such as I shall have to record in a future letter; for it is my hope to give your readers the earliest connected record of this glorious life, which will be found to teem with interest. His lectures are probably the last that will prove a successful attempt to embrace comprehensively the practice of medicine in the work of one author. Every edition of those lectures must have a lasting and ever-increasing value for the entire English-reading medical population of the world. The various additions in the last edition alone testify to the thoroughness of this great master's comparatively recent work. Therein we find much of value inserted on the modes of sudden death, including death by embolism of the pulmonary vessels; also a singularly wide-minded and lucid reference to the ophthalmoscope in cerebral disease, and modernized views on cholera. However, leaving alone the professional facts of Sir Thomas's life, there will be much of interest in tracing the earlier career of one who was a school-fellow of Bishop Bloomfield at Bury St. Edmunds, and became a Fellow of St. John's College, Cambridge, at a time when there was only *one* other "Fellow" who was not in holy orders.

Sir Thomas's recent symptoms would be fully accounted for by certain thromboses which might be expected to occur in connection with such advanced atheromatous degeneration as is here present.

#### DR. DOUGLAS GRAHAM ON MASSAGE.

DR. DOUGLAS GRAHAM, of Boston, has a judicious article on Massage: Its Mode of Application and Effects, in the October number of the *Popular Science Monthly*. Massage is a form of therapeutics about which a great deal of vague nonsense is talked and written; it is therefore timely that a valuable remedial agent should be protected from a reaction likely to arise against the exaggerations of ignorant enthusiasts and the pretensions of quackish manipulators. We welcome from an educated physician a temperate and expert statement of the proper methods of practicing massage and of the results which may reasonably be expected from its use.

Dr. Graham thinks that massage is less cultivated in France than formerly, but that considerably more attention is being given to it in Germany. As to the way in which massage is regarded, and as to its condition in the United States, he says:—

"Except among very few,—epicures in this matter, if one may so speak,—there is as yet but little evidence of a desire to place massage, and those who do it, on their merits alone, irrespective of the policy of employing persons who are only rubbing machines, or of tolerating obnoxious individuals so long as the poor patients' minds are satisfied. This is too often the case,

and then massage is said to have failed and valuable time is lost, when, if it had been properly applied, it might have been successful; or, on the other hand, perhaps it should have been omitted and other remedies employed. The writer of this, in a recent paper on the History of Massage, has said: 'In almost every city of the United States, and indeed of the whole civilized world, there may be found individuals claiming mysterious and magical powers of curing disease, setting bones, and relieving pain by the immediate application of their hands. Some of these boldly assert that their art is a gift from heaven, due to some unknown power which they call magnetism, while others designate it by some peculiar word ending with *pathy* or *cure*, and it is astonishing how much credit they get for their supposed genius by many of the most learned people.' Let a fisherman forsake his boat, or a blacksmith his anvil, or a carpenter his bench, or a shoemaker his shop, and proclaim that he has made the wonderful discovery that he is full of magnetism, and can cure all diseases, and, be he ever so ignorant and uncouth, he is likely to have, in a remarkably short space of time, a large *clientele* of educated gentlemen and refined ladies. It is not meant to imply that the previous occupation of such people is at all to their discredit, but were they capable of giving a rational explanation of their doings the halo of mystery would be removed from around them, and their prestige and patronage would suffer a sudden decline.

"In Boston and Philadelphia, and perhaps in other cities as well, efforts have been made by physicians who are thoroughly familiar with massage to instruct intelligent nurses and others how to apply it, and at the training schools for nurses the pupils receive some general instruction in the matter. In this way something has been accomplished to bring massage within the rules and regulations of common sense and rational therapeutics. But still there is great room for improvement even in this direction, for it is but too often the case that after one or two persons are specially trained to do massage they are requested to give instruction to some of the pupils at the schools for nurses and to others, a few of whom, after having received some general desultory lessons, are in turn delegated or relegated to teach others, and so on until, by the time massage reaches the needy patients, there is often little left of it but the name. Hence it is not to be wondered at that many a shrewd, superannuated auntie, and others who are out of a job, having learned the meaning of the word massage, immediately have it printed on their cards, and keep on with their 'rubbing' just as they always have done."

Dr. Graham states that "according to the requirements of individual cases massage may be of primary importance or of secondary importance, of no use at all, or even injurious. Concerning the extent of its usefulness it may with safety be said that at tolerably definite stages in one or more classes of affections in every special and general department of medicine, evidence can be found that it has proved either directly or indirectly beneficial, or led to recovery, sometimes when other means had been but slowly operative or apparently had failed altogether. In view of these facts it need hardly be said that those who would properly understand and apply massage should be familiar with its past and present literature; they should also be familiar not only with the natural history of the maladies in which massage may be applied

when left to themselves, but also with the course of these affections when treated in the usual approved methods, so that improvements or relapses may be referred to their proper causes. Moreover, they should know something about the methods of others who have any claim to respectability in their manner of applying massage, so as to compare them with their own. And yet all these qualifications may fail if the operator has not in addition abundance of time, patience, strength, and skill, acquired by long and intelligent experience. Measured by these requirements I fear that good *masseurs* (manipulators) are scarce."

After describing the different methods of practicing massage, and explaining, as far as possible, the results which may fairly be expected, and the processes by which these are produced, Dr. Graham concludes that, "discuss any therapeutical agent as we may, there is something still peculiar to each that evades expression by tongue or pen. Of what use is it to describe odors, tastes, sensations, sights, and sounds? They can only be comprehended by smelling, tasting, feeling, seeing, and hearing. Just so with the peculiar calm, soothing, restful, light feeling that so often results from massage, which cannot be understood until experienced. It doubtless arises to a great extent from the pressure of natural worn out *débris* being speedily removed from off terminal nerve filaments. Furthermore, massage excites and awakens the *muscular sense* in an agreeable and beneficial manner such as nothing else does, and we know that the state of our muscles indicates and often determines our feeling of health and vigor or of weariness and feebleness. To many minds a more satisfactory way of explaining the phenomena produced by massage would be by saying that they all occur in consequence of 'magnetism,' by which they have an indefinite understanding that this is some sort of imperceptible ethereal fluid passing from one person to another. Such an explanation is low, gross, and vulgar, and it is erroneously used as a synonym for personal influence by people who do not know the proper scientific meaning of magnetism. Those who claim to have a vast stock of 'magnetism' are like those who talk much of their bravery, sensible people find them devoid of either."

#### MASSAGE AS PRACTICED BY BARBARIANS.

The same article of Dr. Graham contains a quotation from Mr. Charles Nordhoff's book on the Sandwich Islands, describing a practice which he found prevalent among the natives under the name "lomi-lomi." It is curious as being identical with massage as now practiced in civilized countries, and Mr. Nordhoff does not seem to have observed the parallel. Writing in 1873, he says:—

"Wherever you stop for lunch or for the night, if there are native people near, you will be greatly refreshed by the application of what they call 'lomi-lomi.' Almost everywhere you will find some one skillful in this peculiar, and, to tired muscles, delightful and refreshing treatment.

"To be lomi-lomied, you lie down on a mat, loosening your clothing or undressing for the night if you prefer. The less clothing you have on the more perfectly the operation can be performed. To you thereupon comes a stout native with soft fleshy hands but a strong grip, and beginning with your head and working down slowly over the whole body, seizes and squeezes with a

quite peculiar art every tired muscle, working and kneading with indefatigable patience until, in half an hour, whereas you were sore and weary and worn out, you find yourself fresh, all soreness and weariness absolutely and entirely removed, and mind and body soothed to a healthful and refreshing sleep.

"The lomi-lomi is used not only by the natives but among almost all the foreign residents; and not merely to procure relief from weariness consequent on over-exertion, but to cure headache, to relieve the aching of neuralgic or rheumatic pains, and by the luxurious as one of the pleasures of life. I have known it to relieve violent headache in a very short time. The old chiefs used to keep skillful lomi-lomi men and women in their retinues; and the late king, who was for some years too stout to take exercise, and was yet a gross feeder, had himself lomi-lomied after every meal as a means of helping his digestion.

"It is a device for relieving pain or weariness which seems to have no injurious reaction, and no drawback but one—it is said to fatten the subjects of it."

#### PHTHISIS AS A SELF-LIMITED DISEASE.

PROF. AUSTIN FLINT presented a paper before the British Medical Association showing that in a certain proportion of cases of undoubted phthisis not only a cessation but a retrogression of the process occurred. He quotes figures already published, including all his recorded cases of that disease up to 1875, numbering six hundred and seventy. Of these, forty-four ended in recovery, and the details given are sufficient to establish both the correctness of the diagnosis and the undoubtedness of the recovery. Besides these, there were thirty-one cases where the disease ceased to progress, and remained stationary for at least several months and in many instances some years. He considers that in these cases the phthisical process had ended, but that its resultant lesions prevented perfect recovery.

He points out that a similar temporary limitation occurs in most of the fatal cases of phthisis, but does not explain whether these fresh invasions are due to successive broods of tubercle bacilli. Of course, until the cause of these successive exacerbations, and by consequence of the intermediate remissions can be learned, it will be impossible to succeed in controlling such effects by medication. As a matter of fact, the cases of arrest of the disease seem to have been determined almost altogether independently of the treatment. Of the forty-four that wholly recovered, twenty-three received no medicinal treatment whatever, further than to meet occasional palliative or symptomatic indications.

Even improvements in climatic and hygienic surroundings cannot be claimed as causes for some of the recoveries, as the self-limitation occurred in individuals who made no change in their habits of life or in the conditions under which the disease had developed. In other cases such changes were made in the hygienic circumstances as in the opinion of Dr. Flint may have favored the recovery or non-progression, though they were inadequate to arrest the disease. An important practical point with regard to change of diagnosis which is sometimes made when such cases have recovered is put by the writer as follows:—

"In the cases ending favorably, which have been referred to as furnishing proof of a self-limited dura-

tion, the diagnostic symptoms and physical signs were so well marked, as to leave no room for doubt as to the existence of phthisis. From cases which have come under my observation, I have been led to believe that not very unfrequently phthisis ends by self-limitation without having advanced far enough for the diagnosis to be considered as positive. A patient has had for some time a slight cough, either dry or with a scanty expectoration; there has been some loss in weight, and the body heat is somewhat raised, with, perhaps, spitting of blood. These symptoms, taken in connection with the age of the patient, and, it may be, grounds for suspecting a congenital predisposition, point to a tuberculous affection. But examinations of the chest in such a case may fail to reveal distinct physical signs. Very likely the problem, as regards the physical diagnosis, is to determine whether at the summit of the chest on the right side there are abnormal signs, or only the normal points of disparity between the two sides. There may be found only a sub-crepitant r  le, or slight pleuritic rubbing, or an inter-

rupted respiratory murmur at the summit on one side, without conclusive evidence of tuberculous solidification. Under these circumstances, the physician either commits his judgment to a diagnosis of incipient phthisis, or, as is more probable, he reserves an opinion for further developments. After a short time all the pulmonary and general symptoms disappear. Now, if incipient phthisis have been diagnosed, the physician concludes that the diagnosis was erroneous. He feels obliged so to conclude, in consequence of the common belief that phthisis does not thus commence and end from self-limitation. But it is highly probable that the diagnosis was correct. Phthisis existed and ended in its incipency. It would be proper enough to distinguish these as cases of abortive phthisis. If I mistake not, all medical observers of much experience will admit that the foregoing sketch represents a class of cases not extremely rare. That they are not very rare is a fair inference from the frequency with which the traces of an old abortive phthisical affection are found in bodies dead with other diseases than phthisis."

## REPORTED MORTALITY FOR THE WEEK ENDING NOVEMBER 18, 1882.

| Cities.                           | Population by Census of 1880. | Reported Deaths in each. | Deaths under Five Years. | Percentage of Deaths from         |                |                     |                |                       |
|-----------------------------------|-------------------------------|--------------------------|--------------------------|-----------------------------------|----------------|---------------------|----------------|-----------------------|
|                                   |                               |                          |                          | The Principal "Zymotic" Diseases. | Lung Diseases. | Diarrheal Diseases. | Typhoid Fever. | Diphtheria and Croup. |
| New York.....                     | 1,205,590                     | 582                      | 189                      | 18.73                             | 13.89          | 5.50                | 1.20           | 5.50                  |
| Philadelphia.....                 | 846,984                       | 328                      | 99                       | 21.34                             | 6.71           | .31                 | 3.04           | 14.94                 |
| Brooklyn.....                     | 566,689                       | —                        | —                        | —                                 | —              | —                   | —              | —                     |
| Chicago.....                      | 503,304                       | 200                      | 88                       | 20.50                             | 10.50          | 2.50                | 3.50           | 6.50                  |
| Boston.....                       | 362,535                       | 142                      | 41                       | 23.24                             | 7.76           | 3.32                | 4.93           | 12.67                 |
| St. Louis.....                    | 350,522                       | —                        | —                        | —                                 | —              | —                   | —              | —                     |
| Baltimore.....                    | 332,190                       | 172                      | 73                       | 36.99                             | 5.20           | .58                 | —              | 17.34                 |
| Cincinnati.....                   | 255,708                       | 110                      | 41                       | 17.27                             | 3.64           | 1.81                | 1.81           | 4.55                  |
| New Orleans.....                  | 216,140                       | 112                      | 34                       | 16.95                             | 4.36           | 7.14                | —              | .89                   |
| District of Columbia.....         | 177,638                       | 73                       | 27                       | 30.55                             | 6.85           | 9.59                | 2.74           | 2.74                  |
| Pittsburg.....                    | 156,381                       | 70                       | 28                       | 31.41                             | 14.29          | 1.43                | 11.42          | 9.99                  |
| Buffalo.....                      | 155,137                       | 59                       | 18                       | 30.33                             | 3.39           | —                   | 3.39           | 16.94                 |
| Milwaukee.....                    | 115,578                       | 44                       | 25                       | 15.89                             | 15.89          | —                   | 4.54           | 2.27                  |
| Providence.....                   | 104,857                       | 67                       | 9                        | 51.70                             | 10.34          | 1.48                | 31.56          | 8.86                  |
| New Haven.....                    | 62,882                        | 16                       | 6                        | 12.50                             | 12.50          | —                   | 6.25           | —                     |
| Charleston.....                   | 49,999                        | 40                       | 16                       | 20.00                             | 5.00           | 2.50                | 7.50           | 7.50                  |
| Nashville.....                    | 43,461                        | 22                       | 6                        | 31.78                             | —              | 18.16               | —              | —                     |
| Lowell.....                       | 59,485                        | 21                       | 6                        | 19.04                             | 9.52           | 9.52                | 4.76           | —                     |
| Worcester.....                    | 58,295                        | 16                       | 5                        | 6.25                              | 18.75          | 6.25                | —              | —                     |
| Cambridge.....                    | 52,740                        | 15                       | 6                        | 33.33                             | 13.33          | —                   | —              | 33.33                 |
| Fall River.....                   | 49,006                        | 14                       | 7                        | 28.56                             | 7.14           | 14.28               | 7.14           | 7.14                  |
| Lawrence.....                     | 39,178                        | —                        | —                        | —                                 | —              | —                   | —              | —                     |
| Lynn.....                         | 38,284                        | 5                        | 1                        | —                                 | —              | —                   | —              | —                     |
| Springfield.....                  | 33,340                        | 10                       | 2                        | 20.00                             | —              | —                   | —              | —                     |
| Salem.....                        | 27,598                        | 10                       | 1                        | —                                 | —              | —                   | —              | —                     |
| New Bedford.....                  | 26,875                        | 9                        | 4                        | 22.22                             | 33.33          | —                   | 11.11          | —                     |
| Somerville.....                   | 24,985                        | 4                        | 1                        | —                                 | 25.00          | —                   | —              | —                     |
| Holyoke.....                      | 21,851                        | 11                       | 4                        | 18.18                             | 27.27          | —                   | .91            | —                     |
| Chelsea.....                      | 21,785                        | 9                        | 3                        | 33.33                             | —              | —                   | —              | 22.22                 |
| Taunton.....                      | 21,213                        | —                        | —                        | —                                 | —              | —                   | —              | —                     |
| Gloucester.....                   | 19,329                        | 3                        | 1                        | —                                 | —              | —                   | —              | —                     |
| Haverhill.....                    | 18,475                        | 7                        | 2                        | 57.12                             | 14.28          | 14.28               | 28.56          | 14.28                 |
| Newton.....                       | 16,995                        | —                        | —                        | —                                 | —              | —                   | —              | —                     |
| Brookton.....                     | 13,608                        | 5                        | 2                        | 80.00                             | —              | —                   | —              | 80.00                 |
| Newburyport.....                  | 13,537                        | 5                        | 3                        | 40.00                             | —              | —                   | —              | —                     |
| Fitchburg.....                    | 12,405                        | —                        | —                        | —                                 | —              | —                   | —              | —                     |
| Malden.....                       | 12,017                        | 5                        | 2                        | —                                 | —              | —                   | —              | —                     |
| Fourteen Massachusetts towns..... | 114,580                       | 35                       | 10                       | 17.14                             | 8.57           | 2.85                | 2.85           | 11.43                 |

Deaths reported 2221 (no reports from Brooklyn and St. Louis); under five years of age 760; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and fevers) 503, consumption 316, lung diseases 225, diphtheria and croup 194, typhoid fever 56, diarrheal diseases 77, small-pox 41, scarlet fever 35, malarial fevers 31, whooping-cough 12, erysipelas eight, cerebro-spinal meningitis eight, puerperal fever six, measles five. From

small-pox, Baltimore 28, Philadelphia five, Chicago and Pittsburg three each, New York and New Orleans one each. From scarlet fever, New York 10, Cincinnati nine, Chicago seven, Philadelphia, Baltimore, and District of Columbia two each, Milwaukee, New Haven, and Chelsea one each. From malarial fevers, New York 13, New Orleans nine, Nashville three, Baltimore two, Philadelphia, District of Columbia, Charleston, and Springfield one each. From whooping-cough, New York seven,

Boston and Pittsburg two each, Chicago one. From *erysipelas*, New York and Chicago two each, Philadelphia, Cincinnati, District of Columbia, and Springfield one each. From *scarlet fever*, New York and Milwaukee two each, Pittsburg, New Bedford, and Newburyport one each. From *pneumonia*, Chicago two, New York, Boston, Lowell and Newburyport one each. From *measles*, New York two, Philadelphia, Chicago, and Baltimore one each.

One hundred and twenty-four cases of small-pox were reported in Baltimore, Pittsburg nine, Cincinnati three; diphtheria 32, scarlet fever 29, typhoid fever 24, in Boston; scarlet fever 18 and diphtheria 10, in Milwaukee.

In 30 cities and towns of Massachusetts, with a population of 964,717 (population of the State 1,783,086), the total death rate for the week was 17.48 against 19.42 and 20.00, for the previous two weeks.

For the week ending October 28th, in 171 German cities and towns, with an estimated population of 8,539,061, the death-rate was 22.4. Deaths reported 3679; under five years of age 1305; consumption 507, lung diseases 331, diphtheria and croup 203, diarrhoeal diseases 165, scarlet fever 93, typhoid fever 79, whooping-cough 67, measles and rubella 56, puerperal fever 22, small-pox (Magdeburg one, Frankfurt a. O. two) three. The death-

rates ranged from 14.1 in Darmstadt to 39.4 in Posen; Königsberg 25.5; Breslau 23.3; Munich 23.5; Dresden 21; Berlin 23.2; Leipzig 20.3; Hamburg 19.3; Cologne 19.8; Frankfurt a. M. 21.2; Strassburg 23.4.

In the 28 English towns, with an estimated population of 8,469,571, for the week ending November 4th, the death-rate was 21.3. Deaths reported 3451: acute diseases of the respiratory organs (London) 347, scarlet fever 116, measles 97, diarrhoea 93, fever 84, whooping-cough 70, diphtheria 21, small-pox (Manchester and Newcastle one each) two. The death-rates ranged from 15.2 in Brighton to 33.1 in Preston; Newcastle-on-Tyne 17.3; Birmingham 18; Wolverhampton 19; London 20.1; Bradford 22.5; Manchester 21.8; Portsmouth 24.1; Derby 26.2; Liverpool 29.2. In Edinburgh 22.7; Glasgow 26.3; Dublin 20.4.

For the week ending November 4th, in the Swiss towns, population 494,390, there were 28 deaths from consumption, diarrhoeal diseases 19, typhoid fever 12, diphtheria and croup 11, lung diseases five, whooping-cough four, erysipelas three, puerperal fever two. The death-rates were, in Geneva 15.5; Zurich 12.2; Basle 16.3; Berne 16.1.

The meteorological record for the week ending November 18th in Boston, was as follows, according to observations furnished by Sergt. O. B. Cole, of the U. S. Signal Corps:—

| Date.            | Barom-eter. | Thermom-eter. |          |          | Relative Humidity. |            |             | Direction of Wind. |            |            | Velocity of Wind. |            |            | State of Weather. <sup>1</sup> |            |            | Rainfall.   |                       |                   |
|------------------|-------------|---------------|----------|----------|--------------------|------------|-------------|--------------------|------------|------------|-------------------|------------|------------|--------------------------------|------------|------------|-------------|-----------------------|-------------------|
| November, 1882.  | Daily Mean. | Daily Mean.   | Maximum. | Minimum. | 7.23 A. M.         | 3.23 P. M. | 11.23 P. M. | Daily Mean.        | 7.23 A. M. | 3.23 P. M. | 11.23 P. M.       | 7.23 A. M. | 3.23 P. M. | 11.23 P. M.                    | 7.23 A. M. | 3.23 P. M. | 11.23 P. M. | Duration, Hrs. & Min. | Amount in inches. |
| Sun., 12         | 29.942      | 60            | 65       | 51       | 86                 | 68         | 81          | 78                 | SW         | SW         | SW                | 16         | 7          | 7                              | O          | O          | C           | —                     | —                 |
| Mon., 13         | 29.775      | 54            | 64       | 43       | 81                 | 73         | 93          | 82                 | SW         | S          | W                 | 6          | 15         | 14                             | O          | O          | R           | —                     | —                 |
| Tues., 14        | 29.876      | 39            | 45       | 35       | 71                 | 43         | 61          | 58                 | W          | W          | W                 | 8          | 16         | 7                              | C          | C          | C           | —                     | —                 |
| Wed., 15         | 30.036      | 38            | 50       | 30       | 73                 | 47         | 71          | 64                 | W          | W          | W                 | 7          | 10         | 8                              | C          | C          | C           | —                     | —                 |
| Thurs., 16       | 30.266      | 42            | 52       | 33       | 69                 | 46         | 65          | 60                 | W          | W          | NW                | 9          | 6          | 4                              | C          | C          | C           | —                     | —                 |
| Fri., 17         | 30.288      | 32            | 42       | 29       | 90                 | 96         | 100         | 95                 | NW         | N          | N                 | 8          | 10         | 15                             | Snow       | Snow       | Snow        | —                     | —                 |
| Sat., 18         | 30.232      | 27            | 33       | 24       | 88                 | 62         | 88          | 79                 | N          | N          | NW                | 18         | 13         | 14                             | Snow       | C          | C           | —                     | —                 |
| Means, the week. | 30.059      | 45            |          |          |                    |            | 74          |                    |            |            |                   |            |            |                                |            |            |             | 33.00                 | 0.36              |

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; X., clearing.

#### OBITUARY. WILLIAM H. BROWN, M. D.

HON. WILLIAM H. BROWN, M. D., of Bangor, Me., one of the most prominent citizens and physicians, and Mayor of Bangor in 1879 and 1880, died, November 23d, after a lingering illness, caused by the failure of the digestive organs. He was born in Bangor, June 14, 1822, and graduated at Bowdoin in 1842 and Harvard Medical School in 1850, and had been president of the Pemberton District Medical Society. He was a grandson of George W. Brown and William Hammond, among the earliest settlers of Bangor. He was the only native of the city ever chosen mayor, and his reelection in 1880 was nearly unanimous. It may be remembered that while Dr. Brown was Mayor of Bangor, during the political disturbances of that time in connection with the gubernatorial election, his personal influence did much towards keeping peace in that city. By reason and argument alone he induced an officer and troops, in the act of transporting arms from the armory at Bangor, to reposit them and quietly leave the place. He was of ripe culture, fine abilities, and highly esteemed in the profession, and by the community. He leaves a widow and two daughters.

SENIOR DISTRICT MEDICAL SOCIETY.—The Section for *General Medicine, Pathology, and Hygiene* will meet at 19 Wylston Place on the second Wednesday of each month, namely, December 13th, January 10th, February 14th, March 14th, April 11th, May 9th, at 7 15 o'clock. Members of the Society who are not already enrolled in the membership of this Section can receive notice of the meetings by notifying the secretary. All members of the Society are cordially invited to attend these meetings and take part in the proceedings. Any member wishing to present a communication to the Section should inform the secretary at an early date. The exhibition of anatomical and pathological specimens is particularly desired. Any change of address of members, or failure to receive the notices, should be at once communicated to the secretary.

ALBERT N. BODGETT, 86 Boylston Street, Secretary.

BOSTON SOCIETY FOR MEDICAL OBSERVATION.—A regular meeting of the Society will be held on Monday, December 4, 1882, at the Medical Library, at eight o'clock p. m. Reader, Dr. Charles H. Williams. Subject, Treatment of Diseases of the Lachrymal Canal. Dr. O. F. Wadsworth will open the discussion. C. M. JONES, Secretary.

GYNECOLOGICAL SOCIETY OF BOSTON.—The next regular meeting will be held at the Medical Library Rooms, on the first Thursday of December, at eleven o'clock a. m. Dr. J. Collins Warren has kindly consented to present to the Society his method of Treatment of Rupture of the Perineum. A paper is also expected from Dr. Norris. The profession are cordially invited. HENRY M. FIELD, M. D., Secretary.

PHILADELPHIA COUNTY MEDICAL SOCIETY LECTURES.—Prof. Austin Flint, Senior, of New York, gives three lectures on The Physical Exploration of the Lungs by means of Auscultation and Percussion, in the hall of the Society, N. E. Cor. Thirtieth and Locust Streets, on Saturday, November 25th, December 16th, and January 13th, at eight p. m.

Lecture I. The True Mode of Study and its Requirements as regards Auscultation and Percussion. The Signs obtained by Percussion.

Lecture II. Auscultation; and the Respiratory Murmur, with its Abnormal Modifications.

Lecture III. The Rales and the Vocal Signs.

JOHN B. ROBERTS, Chairman Committee on Lectures.

NEW YORK ORTHOPEDIC DISPENSARY AND HOSPITAL, No. 126 East 59th Street, N. Y.—The trustees of the New York Orthopedic Dispensary and Hospital announce that Dr. Newton M. Shaffer will give a course of Clinical Lectures on Orthopedic Surgery, at the institution on Thursday Afternoons, at half past four o'clock, from November 16, 1882, to February 15, 1883, inclusive. The course will be free to the medical profession and students. JAMES T. LEAVITT, Chairman Committee on Clinical Instruction.

## Original Articles.

FAREWELL ADDRESS OF DR. OLIVER WENDELL HOLMES TO THE MEDICAL SCHOOL OF HARVARD UNIVERSITY, TUESDAY, NOVEMBER 28, 1882.

I HAD intended that the recitation of Friday last should be followed by a few parting words to my class and any friends who might happen to be in the lecture-room. But I learned on the preceding evening that there was an expectation, a desire, that my farewell should take a somewhat different form: and not to disappoint the wishes of those whom I was anxious to gratify, I made up my mind to appear before you with such hasty preparation as the scanty time admitted.

There are three occasions upon which a human being has a right to consider himself as a centre of interest to those about him: when he is christened, when he is married, and when he is buried. Every one is the chief personage, the hero, of his own baptism, his own wedding, and his own funeral.

There are other occasions, less momentous, in which one may make more of himself than under ordinary circumstances he would think it proper to do; when he may talk about himself, and tell his own experiences, in fact, indulge in a more or less egoistic monologue without fear or reproach.

I think I may claim that this is one of those occasions. I have delivered my last anatomical lecture and heard my class recite for the last time. They wish to hear from me again in a less scholastic mood than that in which they have known me. Will you not indulge me in telling you something of my own story?

This is the thirty-sixth Course of Lectures in which I have taken my place and performed my duties as Professor of Anatomy. For more than half of my term of office I gave instruction in Physiology, after the fashion of my predecessors and in the manner then generally prevalent in our schools, where the physiological laboratory was not a necessary part of the apparatus of instruction. It was with my hearty approval that the teaching of Physiology was constituted a separate department and made an independent Professorship. Before my time, Dr. Warren had taught Anatomy, Physiology, and Surgery in the same course of Lectures, lasting only three or four months. As the boundaries of science are enlarged, new divisions and subdivisions of its territories become necessary. In the place of six Professors in 1847, when I first became a member of the Faculty, I count twelve upon the Catalogue before me, and I find the whole number engaged in the work of instruction in the Medical School amounts to no less than fifty.

Since I began teaching in this school, the aspect of many branches of science has undergone a very remarkable transformation. Chemistry and Physiology are no longer what they were, as taught by the instructors of that time. We are looking forward to the synthesis of new organic compounds; our artificial madder is already in the market, and the indigo raisers are now fearing that their crop will be supplanted by the manufactured article. In the living body we talk of fuel supplied and work done, in movement, in heat, just as if we were dealing with a machine of our own contrivance. A physiological laboratory of to-day is

equipped with instruments of research of such ingenious contrivance, such elaborate construction, that one might suppose himself in a workshop where some exquisite fabric was to be wrought, such as Queen's love to wear, and Kings do not always love to pay for. They are, indeed, weaving a charmed web, for these are the looms from which comes the knowledge that clothes the nakedness of the intellect. Here are the mills that grind food for its hunger, and "is not the life more than meat, and the body than raiment?"

But while many of the sciences have so changed that the teachers of the past would hardly know them, it has not been so with the branch I teach, or, rather, with that division of it which is chiefly taught in this amphitheatre. *General anatomy*, or *histology*, on the other hand, is almost all new; it has grown up, mainly, since I began my medical studies. I never saw a compound microscope during my years of study in Paris. Individuals had begun to use the instrument, but I never heard it alluded to by either Professors or students. In *descriptive anatomy* I have found little to unlearn, and not a great deal that was both new and important to learn. Trifling additions are made from year to year, not to be despised and not to be overvalued. Some of the older anatomical works are still admirable, some of the newer ones very much the contrary. I have had recent anatomical plates brought me for inspection, and I have actually button-holed the book-agent, a being commonly as hard to get rid of as the tar-baby in the negro legend, that I might put him to shame with the imperial illustrations of the bones and muscles in the great folio of Albinus, published in 1747, and the unapproached figures of the lymphatic system of Mascagni, now within a very few years of a century old, and still copied, or, rather, pretended to be copied, in the most recent works on anatomy.

I am afraid that it is a good plan to get rid of old Professors, and I am thankful to hear that there is a movement for making provision for those who are left in need when they lose their offices and their salaries. I remember one of our ancient Cambridge Doctors once asked me to get into his rickety chaise, and said to me, half humorously, half sadly, that he was like an old horse, — they had taken off his saddle and turned him out to pasture. I fear the grass was pretty short where that old servant of the public found himself grazing. If I myself needed an apology for holding my office so long, I should find it in the fact that human anatomy is much the same study that it was in the days of Vesalius and Fallopius, and that the greater part of my teaching was of such a nature that it could never become antiquated.

Let me begin with my first experience as a medical student. I had come from the lessons of Judge Story and Mr. Ashmun in the Law School at Cambridge. I had been busy, more or less, with the pages of Blackstone and Chitty, and other text-books of the first year of legal study. More or less, I say, but I am afraid it was less rather than more. For during that year I first tasted the intoxicating pleasure of authorship. A college periodical, conducted by friends of mine, still undergraduates, tempted me into print, and there is no form of lead-poisoning which more rapidly and thoroughly pervades the blood and bones and marrow than that which reaches the young author through mental contact with type-metal. *Qui a bu, boira*, — he who has once been a drinker will drink again, says the French proverb. So the man or woman

who has tasted type is sure to return to his old indulgence sooner or later. In that fatal year I had my first attack of authors' lead-poisoning, and I have never got quite rid of it from that day to this. But for that I might have applied myself more diligently to my legal studies, and carried a green bag in place of a stethoscope and a thermometer up to the present day.

What decided me to give up Law and apply myself to Medicine I can hardly say, but I had from the first looked upon that year's study as an experiment. At any rate I made the change, and soon found myself introduced to new scenes and new companionships.

I can scarcely credit my memory when I recall the first impressions produced upon me by sights afterwards become so familiar that they could no more disturb a pulse-beat than the commonest of every-day experiences. The skeleton, hung aloft like a gibbeted criminal, looked grimly at me as I entered the room devoted to the students of the school I had joined, just as the fleshless figure of Time with the hour-glass and scythe, used to glare upon me in my childhood from the New England Primer. The white faces in the beds at the Hospital found their reflection in my own cheeks, which lost their color as I looked upon them. All this had to pass away in a little time; I had chosen my profession, and must meet its painful and repulsive aspects until they lost their power over my sensibilities.

The private medical school which I had joined was one established by Dr. James Jackson, Dr. Walter Channing, Dr. John Ware, Dr. Winslow Lewis, and Dr. George W. Otis. Of the first three gentlemen I have either spoken elsewhere or may find occasion to speak hereafter. The two younger members of this association of teachers were both graduates of our University, one of the year 1819, the other of 1818.

Dr. Lewis was a great favorite with students. He was a man of very lively temperament, fond of old books and young people, open-hearted, free-spoken, an enthusiast in teaching, and especially at home in that apartment of the temple of science where nature is seen in undress, the anthropometric laboratory, known to common speech as the dissecting-room. He had that quality which is the special gift of the man born for a teacher, — the power of exciting an interest in that which he taught. While he was present the apartment I speak of was the sunniest of studios in spite of its mortuary spectacles. Of the students I met there I best remember James Jackson, Junior, full of zeal and playful as a boy, a young man whose early death was a calamity to the profession of which he promised to be a chief ornament; the late Reverend J. S. C. Greene, who, as the prefix to his name signifies, afterwards changed his profession, but one of whose dissections I remember looking upon with admiration; and my friend Mr. Charles Amory, as we call him, Dr. Charles Amory, as he is entitled to be called, then, as now and always, a favorite with all about him. He had come to us from the schools of Germany, and brought with him recollections of the teachings of Blumenbach and the elder Laugendieck, father of him whose portrait hangs in our Museum. Dr. Lewis was our companion as well as our teacher. A good demonstrator is, — I will not say as important as a good Professor in the teaching of Anatomy, because I am not sure that he is not more important. He comes into direct personal relations with the students, — he is one of them, in fact, as the Professor cannot be from the nature of his duties. The Professor's chair is an insulating stool, so to speak;

his age, his knowledge, real or supposed, his official station, are like the glass legs which support the electrician's piece of furniture, and cut it off from the common currents of the floor upon which it stands. Dr. Lewis enjoyed teaching and made his students enjoy being taught. He delighted in those anatomical conundrums to answer which keeps the student's eyes open and his wits awake. He was happy as he dexterously performed the *tour de maître* of the old barber-surgeons, or applied the spica bandage and taught his scholars to do it, so neatly and symmetrically that the æsthetic missionary from the older centre of civilization would bend over it in blissful contemplation, as if it were a sunflower. Dr. Lewis had many other tastes, and was a favorite, not only with students, but in a wide circle, professional, antiquarian, masonic, and social.

Dr. Otis was less widely known, but was a fluent and agreeable lecturer, and esteemed as a good surgeon.

I must content myself with this glimpse at myself and a few of my fellow-students in Boston. After attending two courses of Lectures in the school of the University, I went to Europe to continue my studies.

You may like to hear something of the famous Professors of Paris in the days when I was a student in the *École de Médecine*, and following the great Hospital teachers.

I can hardly believe my own memory when I recall the old practitioners and Professors who were still going round the hospitals when I mingled with the train of students that attended the morning visits. See that bent old man who is groping his way through the wards of La Charité. That is the famous Baron Boyer, author of the great work on surgery in nine volumes, a writer whose clearness of style commends his treatise to general admiration, and makes it a kind of classic. He slashes away at a terrible rate, they say, when he gets hold of the subject of fistula in its most frequent habitat, — but I never saw him do more than look as if he wanted to cut a good collop out of a patient he was examining. The short, square, substantial man with iron-gray hair, red face, and white apron is Baron Larrey, Napoleon's favorite surgeon, the most honest man he ever saw, — it is reputed that he called him. To go round the *Hôtel des Invalides* with Larrey was to live over the campaigns of Napoleon, to look on the sun of Austerlitz, to hear the cannons of Marengo, to struggle through the icy waters of the Beresina, to shiver in the snows of the Russian retreat, and to gaze through the battle smoke upon the last charge of the red lanciers on the redder field of Waterloo. Larrey was still strong and sturdy as I saw him, and few portraits remain printed in livelier colors on the tablet of my memory.

Leave the little group of students which gathers about Larrey beneath the gilded dome of the Invalides and follow me to the *Hôtel Dieu*, where rules and reigns the master-surgeon of his day, at least so far as Paris and France are concerned, — the illustrious Baron Dupuytren. No man disputed his reign, — some envied his supremacy. Lisfranc shrugged his shoulders as he spoke of "ce grand homme de l'autre côté de la rivière," that great man on the other side of the river, but the great man he remained, until he bowed before the mandate which none may disobey. "Three times," said Bouillaud, "did the apoplectic thunderbolt fall on that robust brain," — it yielded at last as the old

bold cliff that is riven and crashes down into the valley. I saw him before the first thunderbolt had descended. A square, solid man, with a high and full-domed head, oracular in his utterances, indifferent to those around him, sometimes, it was said, very rough with them. He spoke in low, even tones, with quiet fluency, and was listened to with that hush of rapt attention which I have hardly seen in any circle of listeners unless when such men as ex-President John Quincy Adams or Daniel Webster were the speakers. I do not think that Dupuytren has left a record which explains his influence, but in point of fact he dominated those around him in a remarkable manner. You must have all witnessed something of the same kind. The personal presence of some men carries command with it, and their accents silence the crowd around them, when the same words from other lips might fall comparatively unheeded.

As for Lisfranc, I can say little more of him than that he was a great drawer of blood and hewer of members. I remember his ordering a wholesale bleeding of his patients, right and left, whatever might be the matter with them, one morning when a phlebotomizing fit was on him. I recollect his regretting the splendid guardsmen of the old Empire, — for what? because they had such magnificent thighs to amputate. I got along about as far as that with him, when I ceased to be a follower of M. Lisfranc.

The name of Velpeau must have reached many of you, for he died in 1867, and his many works made his name widely known. Coming to Paris in wooden shoes, starving, almost, at first, he raised himself to great eminence as a surgeon and as an author, and at last obtained the Professorship to which his talents and learning entitled him. His example may be an encouragement to some of my younger hearers who are born, not with the silver spoon in their mouths, but with the two-tined iron fork in their hands. It is a poor thing to take up their milk porridge with in their young days, but in after years it will often transfix the solid dumplings that roll out of the silver spoon. So Velpeau found it. He had not what is called genius, he was far from prepossessing in aspect, looking as if he might have wielded the sledge-hammer (as I think he had done in early life) rather than the lancet, but he had industry, determination, intelligence, character, and he made his way to distinction and prosperity, as some of you sitting on these benches and wondering anxiously what is to become of you in the struggle for life will have done before the twentieth century has got halfway through its first quarter. A good sound head over a pair of wooden shoes is a great deal better than a wooden head belonging to an owner who cases his feet in calfskin, but a good brain is not enough without a stout heart to fire the four great conduits which carry at once fuel and fire to that mightiest of engines.

How many of you who are before me are familiarly acquainted with the name of Broussais, or even with that of Andral? Both were lecturing at the *École de Médecine*, and I often heard them. Broussais was in those days like an old volcano, which has pretty nearly used up its fire and brimstone, but is still boiling and bubbling in its interior, and now and then sends up a spout of lava and a volley of pebbles. His theories of gastro-enteritis, of irritation and inflammation as the cause of disease, and the practice which sprang from them, ran over the fields of medicine for a time like

flame over the grass of the prairies. The way in which that knotty-featured, savage old man would bring out the word irritation, — with rattling and rolling reduplication of the resonant letter *r* — might have taught a lesson in articulation to Salvini. But Broussais's theory was languishing and well-nigh become obsolete, and this, no doubt, added vehemence to his defence of his cherished dogmas.

Old theories, and old men who cling to them, must take themselves out of the way as the new generation with its fresh thoughts and altered habits of mind comes forward to take the place of that which is dying out. This was a truth which the fiery old theorist found it very hard to learn, and harder to bear, as it was forced upon him. For the hour of his lecture was succeeded by that of a younger and far more popular professor. As his lecture drew towards its close, the benches, thinly sprinkled with students, began to fill up; the doors creaked open and banged back oftener and oftener, until at last the sound became almost continuous, and the voice of the lecturer became a leonine growl as he strove in vain to be heard over the noise of doors and footsteps.

Broussais was now sixty-two years old. The new generation had outgrown his doctrines, and the Professor for whose hour the benches had filled themselves belonged to that new generation. Gabriel Andral was little more than half the age of Broussais, in the full prime and vigor of manhood at thirty-seven years. He was a rapid, fluent, fervid, and imaginative speaker, pleasing in aspect and manner, — a strong contrast to the harsh, vituperative old man who had just preceded him. His *Clinique Médicale* is still valuable as a collection of cases, and his researches on the blood, conducted in association with Gavarret, contributed new and valuable facts to science. But I remember him chiefly as one of those instructors whose natural eloquence made it delightful to listen to him. I doubt if I or my fellow-students did full justice either to him or to the famous physician of *Hôtel Dieu*, Chomel. We had addicted ourselves almost too closely to the words of another master, by whom we were ready to swear as against all teachers that ever were or ever would be.

This object of our reverence, I might almost say idolatry, was one whose name is well known to most of the young men before me, even to those who may know comparatively little of his works and teachings. Pierre Charles Alexandre Louis, at the age of forty-seven, as I recall him, was a tall, rather spare, dignified personage, of serene and grave aspect, but with a pleasant smile and kindly voice for the student with whom he came into personal relations. If I summed up the lessons of Louis in two expressions, they would be these; I do not hold him answerable for the words, but I will condense them after my own fashion in French, and then give them to you, expanded somewhat, in English: —

Formez toujours des idées nettes.  
Fuyez toujours les *à peu près*.

Always make sure that you form a distinct and clear idea of the matter you are considering.

Always avoid vague approximations where exact estimates are possible; *about so many*, — *about so much*, instead of the precise number and quantity.

Now, if there is anything on which the biological sciences have prided themselves in these latter years it is the substitution of quantitative for qualitative for-

mule. The "numerical system," of which Louis was the great advocate, if not the absolute originator, was an attempt to substitute series of carefully recorded facts, rigidly counted and closely compared, for those never-ending records of vague, unverifiable conclusions with which the classics of the healing art were overloaded. The history of practical medicine had been like the story of the Danaides. "Experience" had been, from time immemorial, pouring its flowing treasures into buckets full of holes. At the existing rate of supply and leakage they would never be filled; nothing would ever be settled in medicine. But cases thoroughly recorded and mathematically analyzed would always be available for future use, and when accumulated in sufficient number would lead to results which would be trustworthy, and belong to science.

You young men who are following the hospitals hardly know how much you are indebted to Louis. I say nothing of his *Researches on Phthisis* or his great work on Typhoid Fever. But I consider his modest and brief *Essay on Bleeding in some Inflammatory Diseases*, based on cases carefully observed and numerically analyzed, one of the most important written contributions to practical medicine, to the treatment of internal disease, of this century, if not since the days of Sydenham. The lancet was the magician's wand of the dark ages of medicine. The old physicians not only believed in its general efficacy as a wonder-worker in disease, but they believed that each malady could be successfully attacked from some special part of the body,—the strategic point which commanded the seat of the morbid affection. On a figure given in the curious old work of John de Ketam, no less than *thirty-eight* separate places are marked as the proper ones to bleed in, in different diseases. Even Louis, who had not wholly given up venesection, used now and then to order that a patient suffering from headache should be bled in the foot, in preference to any other part.

But what Louis did was this: he showed by a strict analysis of numerous cases that bleeding did not strangle,—*jugulate* was the word then used,—acute diseases, more especially pneumonia. This was not a reform,—it was a revolution. It was followed up in this country by the remarkable Discourse of Dr. Jacob Bigelow upon *Self-Limited Diseases*, which has, I believe, done more than any other work or essay in our own language to rescue the practice of medicine from the slavery to the drugging system which was a part of the inheritance of the profession.

Yes, I say, as I look back on the long hours of the many days I spent in the wards and in the autopsy room of La Pitié, where Louis was one of the attending physicians,—yes, Louis did a great work for practical medicine. Modest in the presence of nature, fearless in the face of authority, unwearied in the pursuit of truth, he was a man whom any student might be happy and proud to claim as his teacher and his friend. And yet, as I look back on the days when I followed his teachings, I feel that I gave myself up too exclusively to his methods of thought and study.

There is one part of their business that certain medical practitioners are too apt to forget; namely, that what they should most of all try to do is to ward off disease, to alleviate suffering, to preserve life, or at least to prolong it if possible. It is not of the slightest interest to the patient to know whether three or three and a quarter cubic inches of his lung are hepatized.

His mind is not occupied with thinking of the curious problems which are to be solved by his own autopsy,—whether this or that strand of the spinal marrow is the seat of this or that form of degeneration. He wants something to relieve his pain, to mitigate the anguish of dyspnea, to bring back motion and sensibility to the dead limb, to still the tortures of neuralgia. What is it to him that you can localize and name by some uncouth term the disease which you could not prevent and which you cannot cure? An old woman who knows how to make a poultice and how to put it on, and does it *tuto, cito, jucunde*, just when and where it is wanted, is better—a thousand times better in many cases—than a staring pathologist, who explores and thumps and doubts and guesses and tells his patient he will be better to-morrow, and so goes home to tumble his books over and make out a diagnosis.

But in those days I, like most of my fellow students, was thinking much more of "science" than of practical medicine, and I believe if we had not clung so closely to the skirts of Louis and had followed some of the courses of men like Trousseau,—therapeutists, who gave special attention to curative methods, and not chiefly to diagnosis, it would have been better for me and others. One thing, at any rate, we did learn in the wards of Louis. We learned that a very large proportion of diseases get well of themselves, without any special medication,—the great fact formulated, enforced and popularized by Dr. Jacob Bigelow in the Discourse referred to. We unlearned the habit of drugging for its own sake. This detestable practice, which I was almost proscribed for condemning somewhat too epigrammatically a little more than twenty years ago, came to us, I suspect, in a considerable measure from the English "general practitioners," a sort of prescribing apothecaries. You remember how, when the city was besieged, each artisan who was called upon in council to suggest the best means of defence, recommended the articles he dealt in: the carpenter, wood; the blacksmith, iron; the mason, brick; until it came to be a puzzle to know which to adopt.

"Then the shoemaker said, *Hang your walls with new boots.*"

and gave good reasons why these should be the best of all possible defences. Now the "general practitioner" charged, as I understand, for his medicine, and in that way got paid for his visit. Wherever this is the practice, medicine is sure to become a trade, and the people learn to expect drugging, and to consider it necessary, because drugs are so universally given to the patients of the man who gets his living by them.

It was something to have unlearned the pernicious habit of constantly giving poisons to a patient, as if they were good in themselves, of drawing off the blood which he would want in his struggle with disease, of making him sore and wretched with needless blisters, of turning his stomach with unnecessary nauseous draughts and mixtures,—only because he was sick and something must be done. But there were positive as well as negative facts to be learned, and some of us, I fear, came home rich in the negatives of the expectant practice, poor in the resources which many a plain country practitioner had ready in abundance for the relief and the cure of disease. No one instructor can be expected to do all for a student which he requires. Louis taught us who followed him the love of truth, the habit of passionless listening to the



teachings of nature, the most careful and searching methods of observation, and the sure means of getting at the results to be obtained from them in the constant employment of accurate tabulation. He was not a showy, or eloquent, or, I should say, a very generally popular man, though the favorite, almost the idol, of many students, especially Genevieve and Bostonians. But he was a man of lofty and admirable scientific character, and his work will endure in its influences long after his name is lost sight of save to the faded eyes of the student of medical literature.

Many other names of men more or less famous in their day, and who were teaching while I was in Paris, come up before me. They are but empty sounds for the most part in the ears of the men of not more than middle age. Who of you knows anything of Richerand, author of a very popular work on Physiology, commonly put into the student's hand when I first began to ask for medical text-books? I heard him lecture once, and have had his image with me ever since as that of an old, worn-out man, — a venerable but dilapidated relic of an effete antiquity. To verify this impression I have just looked out the dates of his birth and death, and find that he was eighteen years younger than the speaker who is now addressing you. There is a terrible parallax between the period before thirty and that after threescore and ten, as two men of those ages look, one with naked eyes, one through his spectacles, at the man of fifty and thereabout. Magendie, I doubt not you have all heard of. I attended but one of his lectures. I question if one here, unless some contemporary of my own has strayed into the amphitheatre, — knows anything about Marjolin. I remember two things about his lectures on surgery, — the deep tones of his voice as he referred to his oracle, — the earlier writer, Jean Louis Petit, — and his formidable snuff box. What he taught me lies far down, I doubt not, among the roots of my knowledge, but it does not flower out in any noticeable blossoms, or offer me any very obvious fruits. Where now is the fame of Bouillaud, Professor and Deputy, the Sargrado of his time? Where is the renown of Piorry, percussionist and poet, expert alike in the resonances of the thoracic cavity and those of the rhyming vocabulary? I think life has not yet done with the vivacious Ricord, whom I remember calling the *Voltaire* of pelvic literature, — a sceptic as to the morality of the race in general, who would have submitted Diana to treatment with his mineral specifics, and ordered a course of blue pills for the vestal virgins.

Ricord was born at the beginning of the century and Piorry some years earlier. Cruveilhier, who died in 1874, is still remembered by his great work on pathological anatomy; his work on descriptive anatomy has some things which I look in vain for elsewhere. But where is Civiale, — where are Orfila, Gendrin, Rostan, Bieth, Alibert, — jolly old Baron Alibert, whom I remember so well in his broad-brimmed hat, worn a little jauntily on one side, calling out to the students in the court-yard of the Hospital St. Louis, "*Enfants de la méthode naturelle, êtes vous tous ici?*" "*Children of the natural method (his own method of classification of skin diseases), are you all here?*" All here, then, perhaps; all *where*, now?

My show of ghosts is over. It is always the same story that old men tell to younger ones, some few of whom will in their turn repeat the tale, only with altered names, to their children's children.

Like phantoms painted on the magic slide,  
Forth from the darkness of the past we glide,  
As living shadows for a moment seen  
In airy pageant on the eternal screen,  
Traced by a ray from one unchanging flame,  
Then seek the dust and stillness whence we came.

Dr. Benjamin Waterhouse, whom I well remember, came back from Leyden, where he had written his Latin graduating thesis, talking of the learned Causius and the late illustrious Boerhaave and other dead Dutchmen of whom you know as much, most of you, as you do of Noah's apothecary and the family physician of Methuselah, whose prescriptions seem to have been lost to posterity. Dr. Lloyd came back to Boston full of the teachings of Cheselden and Sharpe, William Hunter, Smellie and Warner; Dr. James Jackson loved to tell of Mr. Cline and to talk of Mr. John Hunter; Dr. Reynolds would give you his recollections of Sir Astley Cooper and Mr. Abernethy; I have named the famous Frenchmen of my student days; Leyden, Edinburgh, London, Paris were each in turn the Mecca of medical students, just as at the present day Vienna and Berlin are the centres where our young men crowd for instruction. These also must sooner or later yield their precedence and pass the torch they hold to other hands. Where shall it next flame at the head of the long procession? Shall it find its old place on the shores of the Gulf of Salerno, or shall it mingle its rays with the northern aurora up among the firds of Norway, — or shall it be borne across the Atlantic and reach the banks of the Charles, where Agassiz and Wyman have taught, where Hagen still teaches, glowing like his own *Lampyrus splendidula*, with enthusiasm, where the first of American botanists and the ablest of American surgeons are still counted in the roll of honor of our great University?

Let me add a few words which shall not be other than cheerful, as I bid farewell to this edifice which I have known so long. I am grateful to the roof which has sheltered me, to the floors which have sustained me, though I have thought it safest always to abstain from anything like eloquence, lest a burst of too emphatic applause might land my class and myself in the cellar of the collapsing structure, and bury us in the fate of Korah, Dathan, and Abiram. I have helped to wear these stairs into hollows, — stairs which I trod when they were smooth and level, fresh from the plane. There are just thirty-two of them, as there were five and thirty years ago, but they are steeper and harder to climb, it seems to me, than they were then. I remember that in the early youth of this building, the late Dr. John K. Mitchell, father of our famous Dr. Weir Mitchell, said to me as we came out of the Demonstrator's room, that some day or other a whole class would go heels over head down this graded precipice, like the herd told of in Scripture story. This has never happened as yet; I trust it never will. I have never been proud of the apartment beneath the seats, in which my preparations for lecture were made. But I chose it because I could have it to my myself, and I resign it, with a wish that it were more worthy of regret into the hands of my successor, with my parting benediction. Within its twilight precincts I have often prayed for light, like Ajax, for the daylight found scanty entrance, and the gaslight never illuminated its dark recesses. May it prove to him who comes after me like the cave of the Sibyl, out of the gloomy depths of which came the oracles which shone with the rays of truth and wisdom!

This temple of learning is not surrounded by the mansions of the great and the wealthy. No stately avenues lead up to its façades and porticos. I have sometimes felt, when conveying a distinguished stranger through its precincts to its door, that he might question whether star-eyed Science had not missed her way when she found herself in this not too attractive locality. I cannot regret that we — you, I should say, — are soon to migrate to a more favored region and carry on your work as teachers and as learners in ampler halls and under far more favorable conditions.

I hope that I may have the privilege of meeting you there, possibly may be allowed to add my words of welcome to those of my former colleagues, and in that pleasing anticipation I bid good-by to this scene of my long labors, and for the present at least, to the friends with whom I have been associated.

### — PAINLESS SYNOVIAL EFFUSIONS. —

BY DR. M. HODGES, M. D.

A SYNOVIAL effusion often takes place insidiously in the knees of women, less frequently in those of men, in consequence of what is called "a low state of health." It may be the immediate consequence of much standing or walking by persons thus conditioned; but, as a rule, it develops spontaneously, without any special cause. It may occur in both knees simultaneously, or successively, or but in one, and is usually fully established when attention is first directed to the state of the joint. It is accompanied, locally, by so slight, if any, pathological phenomena deserving the name of inflammatory, that it can scarcely be called synovitis. The familiar title "dropsy," or "water on the knee," adequately describes a state, the presence of which is a symptom, and a symptom only, — as edema of the ankles, *muscæ volitantes*, or a headache, might be. It does not imply articular disease any more than the phenomena just mentioned imply kidney, eye, or brain disease.

It is no unusual experience to see patients with "water on the knee" maintain an unchanged condition for months, not to say years, although active treatment with iodine, blisters, or even actual cautery, has been reinforced by absolute rest and prolonged disuse of the joint. It is alleged, in all probability, that pain is at once caused whenever, even at long intervals, attempts at exercise or use are made; and this pain, the existence of which is accepted on the bare statement of the patient, has been assumed to be the requisition for still further confinement.

Every surgeon will also recall instances where these very patients have been rapidly cured by the douching and shampooing of a "bone-setter," the manipulations of some "Swedish movement" professor, or the simple command to walk of an inspired quack.

The truth is that an increase of synovial fluid, though it reaches a degree sufficient to produce the characteristic shape of the knee when an effusion bulges out on each side of the patella, and floats that bone away from its habitual contact with the condyles, — provided that, in the surgeon's opinion, and this is an important point, it is accompanied by no real or constant pain in the daytime, or an amount of heat recogniza-

ble by the touch, and does not ache at night; being uncomfortable only, or chiefly, from a feeling of distention, — is a state of things, under the conditions of debility described, not calling for any local treatment whatsoever. I have never seen, so far as my personal observation extends, the least advantage derived in such cases from iodine, vesication, counter-irritation, or liniments of any description.

Moreover, disuse is apt to be the worst remedy for these effusions which can be prescribed, and their long duration, examples of which are so often instanced by patients to justify their own apprehensions, frequently owes its actual occurrence to this very measure, adopted with a view to its intended prevention.

Many cases of really acute synovitis, the direct consequence of injury, and happening to persons in full health, are also often recovered from without treatment by restraint, the exigencies of a daily employment permitting little or no let-up in the use of the limb; and all this notwithstanding reiterated warnings as to the direful consequences of such imprudence, and in spite of earnest appeals from physician and friends to give the disabled joint a rest which it absolutely required.

Every observer of animals knows how often, with but little abatement of habitual activity, their sprains and lamenesses cure themselves. A very moderate amount of prudence, a "saving of oneself," not inconsistent with the transaction of ordinary affairs, will equally allow men and women to recover from an acute effusion without "giving up." Still more emphatically is this true of those individuals whose ominous "water on the knee," with or without concomitant non-inflammatory pains, is but one of the indications of impaired vigor; who instead of confining themselves to the house, and renouncing the use of their limbs, tend rather to disregard a too readily assumed disability for locomotion, and adopt measures intended to defeat the hysterical and hyperæsthetic predispositions that are almost inevitably an accompaniment of their condition. In other words, they should lead a life in which the hygienic influences of a quiet vocation, of out-door air, and of abundant food, shall be the prime factors of treatment.

It is a routine and common practice to recommend an elastic knee-cap in cases of effusion. This is rarely beneficial, even if the cap be worn tight enough to serve as a pseudo-splint, which I conceive to be almost its sole office. As ordinarily made it does not extend sufficiently above and below the joint; its contractile tendency shortens its already inadequate length, puckers it up, and gradually converts it into a comparatively narrow band around the articulation, which adds the discomfort of an edema of the ankle and leg, provoked by its cord-like compression of the popliteal vessels.

A far better medium for securing the advantage of a soft and partial splint, which shall be a support to the limb, act as a check to too free use of the joint, and at the same time supply a moderate compression of the distended capsule, is found in a bandage of flannel cut "bias," that is, diagonally. The cheapest flannel should be employed. That it contains a large amount of cotton is no objection. This is not for economy's sake, but because all-wool flannel, of a good quality, is hot and clumsy, and felts and loses its elasticity when washed. The bandage should be cut at least five

<sup>1</sup> Read before the Boston Society for Medical Improvement, November 27, 1882.

inches wide. It is worthless if of less than that width; for, as it lengthens itself about one third in application, a bandage narrower than five inches draws out into little more than a piece of tape. It must be applied with the limb straight, each turn overlapping two thirds of the previous one, and should extend from the middle of the leg to the upper third of the thigh. It is not likely to be put on too tightly, and as its elasticity permits "reversing" to be dispensed with, any patient can wind it round his limb himself. As an appliance it has the merit of being cheap and everywhere obtainable; it does not require the skill of an expert in its use; it is efficacious, and it is comfortable.

What I have thus far said, let me repeat distinctly, has reference only to effusions, unattended by heat of the parts, or by pain deserving of the name, and my object has been to declare the innocuity of a certain amount of exercise, and the uselessness, indeed the disadvantage of confinement under the supposed circumstances of their existence.

When the effusion, however, shows no tendency to abate, but increases to a degree which stretches the synovial capsule, and ligaments of the joint, endangering a permanent relaxation of these supports, — a state of things which takes place gradually, and is also often painless in its development, — the necessity for disuse of the limb, and for decided treatment, admits of no question. Mere immobility of the joint, secured by means of a surgical and workmanlike splint, applied with competent and qualified skill, may answer all the demands of the case. But an expedient, original with the Massachusetts General Hospital in its detail, though not in its principle, for twenty years used with advantage in that institution, and there known as the compressed sponge treatment, deserves more general notoriety than it has yet had.

By compression capillaries are emptied, the circulation in small vessels is checked, the vaso-motor nerves are deadened, the tissues are in a measure deprived of their nutriment, the parts become, as it were, dried, a degree of atrophy ensues, and the functional activity of secreting surfaces is impaired or arrested. The shrinking of a limb long bandaged or compressed by splints, as in the treatment of fracture, or on which an elastic knee cap has been worn, perhaps only a few days, always attracts the attention of patient and surgeon. The condition of a lung compressed by pleuritic effusion offers a striking illustration, post mortem, of the transformation produced by continuous pressure. The gradual destruction of bone by an aneurism is a familiar instance of its potency.

Pressure has long been resorted to and recognized as of great utility in the treatment of chronic synovial effusions, but the inadequacy of the means employed gave only imperfect results in return for its adoption. Ordinary bandages lose their hold too soon. Starched, dextrined, or silicated bandages do not follow up the shrinkage they may have started. India-rubber air or water bags are with difficulty held in place. Cotton batting beneath a bandage, though convenient and admirable in slight cases, does not afford sufficient compression. A "pure rubber" bandage, when applied tightly enough to be of service in this capacity, causes a degree of pain which renders it unendurable. Compressed sponge seems alone to supply all the desiderata.

Common, coarse, Mediterranean sponges, washed, and thoroughly dried by heat, as large or larger than

the hand, and thick as they are broad, are compressed to the utmost limit which is possible in any powerful press, such as a letter-press, or between two boards screwed together. They should remain in the press twenty-four hours, and become reduced to a thickness, varying with the quality of the individual sponge, of one half to three quarters of an inch. The limb on which they are to be used being bandaged with a common cotton roller from the foot up, including the knee itself, so that any cutaneous irritation by the surface of the sponge may be prevented, a long and straight ham splint, lightly padded with towels, is adjusted. The compressed sponges, still in their dry state, are next applied around the knee. Three sponges usually suffice, one on each side, coming together below the joint, and a third covering the lower part of the thigh, transversely, above the patella, which they should leave uncovered. These are then firmly bound into place by a broad roller, also beginning at the ankle, and carried upward to the top of the thigh, many turns being taken over the sponges to secure them compactly in position. The bandaging completed, the sponges are then soaked with water, poured on gradually until they have absorbed so much that the pressure caused by their expansion begins to be uncomfortable. Two quarts of water are not unfrequently taken up. As this evaporates or oozes out more water is from time to time added, and fresh bandages are put on over those already in place if the latter become loose or slack. Occasionally there is pain enough provoked to call for an opiate at night, and the toes may swell, but the splint, which not only secures immobility but acts as a *point d'appui* for the bandage, takes off the direct compression from the popliteal vessels to such a degree that any anxiety in regard to arrest of circulation may be set aside.

Several successive sets of sponges are occasionally required before permanent disappearance of the effusion takes place, but their renewal is seldom called for in less than seven or eight days. The treatment compels rest in bed not only while the compression is kept up, but a sufficient length of time afterward for the joint to become gradually familiar with its habitual movements. An abrupt restoration to use after such a complete confinement is liable to bring back the effusion. The flannel bandage previously described should be worn when patients first walk about, and for a time afterwards.

The success with which this particular mode of treatment overcomes an obstinate and unyielding affection is my excuse for describing with such minuteness the manner of employing an expedient already familiar to many of this Society.

Before concluding this discursive paper, I am led, by the relationship of the acts of walking and standing to the ailment which has been under consideration, to express my opinion of the extent to which, unwittingly, these two agencies are the frequent cause of general debility and "nervous prostration," so called, and my belief that many persons leading an in-door life — mothers of families, school and shop-girls, domestics, professional and business men — aggravate the enervation and lassitude of which they so often complain by the "constitutional walk" that a sense of duty compels them to take at some period of each day. Few realize how much exercise they submit to without knowing it, or reflect what an unjust share the

legs endure of the muscular work which should be evenly distributed throughout the body. Experiment with the pedometer has informed me that from three to five miles are walked every day by most women who do no more than the usual amount of locomotion within doors. At one time it was almost impossible to find persons of sufficient physical vigor to preserve their health and remain pupils in the Training School for Nurses of the Massachusetts General Hospital. When it was learned, by pedometer test, that they walked between seven and ten miles a day, a change in their duties remedied the whole difficulty. The experiments made at this time showed that surgical house-pupils walked from eleven to twelve miles a day, the superintendent of the hospital fourteen miles, the head nurse of the private rooms sixteen miles (or the equivalent of 282.72 tons lifted one foot), while the ward-tender of the private rooms and wards A, C, and D, between six A. M. and eight P. M., walked twenty-two miles, or 51,627 steps of 27 inches (2346½ steps to a mile). These figures include no outside walking (except one and a half mile in the case of the ward-tender), and are average and not exceptional results.

Hygienic requirements claim from most persons more exercise of the trunk muscles than is habitually given them, and less of those belonging to the lower extremities. Patients to whom exercise is recommended, and who do not obtain the benefit which it might be supposed would follow a daily walk, often find what they stand in need of when an hour of gymnastics is made the substitute, or, in other words, from the exercise of muscles which, to use an inelegant expression, have been left out in the cold, while those of the legs were given more than they could do.

The inference from these facts and from others which might be mentioned is that many people, not robust, are frequently over-walked, and yet, perhaps, suffer from want of exercise, over doing in one set of muscles the very thing they actually need in another. Debilitated by such an unequal demand on their physical resources, flat-foot, tarsalgia, *maladie des sergens de ville*, and "water on the knee," as well as anæmic, dyspeptic, and neurotic ailments, are developed as local and general manifestations of the exhaustion occasioned by prolonged standing and too much walking, especially when aided and abetted by an insufficiency of fresh air.

Recognition of these facts has already given expression, on both sides of the Atlantic, to a sympathetic and organized effort for the alleviation of one class of sufferers, the saleswomen in retail stores.

Physicians often say, in a professional and perfunctory tone, that "health is all-important," and that to maintain health daily exercise is an absolute requirement. Dr. B. W. Richardson (the well-known author of the *City of Hygeia*), in a recent lecture to ladies (May, 1882), declared it essential, as a matter of principle, that eight hours a day should be devoted to exercise, care being taken to avoid "monotony of movement." But the eminent lecturer gave no information when or how these eight hours were to be found by any other class of women than those, perhaps, who frequent lectures on sanitary reform.

The capacity of either sex for physical exercise varies with each individual, just as steam engines do in their horse power, and this variation casts no reflection on the quality of the person any more than it does on that of the machine. There are all kinds of health; and the health to row victoriously in a race is not of

the kind which is wanted when the business is to sit healthily in a chair, or to withstand the wear and tear of domestic and household cares.

To recommend walking to men and women indiscriminately, and irrespective of their mode of life, cannot but be a mistake, and yet the universal instinct which revolts at close confinement within doors, in ill-ventilated and over-heated rooms, must be respected.

How "monotony of movement," which Dr. Richardson warns them against, is to be avoided by people, particularly females, whose busy lives are spent in houses, shops, and workrooms, who are unconsciously on their feet to the extent which has been shown, and yet provide them with the exhilarating refreshment, the change of scene and beneficial influences of outdoor air, *without* the only exercise by which, for the greater part of the community, these can be obtained, is a problem not easily solved, and until it is much of the debility and nervous exhaustion, now prevalent in all grades of society, and which reveal themselves by so many eccentric and out-of-the-way indications, is likely to remain in a great degree unrelieved.

#### THE TREATMENT OF A FORM OF PAINFUL PERIARTHRITIS OF THE SHOULDER.<sup>1</sup>

BY JAMES J. PUTNAM, M. D.

As another instance of treatment which was protracted, and yet not successful, I will mention a case operated upon by Dr. Curtis at the Massachusetts General Hospital. I regard this observation as particularly significant on account of the fact that Dr. Curtis was especially impressed with the importance of after-treatment and the repetition of the operation, and no doubt used both as thoroughly as the circumstances permitted.

The patient was a woman forty-six years of age, who, four months before entering the hospital, had been thrown from a carriage, striking on her left shoulder. She had suffered from great pain ever since, but there was no heat nor swelling about the joint.

The diagnosis of peri-arthritis seemed to be confirmed by the discovery of adhesions, at the time of the first operation, which gave way with a distinct noise, and left the joint smooth.

In all seven operations were performed, separated from each other by a few days' interval, and between each two operations the shoulder was packed in ice. The adhesions re-formed, however, and the patient was finally discharged unrelieved.

Similar ill success attended the treatment of a boy operated on twice by Dr. J. C. Warren, in which, with his permission, I also tried to carry out the after-treatment by means of passive movements. In this case also the shoulder was kept cold with ice.

As a counterpart to these cases in which the treatment was protracted, but unsuccessful, the two cases of Desplats are of interest. In both the affection was spontaneous; and in the first distinctly of rheumatic origin, being complicated, at the outset, with pronounced inflammation of several other joints, which was treated for some time, and with benefit, by salicylic acid. The after-treatment of the shoulder was attended with the same difficulties that have been spoken of in some of our own cases, that is, there was great pain after the operations, and passive motion was, at first, out of the

<sup>1</sup> Concluded from page 512.

question. The second operation was followed by signs of lymphangitis along the inner side of the arm and fore-arm. At the third operation the adhesions were found to be less resistant, and from this time steady improvement took place, the patient being finally discharged cured a month and a half after treatment had been first begun. The muscles of the hand which, together with the arm and shoulder, had been much atrophied, had by this time recovered their volume. The rest still remained somewhat atrophied. In the second case the operation was performed in the month of December, and it was not until the following May that the patient was discharged cured.

From these results we may draw the conclusion that the incurability of an obstinate case should not be too readily assumed.

We may now try to answer briefly the questions by which we previously found ourselves confronted:—

*First, as to the diagnosis.* It would be difficult, perhaps impossible, to prove with certainty that a portion of the adhesions referred to were not within the joint itself; still more, that there was not some degree of arthritis present. Still there are several pieces of inferential evidence of much value. The first in importance is the single recorded autopsy, which, so far as it goes, is conclusive. Next, we have noted the absence of the signs of effusion, and the fact that the joint after the operation has always seemed perfectly smooth. Indeed, so far as adhesions are concerned, I cannot find any evidence that they often occur in joints, as the result of injury at least. Surgical textbooks speak of them freely enough, but the language of the pathological anatomists is much more guarded.

Thus Birsch-Hirschfeld says that synovial membranes are really more allied to mucous than to serous membranes in some respects. Sometimes in rheumatism, and also as the result of injuries of joints, membranous masses may be found adhering to the articulating surfaces, or floating in the effused fluid. "but contrary to what occurs in the case of the pleura, pericardium, etc., it happens very rarely that this inflammation shows any great tendency to the formation of false membranes leading to ankylosis of the joint." Even where purulent arthritis is in question he says that the joint may escape permanent injury, the impairment of motion which results being commonly due to the retraction of the inflamed capsule and surrounding tissues. The exception to this rule is found in the case of the chronic arthritis of rheumatic origin, such as habitually attacks a number or all of the joints of the body at the same time.

It would be more difficult to prove that in some of these cases a slight degree of true arthritis was not present. If present, however, it did not reveal itself in any instance by an unequivocal symptom. It doubtless happens occasionally that prolonged rest sets up slight disease in joints, and in rare instances even adhesions between the articulating surfaces.

Dr. E. H. Bradford has reported a case of the latter kind, to which he kindly allows me to refer. It is that of a man whose leg was amputated at the thigh for necrosis. Actual fibrous adhesions were found in the knee-joint, for which no cause could be found except the prolonged immobility to which muscular rigidity had subjected the limb. Still this result probably presupposes a very long time of immobility. Furthermore, the shoulder-joint is not prone to inter-articular disease of any kind, and the weight of the

arm must tend to counteract the effect of muscular spasm in causing undue pressure.

Whether the chronic form of painful rigidity so often met with in old hemiplegias is, or remains, a pure peri-arthritis I do not know, but there is reason to think that cerebral disease may seriously impair the vitality of this joint, and even set up there an inflammation with serous effusion resembling that of acute rheumatism.<sup>1</sup>

It would, however, be a piece of pure scientific finessing to go on enumerating the conditions under which arthritis of the shoulder-joint might possibly arise. The aim of this paper is purely practical, and is reached in showing that in this large group of cases, which are clinically so similar, the chief lesion at least is an inflammation of structures outside the joint, which sometimes leads to the formation of adhesions, and that these adhesions may be forcibly broken down without materially endangering the joint itself.

With regard to the frequency with which inflammation of the acromial bursa occurs, Jarjavay, in a valuable paper upon the dislocation of tendons, considers that it is not an uncommon result of even slight injuries to the shoulder. He declares also that he has repeatedly seen evidences of thickening of the tissues both within and without this cavity in examining the bodies of workmen who have used their arms for hard labor. Jarjavay believes that this bursitis is the real lesion in some of the cases which are designated as dislocation of the tendon of the biceps.

The pathology of this whole subject of peri-arthritis and bursitis is treated of at some length by Roustan in the *Montpellier Médicale*.<sup>2</sup>

He divides the cases into many groups, according to their origin,—in rheumatism, gonorrhoea, traumatism, etc.; and the nature of the lesions or exudation,—as acute, sub-acute, chronic, serous, purulent, fibrous.

He also calls attention to the fact, which is certainly a striking one, that the cases cited by Jarjavay, in which the bursa was the seat of acute or sub-acute inflammation, with serous effusion, did not end, like those of Duplay, in the formation of fibrous adhesions, but recovered without this complication.

In one or more of Jarjavay's cases a considerable amount of fluid had been effused into the bursa and was withdrawn by a fine trocar.

It would certainly surprise those who have not especially investigated this point to see how large a cavity may normally exist within the sub-acromial bursa.

As regards the second question, I have already shown reason to think that the *prognosis* in untreated cases is not as unfavorable as Duplay maintains, although their duration is doubtless much longer than under appropriate treatment.

Furthermore, it is possible that very energetic and persistent application of massage, electricity, and passive motion, even without the aid of the operation, may sometimes bring about a cure. It would be a just matter for experiment, if in any case this latter course should be decided on, to try whether in the intervals of passive motion the limb might not advantageously be kept absolutely at rest by means of a suitable apparatus, in order to remove one potent exciting cause of the pain, namely, slight traction on the irritated nerve filaments about the joint.

Finally, we come to the question of *operative treatment*. Why operate; and why not operate?

<sup>1</sup> Charcot. *Mals. du Syst. Nerveux*, t. 1.

<sup>2</sup> 1880, t. 44, 45.

I have no intention, in offering an answer, of passing over more than one corner of that eternal battleground of surgical opinion, the question of the forcible mobilization of ankylosed joints. The battle has recently been re-fought in detail by a number of able surgeons of the Société de Chirurgie.<sup>1</sup>

A careful reading of that discussion has led me to believe that no great difference existed in the minds of the opposing speakers upon questions of principle, and that had they seen more of each other's practice, the best of them would have agreed as to the treatment of most of the specific cases. Both sides claimed as their own doctrine, that in this discussion, generalizations were to be avoided; the consideration of the particular joint concerned, the particular disease concerned, and the stage of the disease, giving the only key to a correct judgment.

The remarks which struck me as the most reasonable were those of Le Fort. Admitting the proposition of Vernueil, the warm advocate of non-mobilization, that in many cases of stiffness, where real joint disease either does not exist or has been cured by rest, etc., the muscles themselves will eventually restore the lost motion, he maintains that by careful passive motion we may often aid nature, and abbreviate what would otherwise be a long and painful convalescence.

With regard to the joint, and the disease concerned, we certainly have in the shoulder an articulation which is well known to be comparatively little liable to the severer forms of joint disease.

All of the instances, I think, without exception, which are cited in the discussion to which I have alluded, as well as in the little book by Wharton Hood, and the paper by Howard Marsh, to show the mischief that occasionally results from over-active interference, relate to other joints than the shoulder, and to conditions of far more complete ankylosis than those here referred to.

While, however, the shoulder is relatively little liable to be the seat of serious disease, its motions are especially apt to suffer impairment from the indirect effects of slight inflammation external to the joint, namely, from pain and the resulting spasm and inhibition of the muscles. This may be, in part, on account of the relations of the head of the humerus to the sub-acromial bursa.

It has been said, in fact, and with justice, that the shoulder-joint is practically double. That part of it in which the acromion is concerned is, however, not at the centre of motion but at some distance away from it, and even very slight movement must drag on the tissues around the bursa. If these tissues are thickened, and contain nerve filaments, it is easy to see how pain would be liable to result.

It is not impossible that the great and rapid relief to pain which the operation has sometimes afforded is due to a stretching of these nerve filaments and the freeing of them from the slight fibrous bands which dragged on them and had kept them in a state of irritability, if not causing actual neuritis.

In view of the facts that I have mentioned, I believe an examination under ether, with a view to rupture of adhesions, to be the proper treatment for cases of stiff shoulder, accompanied by considerable spontaneous pain, provided that there were absolutely no signs of inflammation of the joint, and that the affection had come on as a result of prolonged rest or a trifling injury.

If there were rheumatic disease, or a history of more severe injury, or if the first operation failed to give relief, I should give a guarded prognosis, though still regarding as possible a cure by persistent manipulation, or by repeated operations.

By after-treatment in these cases is meant, evidently, something far more energetic than would at first be supposed. It consists in the thorough application of electricity, massage, and douches, used daily, or even, as in one or more of Duplay's cases, twice a day.

As I have said, where the operation is unsuccessful or is not indicated, the use of prolonged applications of the galvanic current, and of ice bags, may do much to relieve the pain.

Considering the large share in the result which seems to attach to after-treatment, it may be worth while to seek by analysis some more exact knowledge of its modus operandi.

The uses of electricity are two perhaps threefold:—

(1.) Under the form of the galvanic current (prolonged applications to the affected nerves) it may allay neuritis.

(2.) Under the form of the Faradic current it may improve the nutrition of the wasted muscles.

Neither of these procedures, however, are directed to the main end in view, the removal of the adhesions.

Finally (3), by means of a strong Faradic current, and under cover of its anæsthetic influence, small intra and sub-muscular adhesions may possibly be broken up, as sometimes occurs, perhaps, in muscular rheumatism.

The use of cold douches must be mainly in restoring the bone and nutrition of the muscles. Both that procedure and packing the part in ice may also cause a degree of local anæsthesia which permits more thorough use of passive motion.

The action of ice in preventing the re-formation of adhesions was, in our cases, not at all marked, though the applications were very thoroughly made in several cases.

Massage, like Faradism, of course helps the nutrition of the muscles and the circulation of the parts, but I believe that its main influence is the same with that of passive motion, that is, that it helps to break down, or stretch, adhesions, and that it should be employed with that end in view.

Finally, as to passive motion, I will only say that I believe it to be often of service, even when no measurable result is obtained at the moment; and my reason for this, is that the same is true of the patient's voluntary efforts in cases where they are destined to be eventually successful.

As to the operation itself, I have only to say that it is probably far better, if not indeed almost necessary, that the patient should be fully under the influence of ether.

The exception to this statement is perhaps that if a surgeon were to acquire the skill of the professional "bone-setters," learning to take the muscles unawares and carry the limb with great rapidity through its normal motions, in the manner which is described so well in the little book of Mr. Wharton Hood (*The Bone-Setter*), the necessity for etherization might sometimes be done away with.

This is probably not without its danger however, at the best, for the examination of the condition of the joint is not easy unless the muscles are relaxed by ether.

It is worth mention, without comment, that Jarjavay

<sup>1</sup> *Bulletins et Mém. de la Soc. de Chir.*, July, 1879, *et seq.*

says a good way to move the arm on the scapula, in spite of the patient, is to cause the deltoid and the supra-spinatus muscles to contract simultaneously, by means of electricity.

It does not seem to me, however, that this suggestion is of much practical value. It is not easy, even when dealing with healthy muscles, to fairly raise the arm in the air by Faradization, and this becomes much more difficult when they are atrophied from neuritis.

Duplay gives directions for having the shoulder-blade fixed by an assistant with the aid of a sheet passed round the body. This is not always necessary, however, especially if the first movements used are those of moderate rotation. The latter caution has also been recommended for another reason, namely, to avoid all danger of dislocating the arm, which it is thought might attend efforts at abduction, if the head of the bone were strongly confined by adhesions. For a similar reason the movements of the head of the bone should be controlled by one hand whenever the arm is carried near the limit of its physiological motion in any direction. It is advised that at each operation all the adhesions should be thoroughly destroyed.

The case of young children, suffering from this affection, deserves special attention. Whether their arthritic and periartritic tissues are invariably more prone to adhesive inflammation than those of adults I cannot say, but certainly I have seen two cases where forcible mobilization was attended with great difficulty, and in one of them, in fact, the epiphysis was twisted off in the effort. It united again without difficulty, but no gain in motion was effected. Sometimes in the case of adults also these adhesions are excessively firm.

I have now under my care a young woman in whom the affection in its most typical form came on spontaneously two months before I saw her. There was at first great spontaneous pain in the arm, but never, to judge from her account, any considerable local inflammation.

When I first saw her there was marked atrophy of the deltoid, and, to some degree, of all the muscles of the upper arm and shoulder, and tenderness on pressure just beneath and behind the acromion, as well as over the coracoid process.<sup>1</sup>

Motion at the scapulo-humeral joint was free and painless to a certain very limited degree. Then it was suddenly arrested, and efforts to move the arm further excited great pain. I etherized her, with the intention of breaking down the adhesions should they yield to moderate force, but this was not the case, and I have therefore concluded to try for a time the effect of passive movements alone.<sup>2</sup>

<sup>1</sup> See Desplats.

A month has elapsed since the above statement was made. For about ten days the patient was manipulated thoroughly, but without effect. She was then etherized again, and a number of firm adhesions broken up, which the patient could certainly never have ruptured by her unaided muscles. After the operation a fine crepitation was felt, behind the upper end of the arm, on rotation, but its origin could not be definitely ascertained. A good deal of pain was felt for a day or two, and some prostration for a few days more, so that a week elapsed before the patient returned to my office. Passive movements were then resumed, and a week later the operation was repeated. The adhesions had re-formed, but were not so yielding as before, and their rupture was followed by little or no pain.

From the time of the first operation there has been gradual but steady improvement in all respects. There is no spontaneous pain, motion is considerably freer, and muscular power and strength have greatly increased. At neither operation was it possible to rotate the arm, outward to quite its normal limit since the movement was arrested by strong bands, apparently deep fibres of the pectoral muscle, either glued down or greatly retracted. There was no inflammatory reaction of consequence after either operation.

Let me, in conclusion, call the attention of those interested to the remarks of Le Fort<sup>3</sup> on the prevention of these false ankyloses of joints.

During the treatment of certain dislocations, namely, as those of the shoulder; also where joints have to be kept at rest on account of fractures in their neighborhood, and even in certain joint diseases, but only after the entire subsidence of active inflammation, he removes the apparatus, and, keeping the parts perfectly supported, carries the limb a *single time* through a movement, or part of a movement, slowly and carefully, with his own hands, repeating the operation only after another few days, and so on. I leave it to those better qualified than myself to judge of the value of this procedure, from which he claims great abridgment of the period of stiffness after the cure of the original affection.

To avoid lengthening this paper I have omitted all mention of other affections which might give rise to painful stiff shoulder, such, for example, as dislocation of tendons. Mr. Howard Marsh<sup>4</sup> speaks of these as well as of other conditions in the treatment of which the so-called "bone-setters" win their reputations. A paper by Mr. Bruce Clarke reported in the Proceedings of the Abernethian Society<sup>5</sup> should also be consulted.

Besides several instances in which forcible passive motion was applied to the shoulder with marked success, he relates similar cases of stiffness of the finger joints supervening in the course of the treatment of Colles' fracture, and gives also an account of the dissection of some fingers which had been stiff for a long time, showing that the joint itself remained healthy. The fact is also dwelt upon that the skin and other tissues around immovable joints become brittle and tear with ease, showing that caution is necessary in the treatment of cases of long duration.

## TYPHOID FEVER AND SEWER GAS.

BY EDWARD O. OTIS, M. D.

DURING the last summer I was called to take temporary charge of a young lady sick with typhoid fever.

I learned that she was taken sick directly or soon after her return from boarding-school, and also that several of her schoolmates were sick apparently with the same disease. Suspecting some common source of infection at the boarding-school, I communicated my suspicions to the principal of the school, and through his kindness I found that the following condition of things had existed, which the annexed plans will render intelligible.

The boarding-school building consists of three stories. Along the north side runs a sewer, as shown in the plan, having its outlet four hundred feet beyond



<sup>3</sup> Bull. et Mémoires de la Soc. Chir., March, 1880.

<sup>4</sup> Loc. cit.

<sup>5</sup> St. Bartholomew's Hosp. Reps., 1878, p. 339.

the northeast corner of the house. Into this sewer empty drains from the barn cellar, wood shed, sinks, water closet, bath room, and wash room. There is a ventilation into the kitchen chimney. The water from the gutter on the east side of the house was carried down, at the northeast corner, by a tin tube into an iron pipe placed vertically in the ground at the point X. This tube did not fit into the iron pipe closely. This iron pipe was cemented into a piece of drain pipe which was connected with the main sewer at the point Y.

This drain pipe had no trap; it had been ordered, but it had been forgotten or neglected. Provided the tin tube had been tight, and had fitted tightly into the iron pipe, all might have been well, and this outlet served as another ventilating tube. As it was, however, the sewer gas generated from the water closet and kitchen waste easily escaped and entered the circulation at this corner of the building, contaminating the air about.

The tin tube passed directly by room No. 11 in the second story to the gutter just above the windows of rooms 6 and 7 in the third story. These windows were open at the top much of the time.



The result was as follows:—

Miss M., who occupied room No. 11, had typhoid fever and died.

Miss P., who occupied the adjoining room, No. 10, was severely sick with typhoid fever, and, incidentally, her brother and nurse in the same house were subsequently sick with it.

Misses N. and H., who occupied rooms 6 and 7 in the third story, directly over Nos. 10 and 11, were "threatened with fever, and had malarial symptoms."

Miss G., in No. 8, opposite No. 6, had "slow fever."

Two other young ladies were said to have been sick, but in what part of the building they roomed or what the disease was I do not know.

The defect was remedied by taking up the drain X—Y, and allowing the gutter water to run free on the ground.

## RECENT PROGRESS IN OPHTHALMOLOGY.

BY O. F. WADSWORTH, M. D.

### REGENERATION OF CILIARY NERVES AFTER NEUROTOMY.

THE anatomical evidence of regeneration of the ciliary nerves after optico-ciliary neurotomy has been so meagre, and the subject is one of so much practical importance, that the results attained by Krause<sup>1</sup> from examination of four eyes which had been subjected to the operation are of interest, all the more as these eyes were enucleated at periods varying from two months to two years after neurotomy, and, therefore, presented different stages of regeneration. The subject was studied especially from sections made through the posterior parts of the sclera and retro-ocular tissue, and these were compared with sections of the normal sclera.

In the eye enucleated two months after neurotomy about half of the nerves seen in the scleral sections were atrophied; the others were smaller than normal nerves in this situation, but contained normal fibres. At three and a half months the number of nerves

found in the sclera was greater, but their average size was decidedly smaller than in the healthy eye; no atrophic nerves were seen; the larger part of the nerves appeared normal, but many still lacked the axis cylinder, and the nuclei were numerous. At fifteen months the number of nerves was much larger, their size usually small; histologically they were all normal except for an increase in the nuclei. Finally, at two years all nerves were normal, but their average size smaller.

Krause convinced himself that the increased number of nerves was the result of neurotomy and not of previous inflammatory changes in the eyes by comparison with an eye which had undergone extensive alterations in consequence of trauma, but which had not been neurotized. The theory of Ranvier, that the peripheral portion of divided nerves atrophies and regeneration takes place through out-growth from the central ends, seems to be the only one which would satisfactorily explain the conditions here present. The growing nerve fibres follow in their course into the eyeball the path which offers least resistance; some may find and follow the track of the original, atrophied nerve stems, but others will break up into smaller bundles the more easily to force a way through the sclera.

This latter view seems to be supported by the result of observations of Poncet<sup>2</sup> on regeneration of the nerves of the cornea after division of the ophthalmic branch of the trigeminus in the rabbit. A year after such division microscopic examination showed a net-work of nerve fibres in the cornea, crossing each other so as to form an inextricable confusion, and differing widely from the normal method of distribution. It even seemed as if the number of nerves was greater than the normal, but as they were of small size the real number of fibres was probably less. At the same time the sheaths of the original nerve stems at the periphery were found to be in part empty of fibres, in part to contain a very few.

Similar irregular course and distribution of the regenerated nerve fibres had also been observed by Ranvier after circumcorneal section of the corneal nerves.

### THE ANATOMY AND NOSOLOGY OF RETRO-BULBAR NEURITIS. (AMBLYOPIA CENTRALIS.)

The combination of symptoms to which Von Graefe gave the name of retro-bulbar neuritis has hitherto lacked anatomical demonstration. Though there could be little doubt that the seat of the lesion was in the opticus, it was yet undecided whether the process was primary and inflammatory, or secondary, descending, and atrophic. Fortunately Samelsohn had the opportunity for anatomical investigation of a case observed during life, and he has made it the basis of an elaborate and extended discussion of the whole subject.<sup>3</sup>

Among one hundred and fifty-four cases of diseases of the optic nerves observed in the course of two years were twenty of retro-bulbar neuritis, or, including the toxic amblyopias, fifty-seven; the disease must, therefore, be reckoned among the most frequent idiopathic optic affections.

The case investigated was that of a man sixty-three years old, who suffered a considerable loss of sight within the space of a few weeks. There was now a small, central, "relative" scotoma for green and red

<sup>1</sup> Archives of Ophthalmology, N. S., 4.

<sup>2</sup> Archives d'Ophthalmologie, t. i.

<sup>3</sup> Archiv für Ophthalmologie, Bd. xxviii, II. 1.



in each eye; peripherally the field was unaffected; the disks normal. Diagnosed as alcoholic amblyopia, and treated by abstinence, in two months the scotoma had increased in size, perception of blue also was impaired and white appeared bluish, the margins of the disks were slightly hazy, there was severe headache. Diagnosis changed to retro-bulbar neuritis. Under treatment by mercurial inunction and a seton in the neck the headache vanished, but the eye symptoms remained unchanged. Two years later, a large absolute scotoma, outer boundaries of the field normal, the lateral half of each disk pale. Death from heart disease.

Within the cranium both optici were normal, but in the optic foramen was a marked change; there the nerves were much flattened vertically and diminished in size. Sections from this part showed only a narrow peripheral zone of healthy nerve fibres; the central portion was almost completely occupied by the connective tissue frame-work, thickened and distorted, with great proliferation of its nuclei; the nerve tissue was almost wholly destroyed. Farther toward the eye the nerves became round, as did also the atrophic district, while at the same time the latter assumed gradually a position more toward the outer side, till at the place of entrance of the central vessels it was in contact with the sheath; from this point to the eye the atrophied part took on more and more the form of a wedge, its apex at the central canal, its base outward, and comprised not quite one third of the area of the nerve section. From the optic foramen forward the signs of interstitial inflammation gradually gave place to those of simple gray atrophy, the result of the destruction of the nervous tissue above. In the right nerve also with the entrance of the central vessels there was a renewal of interstitial inflammation. In other respects the changes in the two nerves were alike. The outer half of each disk was atrophic; in the retina, at its outer side, the nerve fibre layer was thinned, its fibres atrophied, the ganglion cells entirely absent. On the median side the retina was normal.

The author concludes from the conditions here found that in the optic foramen the fibres going to the macula lie in the axis of the nerve, and from thence follow the course above described to the eye.

It seems justifiable to draw general conclusions even from one anatomical investigation when it is considered that there is here a peculiar combination of symptoms with an equally peculiar anatomical alteration, and one which has, moreover, never been observed as the basis of any other disease, especially when the changes in both optici offer a remarkable correspondence. The pathological anatomy of retro-bulbar neuritis may then be regarded as solved in its main points. It is a partial interstitial neuritis of the opticus, with marked tendency to shrinking, and secondary descending atrophy of the nerve fibres.

In light cases, which wholly recover, the interstitial process passes off without leading to shrinking and secondary atrophy, indeed there may even be hyperæmia. That there is in some cases atrophy of the temporal side of the disk is demonstrated by this case. When with persistence of scotoma there is no atrophy of the disk it may be that the interstitial inflammation comes nearer to the disk and excites the formation of new vessels there. It is well known that partial hyperæmia of the disk is still more difficult to diagnose with certainty than partial atrophy. On the other hand, if early changes in the disk appear, together with

peripheral defect of field, for example, cases of acute retro-bulbar neuritis with sudden loss of sight, either in the form of a large central scotoma or total loss of vision, this may be explained, perhaps, by more rapid extension of the process in length and breadth. In these, if sight return, there remains serious defect of central vision, and also decoloration of the disk, particularly of its lateral half.

Why the process is a partial one and affects by preference the fibres going to the macula is a question which Samelsohn answers by assuming that the original change is generally situated in the optic foramen, and that there the arrangement both of lymph and blood vessels is such as to favor disturbances of circulation and nourishment.

The causes of the disease may be divided into two groups, cold and intoxicating substances, especially alcohol and tobacco. Often the influence of both is combined. In women the disease seldom occurs. Certain classes of workmen, necessarily exposed to sudden changes of temperature, are particularly disposed to the affection. Lassar's experiments on dogs and rabbits show that sudden cooling of the previously heated surface constantly produces interstitial changes in many internal organs, among others the nerve sheaths, while the parenchymatous parts escape, and he explains this on the theory of Rosenthal, that the blood cooled at the surface, and rapidly driven inward, acts as an excitant of inflammation. The fairly direct vascular connection of the skin of the face and the orbital opticus makes this theory plausible for the disease under consideration. Alcohol also affects the interstitial tissues primarily. The influence of tobacco alone seems rarely to cause proliferation of the connective tissue, since the prognosis in such cases is good; it may act either directly on the nerve substance or through the circulation. That the opticus is specially affected can only be accounted for on the assumption of individual disposition, as in other points of pathology.

At the beginning of the disease patients generally experience more difficulty in reading than at their ordinary occupations; a mist, in continual motion, occupies the central part of the field, but now and again may divide for an instant, and allow tolerably free vision. This often appears as a luminous vapor, and may be seen even in the dark, but is usually the more troublesome the brighter the light. Hence patients imagine they see better in dull light; the improvement, however, is not real. Later, with an absolute scotoma, this symptom is mostly absent. It is due to irritation of the nerve fibres from disturbance of circulation. In fresh cases the scotoma is usually relative, that is, function is diminished or altered, not lost. Afterward, in the middle of a relative scotoma, a small, absolute one often develops. Even with the most extensive absolute scotoma there is always a surrounding zone in which the disturbance is relative. The form of the scotoma is various, but the most common is that of a horizontal ellipse; it is ordinarily central, and extends farther toward the blind spot, which, however, it seldom passes; in rare instances it is paracentral.

Defect of color perception is always demonstrable in a relative scotoma, red and green being earliest affected. In light cases there is only an alteration of shade, in more severe of tone; still there are exceptions to this. Again, the color may appear flecked with spots of gray or of another color; white also may be spotted with gray or blue, or appear bluish.

Almost without exception improvement begins at the periphery of the scotoma and progresses toward the centre; yet in a few cases Samelsohn observed first a clearing up in spots, and supposes that in these there were islands in the affected part of the nerve in which the inflammation was less intense. In general the inflammatory alterations, as in the case examined, are most marked at the axis of the nerve.

The light-sense Samelsohn found always diminished, and proportionally to the size of the scotoma, but not in correspondence with the deterioration of vision.

The amount of vision does not of itself give information as to the severity of the case. The stage of the disease has great influence on the visual acuteness. The more recent the disease the greater are the phenomena due to irritation, and the more proportionally is the loss of vision, while at a later stage the vision is dependent on the size of the scotoma. And here the relative scotoma is of as much importance as the absolute; an extended relative with small absolute scotoma, usually depresses the sight more than a fairly large absolute scotoma surrounded by a narrow relative zone. Yet the prognosis is the more favorable the smaller is the absolute scotoma.

Samelsohn recommends, as indicated by the character of the disease, potassium iodide, in doses increased from thirty to seventy-five grains daily, continued for six or seven months if it be well borne, and resumed again after a short interval. With this treatment he has been far more successful than ever before, even in old cases having found decided benefit. Only after about six weeks is the first sign of improvement to be expected, as shown by narrowing of the scotoma. The results of testing the vision are to be taken only with great caution, since there is frequent change in the degree of functional fatigue. Where an absolute scotoma cleared up it always changed first into a relative, and diminished gradually in size; never did he see a clearing at the centre, so as to leave a zonular defect. In the most acute cases, which begin with sudden large absolute scotoma, innervation for a time at first seemed of service. Central amblyopia is declared to be the most amenable to treatment of all diseases of the optics.

At the end of his essay Samelsohn refers to a case of central amblyopia in a diabetic patient, reported by Nettleship and Edmunds in the *Transactions of the Ophthalmological Society*, vol. i. In that case the anatomical changes in the optics from the entrance of the central vessels up to the disk agreed entirely with those above described. The portion of the nerve farther back was not removed, and, of course, not examined.

#### CORTEX HEMIANOPIA.

Haab<sup>1</sup> reports two cases of homonymous hemianopia in which the autopsy showed the visual disturbance to be due to a lesion of the cortex of the brain, very closely identified in situation in each. Such cases are of importance, both for the determination of the position of the optic centre in the human brain, and of the question whether each centre is in connection with the corresponding halves of the two retina. The more accurately it can be demonstrated by post mortem that the cause of the visual defect in homonymous hemianopia lies in the destruction of a certain district of the cortex of one occipital lobe, the more improbable is the theory of Charcot and Landolt that the optics

fibres which do not cross in the chiasma do yet cross farther back in the brain, a theory which it is difficult to confirm or disprove by pure anatomy. Careful observation of such cases in man may also serve to round out the results of the experiments of Ferrier and Munk on animals.

The first case was Huguenin's patient, a girl of eight years, poorly nourished, with chronic inflammation of the cervical glands, the head large from infancy. Following whooping-cough her intellect became dull, then she had headache, was irritable, slept poorly, vomited; later, convulsions, beginning in the distribution of the facial nerves, involving the arms and legs, and succeeded by unconsciousness for some half hour. For a time the fundus was normal, then optic neuritis developed. A little later, although the cerebral symptoms temporarily improved, hemianopia came on, the left half of the field wanting in both eyes. There was never any paralysis or loss of sensation.

Post mortem, two caseous tubercular masses were found: one at the apex of the left frontal, the other at the median surface of the apex of the right occipital lobe. All nerves were intact. Only the tumor of the occipital lobe can have caused the hemianopia; this was situated in the sulcus hippocampi, measured three centimetres in height and length, and 2.5 centimetres in width, and extended some two centimetres into the brain substance.

The second patient was a woman of sixty-one years. After an endocarditis and pericarditis came a paresis of the limbs of the left side, from which she almost wholly recovered. She had, however, left hemianopia, the line of demarcation sharp and vertical, with normal vision in the right half of the field in both eyes. The fundus was normal. No other symptoms of cerebral disturbance. This condition persisted unchanged till death, a year later, from heart disease.

In the brain the only lesion discovered was at the median side of the right occipital lobe, where the cerebral substance in the whole region of the sulcus hippocampi was destroyed, probably in consequence of embolism. Chiefly cortex was involved in the degeneration, between which and the posterior cornu was a tolerably thick layer of white substance. The destroyed portion extended from the apex of the lobe forward six centimetres, and had a width of two to three centimetres.

No other pathological changes in the whole brain. Microscopic examination of the optic tracts, chiasma, and nerve showed no atrophy. No lesion to explain the disturbances of motility which existed for a time after the occurrence of the embolism was found, and it is, therefore, to be assumed that derangements of circulation in the motor tracts of the right hemisphere were the cause of the hemiparesis.

A case reported by Curschmann,<sup>2</sup> in which the position of the lesion presents a striking correspondence with those given above, may well be added. A man of fifty years, previously healthy, was brought to hospital suffering from the effects of swallowing sulphuric acid. He could not swallow, and was nourished by enemata. The organs of circulation appeared normal. A week later, embolism of the right brachial artery. The following morning he complained that he could not see in the left half of either field of vision. Examination showed complete hemianopia, while central vision, the right half of the field, and the fundus of

<sup>1</sup> Monatsblätter für Augenheilkunde, Mai, 1882.

<sup>2</sup> Centralblatt für praktische Augenheilkunde, 1879, p. 181.

each eye were perfectly good. Except slight delirium, no other symptoms of cerebral lesion. Death after a fortnight from inanition. The autopsy gave the usual alterations in the intestinal tract; an inflammation of the intima of the aorta, propagated from the œsophagus; an embolism of the right brachial; in the brain, with normal appearance of cerebellum and optic tracts, a large patch of softening in the right occipital lobe, which extended to the surface, and was mainly at the median side and apex of the lobe.

#### THE CENTRE FOR COLOR PERCEPTION.

The fact that altered perception for colors, not only congenital but acquired, may exist without any disturbance of perception of space or light, suggested that there might be a distinct centre for color perception. And the question as to the existence of such a centre would appear to be settled in the affirmative if cases are observed in which, with perception of light and space everywhere perfect, there is complete homonymous hemianopia for colors. Such a case is reported by Samelsohn,<sup>1</sup> who also refers to corroborative cases published by Treitel and Landolt.

A man, sixty-three years old, complained of disturbance of vision, which dated from an apoplectic attack, with right hemiplegia, nine months before. Motion was in great part restored, and sensibility wholly. Slight paresis of the right superior rectus. Examination with the ophthalmoscope discovered nothing abnormal. Vision in either eye  $\frac{1}{2}$ , the same as at an examination several years before, and not abnormal for the age and media. As the character of the complaints pointed to hemiopia the field of vision was carefully tested, but even with small squares of white it appeared entirely normal in extent. The use of tinted paper, however, showed a typical left-sided hemianopia for all colors, the line of separation sharp and vertical. To the left of the line each color appeared of a more or less saturated gray, while to the right it was recognized perfectly. It was the same with light transmitted through colored glass in a dark room. Perception of space and sensibility to light were apparently quite normal. Under treatment the paresis of the rectus disappeared, but the hemiopia remained the same till death, from apoplexy, three or four years later. No post mortem could be obtained.

#### TUBERCULOUS MASS GROWING FROM NEAR THE OPTIC DISK.

Dr. Brailey reported the case.<sup>2</sup> A tuberculous mass, apparently primary, sprang from the optic disk and immediately surrounding choroid, simulating in some of its clinical features a glioma. The globe was enlarged and its tension increased. The cornea was increased in size, and the anterior chamber was deepened. The retina was detached, except from the ora serrata, and it was this membrane with its vessels that was visible during life through the clear lens. There were many point-like posterior synechiæ. Though the mass, which presented all the histological evidences of tubercle, replaced the tissue of the papilla, it did not extend backward beyond the lamina cribrosa, nor laterally for any distance in the choroid. As there was no precise microscopical evidence that it had originated in the retina or tissue of the papilla, the author presumed that a choroidal origin was the more likely in view of the number of cases of tuberculous choroidal disease that

had been described. The patient, a boy aged two, the second child, was stout and well, but had been within a few months very thin and weak. The eldest child was four years of age. Before this there had been a miscarriage of four months. The mother died of consumption six months before the excision. The father was said to be very healthy. The after history of the patient could not be traced.

### Anatomical Memoranda.

#### ABNORMAL DISTRIBUTION OF ARTERIES AT BASE OF BRAIN.

BY S. G. WEBBER, M. D.

ABNORMAL arrangement of arteries in the circle of Willis is rare.

At a recent autopsy such an irregularity was noticed. The two anterior cerebral arteries came so near each other that the anterior communicating artery was only about one line in length. The right posterior communicating artery was only about one tenth the usual diameter, the right posterior cerebral artery was twice the usual size, or larger. The left posterior communicating artery was nearly twice the usual size, and virtually was the origin of the posterior cerebral; the left posterior cerebral was about half the usual size until it met the posterior communicating. Thus the region supplied by the right posterior cerebral artery received very nearly all its blood through the basilar; that supplied by the left posterior cerebral artery received more than three fourths its blood through the left carotid.

The right posterior cerebellar was so small it could not be distinguished from other small and terminal arteries. Its place was taken by one of the branches from the basilar, which was larger than usual, and, after passing backwards and upwards over the surface of the cerebellum, curved forwards and downwards to occupy the normal position of the posterior cerebellar between the cerebellum and medulla. The basilar artery was rather longer than usual, the vertebrals uniting at a lower level than normal. The middle cerebral arteries and the anterior cerebellar arteries were normal.

### Reports of Societies.

#### PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

T. M. ROTCH, M. D., SECRETARY.

NOVEMBER 27, 1882. DR. J. C. WARREN presided.

#### SYNOVITIS.

DR. HODGES read a paper entitled Painless Synovitis.

In answer to a question by Dr. Abbot, as to whether the pedometer was reliable in registering the amount of walking done by nurses in the hospitals, Dr. Hodges replied that perhaps it was not so reliable as might be wished, but that it was the best means which we had for estimating these distances.

Dr. Hodges also spoke of the fatigue experienced by horse-car conductors during their first week of service, and of their gradually becoming used to standing for many hours without rest, the variety of their occupation and the fresh air being of great advantage to them.

DR. CREEVER said that where a laxity of the articular ligaments has been caused by their being stretched, as

<sup>1</sup> Centralblatt für die med. Wissenschaften, Nos. 47 and 50, 1881.

<sup>2</sup> Ophthalmic Review, November, 1882.

in cases of effusion, great annoyance is experienced, as the tissues, under these circumstances, are slow to repair. He also mentioned the case of a woman who had swollen knees at each menstrual period, the swelling disappearing in the intervening three weeks. Standing always seemed to him to be more fatiguing than walking. He believed in walking, provided that it was not overdone; he did not believe in the elastic knee cap, as it atrophies the muscles more quickly than anything else.

Dr. H. W. WILLIAMS suggested that the constant jarring of the street cars carries an impression by the spinal cord to the brain, causing nervous exhaustion and the fatigue experienced by horse-car conductors, and he mentioned the same effect which some people feel when riding in sleighs and chaises.

Dr. A. T. CABOT spoke of the relief which active exercise gives to the fatigue caused by constant standing over some uninteresting work.

Dr. BRADFORD stated that the cases he had seen of hydrops articuli had not occurred, as a rule, in persons who could be called delicate in the strict sense of the word. Constant compression in the form of an elastic knee cap, worn for months, seemed to him not to be beneficial, as it promoted a development of a laxity of the tissues, which it is desirable to avoid in this affection. The experience reported by Dieulafoy and others in aspiration of the knee-joint has been so favorable that it would appear that that method deserved greater prominence than was frequently accorded it. In the cases of aspiration which had come under his own observation, the method seemed entirely innocuous. Repeated aspirations are sometimes necessary before a cure results.<sup>1</sup>

Dr. ROWE made some remarks on the ill effects produced by standing in the hospital among the nurses, and of the great daily distances which he found, by means of the pedometer, he was obliged to walk in the hospital during the twenty-four hours.

Dr. SABINE spoke as follows:—

Dr. Hodges referred to the relative value of the different modes of treatment. I have used the rubber bandage in a number of cases, although in a very limited number, of course. In two or three the trouble was of traumatic origin, and in the others spontaneous. The result has been very satisfactory. The bandage has been used without any ham splints. It does not interfere particularly with the circulation, and the patients have not complained of pain. In some instances the patients have not been confined to the bed. These were cases of spontaneous origin, of course. The bandage has been left off gradually, either by shortening it or substituting a lighter one.

Dr. BURN stated that he had seen cases of simple effusion in the knee-joint rendered purulent by aspiration.

Dr. WARREN said that it seemed at times as if effusion about the knee became almost epidemic about Boston and its vicinity, and spoke of the rarity of the disease in Montreal. He also said that it was hard to see what aspiration accomplished in these cases.

<sup>1</sup> In the discussion it was stated that theoretically, repeated aspirations of the knee would be liable to cause suppuration, as sometimes occurs after repeated thoracentesis. Against this view the following facts may be urged:—

Pleurisy not infrequently occurs in tuberculous patients.

In a pure hydrops articuli there is no tuberculous or septic tendency. Pleurisy may become an empyema spontaneously.

Protrusion of the knee does not spontaneously change from a serous fluid to pus.

Suppuration following aspiration of the knee is so exceptional as to suggest, when it does occur, a lack of antiseptic precautions.

Dr. HODGES remarked that he felt a certain degree of timidity about aspirating the knee-joint, and that he preferred the method of using the compressed sponge as accomplishing as much and as avoiding the danger of making the serous fluid purulent. He thought that the atrophy which follows long compression was apparent rather than real, and that it was not of much consequence, as it speedily recovers. Dr. Hodges also repeated his opinion that these cases were due to disturbance of the general health.

#### HEMOPHILIA.

Dr. NICHOLS read a paper entitled, Hemophilia in women at childbirth.

### New Instruments.

#### A NEW HEAD PERFORATOR.<sup>2</sup>

THE diagrams are to show a perforator intended for puncturing the child's head when such an operation may be called for.

It is a trephine with its teeth thoroughly covered by a movable bell-shaped cap, A, which entirely prevents any injury to the vaginal soft parts while it is being introduced. The trephine is connected with the handle by a spindle seven inches in length. The cap, A, is held firmly in place by a spiral spring which surrounds the spindle, the amount of pressure being regulated by the thumb-screw, B. The perforating end of the instrument being in position on the child's head, the thumb-screw is loosened, and pressing gently on the handle with the right hand the protecting cap slides back over the trephine, as represented at the letter C. If the head is inclined to slip away from the instrument the hand of an assistant pressing firmly downward on the fundus of the uterus will hold the child in place. Two or three turns of the handle, pressing firmly at the same time, will perforate the head easily and rapidly. The centre screw, D, at the first turn will perforate the head and hold the instrument firmly in position, bone of course being perforated, which should always be done.

The left fore-finger should be passed into the vagina with the instrument, and guide it to the part to be perforated.

I do not consider the pelvic curve necessary on a perforator any more than it is on a decapitating hook or knife, which in many instances have to be inserted higher than a perforator.

The expense of the instrument is reasonable, comparing it with others, the price being seven dollars. Braun's instrument, which has a perforating end similar to this, but is more complicated, costs twenty dollars, requires three hands to use it, and being a large cylinder through its entire length, but little room remains in the vagina for the fingers of the left hand.

This perforator having a very small spindle occupies comparatively a small amount of room in the vagina, and requires but two hands to work it.

ROBERT B. DIXON, M. D.

<sup>2</sup> Shown at the Obstetrical Section of the Suffolk District Medical Society, November 11, 1882.



# Medical and Surgical Journal.

THURSDAY, DECEMBER 7, 1882.

A Journal of Medicine, Surgery, and Allied Sciences, published weekly by HOUGHTON, MIFFLIN AND COMPANY, Boston. Price, 15 cents a number; \$5.00 a year, including postage.

All communications for the Editors, and all books for review, should be addressed to the Editors of the Boston Medical and Surgical Journal.

Subscriptions received, and single copies always for sale, by the undersigned, to whom remittances by mail should be sent by money order, draft, or registered letter. HOUGHTON, MIFFLIN AND COMPANY, No. 4 PARK STREET, BOSTON, MASS.

## ANOTHER DIPLOMA MILL.

A CIRCULAR of the State Board of Health of Illinois gives a very interesting account of an Institution, of which one function, at least, seems to be the issuing of medical diplomas without regard to the merits of the recipient. An interesting array of facts in regard to the matter has been published in the *Boston Globe*. The principal points of the Illinois Board of Health circular are as follows:—

A diploma purporting to have been issued by the "Bellevue Medical College of Massachusetts" was presented to the Board of Health of Illinois as the basis of a certificate entitling the holder to practice medicine in the State of Illinois, in accordance with the Medical Practice Act of that State. The holder being called on for further evidence of his qualifications, stated that he was fifty-seven years of age, but had only practiced medicine during the last five years, and that his diploma was obtained on the fifteenth day of September last.

The Board of Health believed it their duty to gain further information in regard to this hitherto unknown source of diplomas, and at their instigation a young journalist entered into correspondence with the Bellevue College, asking requirements for graduation, setting forth his qualifications in the following:—

"p. S. I have bin redin medicin about a year."

In further correspondence the seeker after the stamp of approval gave the following account of himself:—

I hav a Good Many friends who I Doctor and they would Rather have me for a Doctor than any body else for I can Cure them when Other Doctors Cant I Can Diagnose a case every time But as I hav no Diploma I cant Charge hardly any fees So I need a Diploma from a Good College but I aint got funds enuff to go There I aint got much education Either but I dont think a man m-t go Through College to know how to Doctor I know some Doctors who want to examm Their heads with Theories and no Practiss and they are so Intolerable that they want Every Man to go to College but they are Rich and I am Poor and they want to crowd me out Becaus they are Afrade of Me and if I had a Diploma I could hold my own with the Best of them,

and added an essay, of which we have space only for a part, and we feel sure the half will prove almost as good as the whole in showing the evidence on which this concern was willing to utter its high-sounding diploma:—

### VACCINATION.

The Grate increase of Disease in these Late years Calls for Explanation Undoubtedly the Doctors of this Day is to Blame for very Much of it But more than anything Else in My opin-

ion is the Inscartion into the Pure Blood and Vitte fluid of our Inocent off-spring of that vile Disease of the Animals cowpox So grate has the Curse Became that Priviledges of School Education is Denide in this and Many other States to Those who wisely Refuse to Submit to this Curse this is just a Peace of the Nonsensical Medical teachings of the Day when Theory and Imagination Rool Instead of Practical Expearance and wich keeps its Students in close Confinement a Big part of three or four years to hear the Nonsens which is their peddled out to them consumption Sillies and Skin Disease Runn Wild among the People This calls for a Strong kick on the Part of our noble Profession. . . .

Some doubt was entertained, after dispatching the above, lest the matter had been overdone — lest even the Faculty of the Massachusetts Bellevue might not think Mr. Kelly "competant." But these fears were promptly dispelled by the receipt of the following:—

BELLEVUE MEDICAL COLLEGE,  
BOSTON, Nov. 2, 1882.

MR. KELLY:—

*Dear Sir,*—You, as a candidate for graduation, have been *favorably considered* by the Faculty; and your *thesis has been examined by the Professors and found to be acceptable*. In consideration that you cannot attend the college, you are required to purchase two tickets of matriculation. *These tickets will show that you will have been under the instruction of the Bellevue Medical College for two years.* These two years, together with the one year you have studied by yourself, will make as much time spent in the study of medicine as is spent by any other medical student from any other college. *Your diploma will be sent C. O. D. one week from the date of this letter.* It will be securely packed in a pasteboard box. Your bill for diploma and two tickets is \$150.00. The tickets and diploma go together. The one cannot go without the other.

—, President.

The "Bellevue Medical College of Massachusetts" received a certificate of incorporation May 25, 1880, under the "Public Statutes relating to Manufacturing and other Corporations organized under General Laws," but the right to confer diplomas was not included in their charter.

The *Globe* of December 2d gives an account of the arrest of the "Dean" of the School, which it calls the culminating point in the exposure, on a warrant charging him with using the United States mails with intent to defraud. When arrested, the "Dean" is said to have made the statement that there is no law to compel any one to study any given length of time before receiving a diploma in medicine, and that no law determines when a college shall graduate a student or confer a diploma.

It is to be hoped that this is really the culminating point of this new industry, and we wish that with the Massachusetts Bellevue might die the whole board of diploma factories. Certainly if the present state of affairs continues we shall soon see at stated intervals by the side of the familiar advertisement of the Association of National Banks for the Suppression of Counterfeiting a reward offered by The Association of Medical Schools for the Suppression of Fraudulent Diplomas. Such a reward should not equal the value of the plate from which a diploma is printed, however, lest the reward itself became an inducement to the establishment of such schools.

The repeated discoveries of bogus diplomas are not entirely devoid of comfort. A thing must have a value to make counterfeiting pay; nobody will take pains to forge a worthless name. Surely then the day is passing away when natural gifts are considered the

highest claim to medical skill. But surely also the laws which permit so easily the establishment of such an institution need mending, or at least most careful watching in their execution.

# DR. OLIVER WENDELL HOLMES' FAREWELL LECTURE AT THE HARVARD MEDICAL SCHOOL.

DR. HOLMES delivered a farewell lecture, at their request, before the students of the Harvard Medical School on Tuesday, November 28th, which we have the pleasure of giving the readers of the JOURNAL in our present issue, from the author's manuscript as revised by himself. The last lecture upon anatomy by the former Parkman Professor had been delivered some days previously, but the students being unwilling to part from their teacher so easily, and wishing some suitable occasion to express their sentiments, had requested the privilege of hearing Dr. Holmes once more in a more formal farewell.

The lecture room was crowded with the students of the different classes, and the lecturer was surrounded by his former colleagues and a number of the physicians of this city.

Before the lecture stand was a large basket of choice flowers, presented by the third-year students. A photographer stood ready to take the scene before the commencement of the lecture, which was delayed some moments after Dr. Holmes' entrance by this and by a prolonged and enthusiastic greeting from his audience.

The applause having subsided, a member of the first-year's class came forward bearing a very handsome Loving Cup in silver, which he presented to Dr. Holmes on behalf of his classmates in the following words:—

"It is with deep regret that we come to this farewell. We had hoped, when we entered upon our course, to be permitted to listen to your lectures throughout the year. But we are thankful that we have enjoyed that privilege at all.

"Desiring to express our regard in some form more tangible than mere words, we beg you to accept this loving cup. As you may look upon it we hope you will sometimes remember us, as we shall always remember you.

"We bid you farewell in the words inscribed on the cup, 'Love bless thee, joy crown thee, God speed thy career.'"

Dr. Holmes was evidently much moved, and expressed his thanks in a few brief words.

The following letter was subsequently written by him to the donors:—

MY FRIENDS, LATELY MY PUPILS.—Your beautiful gift was so complete a surprise to me that it produced a sudden attack of speechlessness; I lost my whole vocabulary of gratitude. But I feel sure that you did not mistake *aphasia* for *acardia*. My heart was in its right place, though my tongue forgot its office. It throbs warmly as I thank you for this precious

and lasting token of your kind feelings towards me. The cup seemed empty to those who looked into its glittering hollow, but it was full for me of a richer cordial than the wine-presses of royal vineyards could express, than the alembics of the Grande Chartreuse could distil.

This gift, of priceless value to me and to those who come after me, will meet upon my sideboard, another and a similar one, of ancient date, which has come down to me as an heirloom in the fifth generation from its original owner. The silver teapot which serves the temperate needs of my noontide refection has engraved upon it, as part of its armorial bearings, three nodules supposed to represent the mineral suggesting the name of the recipient; the three words *Ex dono Pupillorum*; and the date 1738. This piece of silver was given by his Harvard College pupils to the famous Tutor, Henry Flynt, whose term of service, fifty-five years, from 1699 to 1754, is the longest on the College Record. Tutor Flynt was a bachelor, and this memorial-gift passed after his death to his niece, Dorothy Quincy, who did me the high honor of becoming my great-grandmother. Through her daughter and her daughter's daughter it came down to me, and has always been held by me as the most loved and venerated relic which time has bequeathed me. It will never lose its hold on my affections, for it is associated with my earliest and dearest remembrances.

But this Loving Cup, which comes to me not by descent, but as a testimony that my own life as a teacher has not been unvalued, but thought deserving of such an enduring memorial, must hereafter claim an equal place in my affections with the most prized and cherished of all my household possessions. I hope that when another hundred and fifty years have passed away, some descendant of mine will say as he lifts this cup and reads the name it bears: "He, too, loved his labor and those for whom he labored, and the students of the long past nineteenth century remembered their old teacher as kindly, as gracefully, as generously, as the youth of the earlier eighteenth century remembered old Father Flynt, the Patriarch of all our Harvard Tutors."

Farewell, my dear young friends, and may the blessings I invoked for one whom I loved, and which you have asked for me in my own words, engraved upon this cup, be upon each and all of you in the path you are entering, until it ends at the open portals of a brighter and happier world!

Faithfully and affectionately,

Your friend and late instructor,

OLIVER WENDELL HOLMES.<sup>1</sup>

December 1, 1882.

<sup>1</sup> The following note was sent to the gentlemen who presented the large basket of flowers, placed before the desk:—

296 BEACON STREET, December 2, 1882.

MY FRIENDS, ONCE MY PUPILS.—If I did not properly acknowledge the beautiful floral tribute which was placed before me as I stood for the last time in my lecture room, I know you will not set down my seeming negligence as ingratitude. The truth is that I was surprised out of my self-possession, and could not find the proper expressions to tell you how much I was touched by this evidence of your kind feeling. I had come unprepared for such a reception as I met with, and though it needs few words to show a heart filled with grateful emotion, even those few words found but imperfect utterance in my stammering accents.

Please to accept my warm thanks, now that the flowers have faded, with the assurance that for me their hues will never grow pale, and their fragrance never be wafted away.

Believe me, my dear young friends, faithfully yours,

OLIVER WENDELL HOLMES.

The lecture which followed was listened to with marked attention and appreciation by those who were fortunate enough to be present, and we are sure that our readers, though losing the charm of his delivery, will enjoy Dr. Holmes' reminiscences of his own medical teachers fifty years ago, illumined by the flashes of his characteristic wit, nearly as much as did his audience.

The occasion was in every way picturesque and marked by good taste, and we may say that some of its features were as gratifying as unexpected to the retiring professor.

We promise ourselves another early opportunity to hear Dr. Holmes speak upon matters connected with medical education, at the approaching opening of the new building of the Harvard Medical School.

The University is about to appoint him Emeritus Professor of Anatomy, and we believe it is not premature to say that he will be requested by his former pupils to sit for his portrait, a request which, if we are not mistaken, has been repeatedly made but not granted before.

#### THE NEW PHARMACOPEIA AND THE STRENGTH OF ITS OPIUM PREPARATIONS.

ANYTHING that tends toward accuracy in the administration of drugs possessed in large doses of dangerous properties, should be regarded with favor by the community, but unfortunately the changes necessary to the attainment of such accuracy carry with them certain dangers which need to be carefully guarded against.

Dr. Squibb, with that carefulness for which he is noted, and which has made his name synonymous with accuracy and purity wherever it is found, calls attention to the great increase in strength in the opium preparations of the revised Pharmacopœia of 1880, now just issued.

In his *Ephemeris of Materia Medica, Pharmacy, Therapeutics, and Collateral Information*, he speaks of the change as a very much needed step in the right direction, but as he failed to realize the extent of the change when reading the proof-sheets, he deems it not improbable that others may overlook the matter, and asks medical journals to draw the attention of the profession to it.

The instructions of the Convention to the Committee of Revision, directed that "in the liquid opium preparations, excepting paregoric, the strength of ten per cent. shall be adopted if found advisable." The recommendation was "found advisable" and adopted, a change which would have made an increase in the strength of laudanum and kindred preparations by about ten per cent., — an increase which would have been attended with marked consequence only to children and particularly susceptible persons; but another and most important factor in the increase of strength remains, namely, the strength in morphia, of the powdered opium, — a factor not likely to attract the notice of the prescriber unless his attention were drawn to it by the manufacturer.

The Pharmacopœia of 1870 provides that opium when dried at 212° F. until it ceases to lose weight should yield at least 10 per cent. of morphia by the official process. A powdered opium slightly above this 10 per cent. standard gives, by the 1870 formula, to the official tincture a strength of 4 grains of morphia, equivalent to 5.33 grains of crystallized sulphate of morphia, to the fluid ounce.

The Pharmacopœia of 1880 provides that its powdered opium should contain not less than 12 nor more than 16 per cent. of morphine when assayed by the process given under Opium. If the formulae of the new Pharmacopœia were made from a 12 per cent. powder, laudanum would contain 5.44 grains in each fluid ounce, and if made from a 16 per cent. opium the same preparation would contain 7.25 grains, a difference too great for therapeutic accuracy. Hence Dr. Squibb has adopted a definite intermediate proportion of 6 grains in each fluid ounce, equivalent to 7.5 grains of sulphate of morphia, — and this is an increase of one half over the standard of 1870. It is this possibility of establishing a reliable average strength which makes the new Pharmacopœia more definite than the old.

If the full dose of the old tincture, deodorized tincture, or compound solution of opium be considered 24 minims or 38 drops, representing a quarter of a grain of sulphate of morphia, the corresponding dose of the new preparation would be two thirds only of the former dose, or 16 minims, or say 25 drops.

Dr. Squibb proposes the use of the figures "1870" or "1880" for the present by physicians in their prescriptions annexed to preparations of opium. It should also be appended to druggists' labels in supplying the corresponding articles.

#### THE PROHIBITION OF PUBLIC FUNERALS AFTER DEATH FROM A CONTAGIOUS DISEASE.

THE Board of Health of Boston has issued an order forbidding public funerals where death has resulted from small-pox, diphtheria, scarlet fever, and typhus fever. The remains of persons dying from either of these diseases must be placed in a properly sealed receptacle as soon as possible after death, and not be disturbed thereafter except for burial. The apartments and surroundings of the deceased are to be, as hitherto, fumigated and disinfected, and the Board urgently advises, where death has occurred from either of the above diseases, that no persons other than those employed in this operation, and those whose duty it is to prepare and remove such bodies for burial, should enter the room or apartment where such a death has occurred or such a dead body lies until after the removal of the body and the completion of the disinfection of the rooms.

This order is an eminently proper one, and, though likely at first to encounter some opposition from ignorant and prejudiced portions of the community, will undoubtedly be generally enforced, and will eventually command the assent and even the support of those

who at first might be disposed to resist or evade its execution.

No law of nature, no sentiment, and no respect for the departed demand that the living should endanger their own lives and the health of the community in paying homage to the dead. The danger of contagion from the bodies and surroundings of those dying from small-pox, scarlet fever, or typhus fever is undoubted; in regard to diphtheria inquiries show that the question may be considered an open one. But in such a matter it is right, where there is any doubt, to choose the safe side.

The liberty of contracting contagious diseases is one which the great mass of our people is sufficiently sensible to be willing to renounce, and we think contagious diseases ordinances might readily be made more stringent in others of our large cities.

#### MR. HOADLEY'S RESIGNATION FROM THE MASSACHUSETTS BOARD OF HEALTH, LUNACY, AND CHARITY.

THE resignation of Mr. J. C. Hoadley takes from the State Board of Health, Lunacy, and Charity one of its most accomplished members, and deprives the State of the services of a highly intelligent, conscientious, and valuable officer. Mr. Hoadley, then a distinguished civil engineer, was appointed to the State Board of Health in 1873. He has remained, since the resignations of Dr. Bowditch, Dr. Folsom, and Mr. David L. Webster, for more than a year the only one of those formerly constituting the working force of the State Board of Health, who has also followed its declining fortunes in the hybrid Board of Health, Lunacy, and Charity. His labors helped to establish sanitary science as a practical aid in promoting the health of the people in Massachusetts and indirectly throughout the country, and his departure from public office reminds us again how far down the public health department has dropped in this State since the fear of our governor-elect drove a frightened legislature into following the unwise directions of a politic governor. Mr. Hoadley deserves the genuine thanks of the community for his faithful and fruitful work. His successor, Mr. Fallon, formerly superintendent of a large mill in Lawrence, has been successful in his own business; what his special knowledge of health, lunacy, or public charities, may be we do not know, but trust he possesses suitable qualifications for a place which demands high attainments and large experience, such as to make his selection as Mr. Hoadley's successor, an especially judicious one.

#### THE WARREN TRIENNIAL PRIZE.

THE advertisement of the subject and provisions for the award of this very liberal prize, to which editorial reference was made in the last number of the JOURNAL, was accidentally omitted from that issue. For information in regard to the terms of the prize readers are referred to the announcement on the second page of the cover of this issue.

#### MEDICAL NOTES.

— Dr. Thomas Dwight, former professor of anatomy at Bowdoin College, and grandson of Dr. John C. Warren, the predecessor of Dr. Holmes, will deliver the lectures on anatomy at the Harvard Medical School this winter.

— Dr. A. V. Macan has been appointed Master of the Rotunda Lying-In Hospital, Dublin, to succeed Dr. Lombe Atthill.

— Dr. Wm. B. Carpenter, of England, lectured in Tremont Temple on Sunday last upon the Physiology of Alcohol. The lecture occurred as one of a series of temperance meetings, and was presided over by Governor Long. The speaker started with the thesis that alcohol is a poison, although in many cases a very slow one. The different points at which this toxic influence is exerted were enumerated in order, beginning with the gastric digestion, which is impaired by depravation of the digestive fluid. The composition of the blood was then alluded to, and the speaker claimed that the introduction of a new constituent (alcohol) into the menstruum of the blood, which should consist almost entirely of water, impaired the nutrient functions of that fluid. He next referred to the vaso-motor system, and showed that the relaxing effect upon the arterioles, which causes the feeling of warmth after taking alcohol, quickly gives rise to a radiation of heat and a feeling of depression and cold. Finally it interfered with the perfect action of the excretories of the body. The speaker closed with facts in proof of his statements, taken from cases within his own knowledge.

— The Garfield Board of Audit have allowed the following claims for professional services: Dr. D. W. Bliss, \$6500; Dr. D. H. Agnew, \$5000; Dr. Frank H. Hamilton, \$5000; Dr. Robert Reyburn, \$4000; Dr. Silas A. Boynton, \$4000; Dr. Susan A. Edson, \$3000; total, \$27,500. This is \$8000 less than the amount especially appropriated for physicians and medical attendance.

— The annual meeting of the West Side Relief Association and Sensitive Sanitarium was held November 1st; when it was announced that during the year the Society had expended \$8258.98, of which \$1000 was presented by the *New York World*. Between April 7th and September 30th, 2780 mothers and children were accommodated at the sanitarium for from one to three weeks, and 2716 mothers and children for one day. Fifteen thousand and two hundred free baths were given, 51,400 meals furnished, and 1050 medical visits made by the physicians in charge, who made up 650 prescriptions, all free of charge to the beneficiaries of the institution.

— Can there be a criminal abortion when there is no pregnancy? Chicago is discussing this question as the result of the recent death of a girl from peritonitis, due to manipulation with the intent to procure abortion. Autopsy showed that she was not pregnant. Can the abortionist be made to suffer the penalty for her death when he can bring evidence from the post mortem that in this case at least he was *not* an abortionist?



## Miscellany.

## A PROPOSED CHANGE IN THE METHOD OF EXAMINING CANDIDATES FOR THE MASSACHUSETTS MEDICAL SOCIETY.

MR. EDITOR, — The article which appeared in your last issue, entitled A Proposed Change in the Method of Examining Candidates for the Massachusetts Medical Society, is so grossly misleading, and contains such unjust imputations against the Suffolk District Board of Censors, that I cannot let it pass uncorrected.

The Suffolk Censors have only endeavored to secure uniformity of methods and a proper degree of uniformity of standards, as well as a proper observance of By-Law I. of the Society. They have never desired anything more than this, and Dr. Williams' assumption that they urged any such unpractical change in the methods of examination as he imputes to them is entirely gratuitous, and can only arise from ignorance of the true facts of the case. If the chairman of the Norfolk Board had accepted the *invitation* to be present at the general Censors meeting, held November 17, 1881, as did other members of the Norfolk Board, he would have learned the true attitude of not only the Suffolk Censors, but of several of the Norfolk Board and many other boards who are advocates of at least a nominal observance of the by-law relating to admission of candidates.

The reason for the action of the Suffolk Censors was that it came to their knowledge that in many districts hardly any of the requirements of By-Law I. were fulfilled. They believed this to be detrimental to the interests of the Society, and endeavored to bring about a general meeting of the Censors for the sake of comparing notes and methods. They also desired to have By-Law I. stripped of its obsolete requirements in order that it might become a living entity capable of literal construction by the various boards.

That Dr. Williams has only given the By-Laws of the Society a superficial thought is shown by his labored argument to prove a written examination bad and unnecessary, and crediting the Suffolk Censors with a desire to introduce this *change* in the methods of examination, when for some years By-Law I. has read: "And shall satisfy the Censors . . . by a further examination, a part of which *shall* be in writing, that he has an adequate knowledge of anatomy, pathological anatomy," etc.

The Suffolk Censors have never taken a single step looking to the invasion of district rights. They recognize and value the liberty the By-Laws give to each board, to determine what may be an adequate amount of knowledge, necessary in any community, making one thing more important than another as the case may be, but they do not believe in the right of any board to arrogate to themselves the decision as to which ones, or perchance none at all, of the *requirements* of By-Law I. shall be fulfilled.

Any one interested in the true attitude of the Suffolk Censors can learn it by consulting the records of the General Censors Meeting,<sup>1</sup> or by reading the appended petition addressed to the Council by them: —

"The Censors of Suffolk District Society and of the Society at large desire to call the attention of the Councilors of the Massachusetts Medical Society to

the need of greater uniformity in the examination of candidates for membership.

"As the Society was originally framed it was the intention and practice that admission be granted only to those who were found qualified according to standards fixed by the Society, but since the subdivision into many District Societies, with Boards of Censors having independent powers for interpretation of their duties, a lack of uniformity in enforcing the requirements has arisen. On inquiry, made of the secretaries of the seventeen Boards of Censors, it was found that while a thorough examination was enforced by some boards, by others scarcely any attempt was made to examine candidates. Some of the members of the boards were not aware that a degree or its equivalent was necessary for membership.

"As an illustration of the confusion caused by this lack of uniformity of examination, the instance may be mentioned, reported to have occurred recently. A practitioner was rejected as a candidate to fellowship by a board of censors; he shortly afterwards changed his residence to a neighboring district, was there admitted by the board, then returned to practice in the first district with full membership among those who had previously considered him unworthy of fellowship.

"At an informal meeting of censors from different boards, held during the annual meeting of the Society, the matter was discussed, and it was the opinion of those present that some action was desirable. On examination of the Society's Transactions it appeared that such action belonged to the Fellows and Councilors and not to the Censors, whose powers are confined within their own districts, and are insufficient to enforce general action throughout the State.

"As it seems desirable that a uniformly good standard of admission to the Massachusetts Medical Society should be maintained, so that a certificate of membership may be a guarantee to the public of a certain excellence in medical skill, the Censors petition the Council to take some action on this subject at their earliest convenience."

Yours very truly,

II. C. HAVEN,

Secretary Suffolk Board of Censors.

## SOME HOMŒOPATHIC AND ISOPATHIC MEDICINES.

MR. EDITOR, — Hager, in his *Pharmacopœia Homœopathica Nova*, mentions among others the following remedies, whose names and origins we, however, think it best to give in Latin; the mere thought that such things are used in homœopathy is enough to produce nausea. Here are some of the dainties: —

*Albium.* Græcum album. Excrementa alba sicca canum alvo astricta agrotantium.

*Alveolinum.* Materia purulenta ex alveolo dentis hominis exempta.

*Aranea diademata.* Sen Epeira diadema, insectum e familia Araneoidium. Aranea quæ ad justam magnitudinem pervenit, *vicens*, abdomine subgloboso e rubro fusco et cruce e flavo albidâ punctata (mensibus Augusto et Septembri capta).

*Ascaridinum.* Ascaris vermicularis, vermiculus intestinalis ex ordine Nematodeorum (Enthelminthium). In stercore recente humano, præsertim infantum, sæpe reperitur.

*Balanorrhœinum.* Liqueur mucilaginosus qui in balanorrhœa e glandulis glandis penis secretur.

<sup>1</sup> Vide this Journal, vol. cv., No. 22, p. 513.

*Bocilium*. Liquor mucosus in peste boum e faucibus, naribus, oculis, effluens.

*Brossulinum*. Syphilinum Brossulinum; Materia purulenta ulceribus venereis exempta.

*Bupoduporium*. Materia purulenta mucosa ex ungulis boum claudicatione epizootica (peste exungulante) agrotantium exempta.

*Carcinolum*. Sanies (materia ichorosa) e carcinomate axillæ exempta.

*Cariesinum*. Materia purulenta, carie ossium desumpta.

*Ceruinum*. *Ceruinum auris*. Massa vix fluida, viscosa recens, quæ a cryptis sebaceis auris secernitur.

*Cerurinum otium*. Hydatidis seu vesicae in cerebri ventriculo ovium sæpe habitans magnitudine ovi columbi, fovens verruculos multos rugis transversis et cauda biseta, vesica adnata.

*Condylomium*. Condyloma totum, ope cultri vel forficula recens a corpore humanum discissum.

*Coryzinum hominum*. Liquor albidus membrana mucosa narium catarrho (coryza) affecta secretus.

*Dakryda syringium*. Materia mucosa e fistula lacrymalis exstillans.

*Dysenterium*. Materia mucosa in dysenteria per anum secreta.

*Empyemum*. Materia purulenta vomicarum pulmonum.

*Enteropurium*. Pus ichosorum in enterocolici ex alvo secretum.

*Enteropyngium*. Fistula aui.

*Galetoplacium*. Massæ crustæ lacteæ infantum.

*Glossolentorium*. Massa recens mucosa alba, albidula, flava vel fusca, in lingua ægroti hominis insidens.

*Gonorrhœum*. Liquor spermaticus, lacteo albidus, spissiusculus, pollutione nocturna per urethram ejaculatus. Ne mucos gonorrhœicæ permittetur.

*Hellum*. Massa callosa indurata gemursæ in digitis pedum hominum.

*Hydrophobium*. Spuma vel saliva, quæ ante os hominum aut animalium hydrophobia agrotantium collecta reperiuntur.

*Influenzinum*. Mucus secretus a membranis pituitariis hominum influenza epidemica agrotantium.

*Karkinum*. Discernunt Karkinum glandis penis, labiorum, nasi, uteri. Pus ichorosum vel sanies e carcinomatibus illis exempta.

*Laryngophthisinum*. Materia pituitosa trachearum in phthisi tracheali secreta.

*Leucorrhœum*. Fluor albus. Materia pituitosa in leucorrhœa ex vagina evadens.

*Lippitudinum*. Liquor pituitosus in lippitudine ex oculis hominum evadens.

*Lumbricinum*. Ascuris lumbricoides L. vermibus intestinalibus ex ordine Nematodeorum (Enthelminthium), sæpe per anum, nec non per os hominum exiens. . . Vermis totus vivus.

*Mæchhepatinum*. Cuticula recens macula hepaticæ aut sponte soluta aut seculo subiecta.

*Mastoeurcinomium*. Sanies e cancro mammarum.

*Medorrhœum*. Materia mucosa in gonorrhœa syphilitica ex urethra evadens.

*Melimum*. Materia nigra in vomitu cruento ejecta.

*Metrorrhœgium*. Sanguis in metrorrhagia ex utero effluens.

*Millipes*. . . Insectum vivens.

*Morbilinum*. Substantia epidermidis farinacea vel squamatum abscedens in stadio desquamationis morbillorum.

*Naja tripudians*, s. *Coluber Naja*. Anguis magna e familia Viperarum. . . Mucus venenosus dentium venenatorum.

*Nephroposteminum*. Sanies abscessus renum (apostematiss renum).

*Nephrolitum*. Calculi renales, concretiones in nephrolithiasi exortæ.

*Odontonecrosinum*. Dens necrosi (carie sicca) ex parte corruptus.

*Odontosyringium*. Materia purulenta in fistula dentaria.

*Olorrhinum hominum*. Liquor purulentus effluens ex auribus hominum.

*Pneumophthisinum*. Materia purulenta tussi excreta in phthisi purulenta.

*Scarlatinum*. Squamulae in stadio desquamationis febris scarlatinae ex cute decedentes.

*Scrophulinum*. Materia purulenta ex ulcere scrophuloso.

*Tenium*. Tenia lata s. vulgaris et T. solium s. cucurbitana, vermes intestinales classis Enthelminthorum, ordinis Cestoideorum; insignes; corporibus planiusculis geniculatis, oribus quadrilopis. Vermis recens vivus vel frustula corporis ejusdem.

Yours, etc.,

C. St.

#### A QUACK'S DIAGNOSIS.

THE following ingenious diagnosis is copied from a letter written by a well-known quack to a patient:—

There exists in your system a little germ parasite, known as bacteria fungi (a little insect a fraction smaller than the trichinae in pork), in large quantity in the pit of the stomach, causing voracious appetite and generating heat, feels up the "elementary" throat to the bronchioles and nasal passages, from the throat passes to the base of the brain, and there feeds on the nerves and muscles, boring into them and honeycombing them, finds its way down the spine to the kidneys and seminal ducts and mucous membrane of the bowels. There is also a great amount of uric acid in your system. This becomes heated, fills the indentures and perforations made by this parasite, and causes the unbearable sensations you have. It is my opinion you are literally filled with these infinitesimal creatures, and are being slowly eaten up through the process of consumption of mucous membranes and destruction of nervous tissue. At times they will concentrate in the bowels just below the stomach. This causes a great appetite, and when they feed elsewhere that feeling is not so great. It produces an abnormal condition of the bowels so as to color the urine. It is also a question whether you can tell me when the back part of your tongue was clean,—that is, for a long time. You need a course of treatment to destroy and eradicate this germ. In my opinion you need four months of thorough treatment.

#### TRAUMATIC ANEURISM.

MR. EDITOR,—In the number of the JOURNAL for November 30th is mentioned a case of traumatic aneurism of the radial artery treated by me. Dr. M. H. Richardson, the reporter, is in error in stating that the artery was tied only on the proximal side of the aneurism; it was tied on both sides. Very respectfully yours,  
JOHN HOMANS, M. D.

Boston, December 1, 1882.

SUFFOLK DISTRICT MEDICAL SOCIETY. THE SECTION FOR CLINICAL MEDICINE, PATHOLOGY, AND HYGIENE will meet at 19 Boylston Place, on Wednesday evening, December 13th, at 7.45 o'clock. Dr. Morton Prince will present a paper on The Typhoid Epidemics of the last Decade and the Necessity of Compulsory Disinfection. In connection with the above Mr. E. W. Bowditch will speak upon The Siphoning of Sewer Traps

in relation to Typhoid Fever; and also upon the Sanitary Results of the Recent Improved System of Sewage at Nahant, Mass. Representatives from the State Board of Health, from the Boston Board of Health, the City Physician, and others are expected to take part in the discussion.

ALBERT N. BLODGETT,  
Secretary.

## REPORTED MORTALITY FOR THE WEEK ENDING NOVEMBER 25, 1882.

| Cities.                            | Population by Census of 1880. | Reported Deaths in each. | Deaths under Five Years. | Percentage of Deaths from         |                |                       |                |                      |  |
|------------------------------------|-------------------------------|--------------------------|--------------------------|-----------------------------------|----------------|-----------------------|----------------|----------------------|--|
|                                    |                               |                          |                          | The Principal "Zymotic" Diseases. | Lung Diseases. | Diphtheria and Croup. | Typhoid Fever. | Diarrhoeal Diseases. |  |
| New York.....                      | 1,206,590                     | 553                      | 195                      | 17.90                             | 15.73          | 7.05                  | 1.08           | 3.07                 |  |
| Philadelphia.....                  | 846,984                       | 349                      | 107                      | 18.12                             | —              | 13.72                 | 1.14           | .29                  |  |
| Brooklyn.....                      | 566,689                       | 224                      | 81                       | 23.19                             | 14.61          | 9.37                  | 1.24           | 9.37                 |  |
| Chicago.....                       | 503,204                       | 178                      | 76                       | 36.40                             | 15.72          | 11.76                 | 6.16           | 2.80                 |  |
| Boston.....                        | 362,535                       | 166                      | 37                       | 17.47                             | 14.46          | 9.64                  | 2.41           | 2.41                 |  |
| St. Louis.....                     | 350,522                       | —                        | —                        | —                                 | —              | —                     | —              | —                    |  |
| Baltimore.....                     | 332,190                       | 157                      | 76                       | 43.13                             | 5.09           | 20.38                 | .64            | 4.46                 |  |
| Cincinnati.....                    | 255,708                       | 93                       | 34                       | 19.38                             | 17.21          | 6.45                  | 2.15           | 1.08                 |  |
| New Orleans.....                   | 216,140                       | 121                      | 34                       | 14.88                             | 8.26           | —                     | —              | 6.01                 |  |
| District of Columbia.....          | 177,638                       | 58                       | 26                       | 13.79                             | —              | 6.90                  | 1.72           | 1.72                 |  |
| Pittsburg.....                     | 156,381                       | 71                       | 24                       | 30.98                             | 16.90          | 11.27                 | 11.27          | 2.82                 |  |
| Buffalo.....                       | 155,137                       | 80                       | 25                       | 41.25                             | 3.75           | 19.75                 | 7.50           | —                    |  |
| Milwaukee.....                     | 115,578                       | 42                       | 22                       | 14.28                             | 7.14           | 9.52                  | —              | 2.38                 |  |
| Providence.....                    | 104,857                       | 62                       | 9                        | 32.26                             | 8.06           | 6.45                  | 22.58          | —                    |  |
| New Haven.....                     | 62,882                        | 23                       | 7                        | 21.74                             | 13.04          | 13.04                 | 4.35           | —                    |  |
| Charleston.....                    | 49,999                        | 41                       | 10                       | 24.39                             | 7.32           | 14.63                 | 4.88           | —                    |  |
| Nashville.....                     | 43,461                        | 25                       | 8                        | 12.00                             | 4.00           | 4.00                  | 4.00           | —                    |  |
| Lowell.....                        | 59,485                        | 11                       | —                        | 9.09                              | 36.36          | 9.09                  | —              | —                    |  |
| Worcester.....                     | 58,295                        | 13                       | 5                        | 14.38                             | 7.69           | —                     | —              | —                    |  |
| Cambridge.....                     | 52,740                        | 14                       | 3                        | 57.14                             | 7.14           | 21.45                 | —              | 14.28                |  |
| Fall River.....                    | 49,006                        | 28                       | 11                       | 35.71                             | 14.28          | 4.14                  | —              | 21.42                |  |
| Lawrence.....                      | 39,178                        | —                        | —                        | —                                 | —              | —                     | —              | —                    |  |
| Lynn.....                          | 38,284                        | 12                       | 4                        | 16.66                             | —              | 16.66                 | —              | —                    |  |
| Springfield.....                   | 33,340                        | —                        | —                        | —                                 | —              | —                     | —              | —                    |  |
| Salem.....                         | 27,598                        | 6                        | —                        | —                                 | —              | —                     | —              | —                    |  |
| New Bedford.....                   | 26,875                        | 8                        | —                        | —                                 | —              | —                     | —              | —                    |  |
| Somerville.....                    | 24,985                        | 12                       | 2                        | 33.33                             | —              | 25.00                 | —              | —                    |  |
| Holyoke.....                       | 21,851                        | 14                       | 6                        | 57.14                             | 7.14           | 28.57                 | 7.14           | —                    |  |
| Chelsea.....                       | 21,785                        | 7                        | 2                        | 28.56                             | 1.43           | 1.43                  | —              | —                    |  |
| Taunton.....                       | 21,213                        | 4                        | 0                        | 25.00                             | —              | —                     | 25.00          | —                    |  |
| Gloucester.....                    | 19,329                        | 5                        | 2                        | 40.00                             | 20.00          | 40.00                 | —              | —                    |  |
| Haverhill.....                     | 18,475                        | 3                        | 1                        | —                                 | —              | —                     | —              | —                    |  |
| Newton.....                        | 16,995                        | —                        | —                        | —                                 | —              | —                     | —              | —                    |  |
| Brookton.....                      | 13,608                        | 9                        | 3                        | 66.66                             | 11.11          | 66.66                 | —              | —                    |  |
| Newburyport.....                   | 13,537                        | 5                        | 2                        | 40.00                             | —              | 40.00                 | —              | —                    |  |
| Fitchburg.....                     | 12,405                        | 4                        | 1                        | —                                 | —              | —                     | —              | —                    |  |
| Malden.....                        | 12,017                        | 6                        | 3                        | —                                 | —              | —                     | —              | —                    |  |
| Seventeen Massachusetts towns..... | 128,128                       | 33                       | 6                        | 39.39                             | —              | 18.18                 | 3.03           | 3.03                 |  |

Deaths reported 2437 (no report from St. Louis); under five years of age 822; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 572, consumption 376, lung diseases 251, diphtheria and croup 248, typhoid fever 50, diarrhoeal diseases 62, scarlet fever 62, malarial fevers 38, small-pox 27, whooping-cough 18, cerebro-spinal meningitis 12, puerperal fever 10, measles eight, erysipelas seven. From *scarlet fever*, Brooklyn 12, Chicago 11, Buffalo nine, New York and Cincinnati seven each, Philadelphia six, Baltimore four, Boston three, Providence two, District of Columbia and Milwaukee one each. From *malarial fevers*, New York 12, New Orleans eight, Brooklyn six, Chicago three, Baltimore and Charleston two each, Cincinnati, New Haven, Nashville, and North Adams one each. From *small-pox*, Baltimore 18, Philadelphia four, Chicago and Pittsburg two each, New Orleans &c. From *whooping-cough*, New York eight, Brooklyn four, Chicago two, Boston, New Orleans, Pittsburg, and Holyoke one each. From *cerebro-spinal meningitis*, New York four, Cambridge three, Buffalo two, Baltimore, Worcester, and Chicopee one each. From *puerperal fever*, Chicago three, New York, Pittsburg, Buffalo, Somerville, Chelsea, North Adams, and Spencer one each. From *measles*, New York five, Chicago, Baltimore, and Fall River one each. From *erysipelas*, Chicago and Holyoke two each, Boston, Cincinnati, and Worcester one each.

One hundred and forty-two cases of small-pox were re-

ported in Baltimore, Pittsburg seven, Cincinnati three; diphtheria 65, scarlet fever 28, typhoid fever 14, in Boston; scarlet fever 24 and diphtheria 29, in Milwaukee.

In 24 cities and towns of Massachusetts, with a population of 829,038 (population of the State 1,783,086), the total death rate for the week was 18.81 against 17.48 and 19.42, for the previous two weeks.

In the 28 English towns, with an estimated population of 8,469,571, for the week ending November 11th, the death-rate was 21.7. Deaths reported 3522: acute diseases of the respiratory organs (London) 330, scarlet fever 131, measles 101, fever 98, diarrhoea 59, whooping-cough 46, diphtheria 27, small-pox (London four, Wolverhampton and Newcastle one each) six. The death-rates ranged from 12.9 in Brighton to 32.4 in Sunderland; Leicester 25.7; Derby 18.7; Bradford 19.8; London 20; Birmingham 21.5; Nottingham 22.6; Birkenhead 24.1; Leeds 26.8; Liverpool 28.2. In Edinburgh 17.3; Glasgow 24; Dublin 27.7.

For the week ending November 11th, in the Swiss towns, there were 17 deaths from lung diseases, diarrhoeal diseases 17, consumption 15, scarlet fever, erysipelas, diphtheria and croup three each, typhoid fever two, measles one. The death-rates were, at Geneva 16.5; Zurich 14.2; Basle 11.4; Berne 23.9.

The meteorological record for the week ending November 25th in Boston was as follows, according to observations furnished by Sergt. O. B. Cole, of the U. S. Signal Corps:—

| Date.            | Barom-eter. | Thermom-eter. |          |          |            | Relative Humidity. |             |             |            | Direction of Wind. |             |            | Velocity of Wind. |             |            | State of Weather. <sup>1</sup> |             |                       | Rainfall.         |  |
|------------------|-------------|---------------|----------|----------|------------|--------------------|-------------|-------------|------------|--------------------|-------------|------------|-------------------|-------------|------------|--------------------------------|-------------|-----------------------|-------------------|--|
| November, 1882.  | Daily Mean. | Daily Mean.   | Maximum. | Minimum. | 7.23 A. M. | 3.23 P. M.         | 11.23 P. M. | Daily Mean. | 7.23 A. M. | 3.23 P. M.         | 11.23 P. M. | 7.23 A. M. | 3.23 P. M.        | 11.23 P. M. | 7.23 A. M. | 3.23 P. M.                     | 11.23 P. M. | Duration, Hrs. & Min. | Amount in inches. |  |
| Sun., 19         | 30.024      | 27            | 34       | 20       | 70         | 60                 | 78          | 69          | NW         | NW                 | NW          | 10         | 11                | 11          | C          | C                              | C           | —                     | —                 |  |
| Mon., 20         | 29.910      | 30            | 38       | 23       | 73         | 79                 | 88          | 80          | NW         | NW                 | NW          | 12         | 13                | 15          | C          | C                              | C           | —                     | —                 |  |
| Tues., 21        | 29.901      | 33            | 44       | 25       | 76         | 48                 | 71          | 65          | NW         | SE                 | SE          | 9          | 4                 | 2           | C          | C                              | C           | —                     | —                 |  |
| Wed., 22         | 29.904      | 35            | 45       | 29       | 77         | 46                 | 68          | 64          | NW         | NW                 | NW          | 12         | 10                | 10          | C          | C                              | C           | —                     | —                 |  |
| Thurs., 23       | 30.042      | 39            | 52       | 28       | 77         | 56                 | 73          | 69          | W          | S                  | S           | 8          | 6                 | 4           | C          | F                              | C           | —                     | —                 |  |
| Fri., 24         | 29.780      | 42            | 54       | 35       | 93         | 49                 | 74          | 72          | S          | W                  | W           | 9          | 12                | 11          | O          | F                              | O           | —                     | —                 |  |
| Sat., 25         | 30.003      | 34            | 39       | 28       | 61         | 38                 | 69          | 56          | W          | NW                 | NW          | 16         | 20                | 10          | C          | F                              | C           | —                     | —                 |  |
| Means, the week. | 29.938      | 34            |          |          |            |                    |             | 68          |            |                    |             |            |                   |             |            |                                |             | —                     | —                 |  |

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; X., clearing.

#### OBITUARY. DR. GEORGE E. MASON.

At a special meeting of the Providence Medical Association, held Friday evening, December 1, 1882, Dr. E. M. Harris presiding, the following eulogy was presented:—  
George Edward Mason, M. D., a member of this Association since 1866, died of double pneumonia on Tuesday, November 28, 1882, in the forty-third year of his age.

We, his associates, do hereby testify our sorrow on learning of his sudden and untimely death in the prime of life, and wish to express our consciousness of his loss and appreciation of his worth, particularly his unusual skill, ability, and genius as a surgeon, his sound, practical judgment as a physician, and his self-sacrificing, sympathetic, and humane character.

Although we have been brought less into personal contact with him for the past few years than formerly, we will ever hold green in our memories the enviable position he held, and the great service he has rendered to so many of his fellow men by his professional skill and devotion.

As it is desired, that these minutes be recorded and published in the Providence Journal and Press and the Boston Medical and Surgical Journal, and that a copy be sent to his widow, and that we as a body attend his funeral.

J. W. MITCHELL, M. D.,  
J. W. C. ELY, M. D., } Committee.  
H. G. MILLER, M. D., }

The above was adopted by the unanimous vote of the Association.  
WILLIAM R. WHITE, M. D., Secretary.

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM NOVEMBER 17, 1882, TO DECEMBER 1, 1882.

McKEL, JAMES C., major and surgeon. Now awaiting orders, is assigned to duty in the Department of California. S. O., paragraph 10, No. 273, A. G. O., November 23, 1882.

ALDEN, CHARLES H., major and surgeon. At expiration of present leave to report to the commanding general, Department of Dakota, for assignment to duty. S. O., paragraph 10, No. 273, A. G. O., November 23, 1882.

BILL, JOSEPH H., major and surgeon. At expiration of present leave to report to the commanding general, Department of the Platte, for assignment to duty. S. O., paragraph 10, No. 273, A. G. O., November 23, 1882.

MEDORA, BENJAMIN, first lieutenant and assistant surgeon, will be relieved from duty at Willet's Point, New York, and assigned to duty in the Department of the Columbia. S. O., paragraph 10, No. 273, A. G. O., November 23, 1882.

BAVELL, RICHARDS, captain and assistant surgeon. The leave of absence granted November 1, 1882, is extended five months. S. O., paragraph 11, No. 273, A. G. O., November 23, 1882.

BROWN, PAUL R., assistant surgeon. The leave of absence granted May 29, 1882, is extended six months on surgeon's certificate of disability. S. O., paragraph 7, No. 273, A. G. O., November 23, 1882.

SMITH, ANDREW K., major and surgeon. At the expiration of his present sick leave will be assigned to duty at Willet's

Point, N. Y. S. O., paragraph 10, No. 273, A. G. O., November 23, 1882.

CORSON, JOSEPH K., assistant surgeon, is assigned to duty at Jefferson Barracks, Mo. S. O., paragraph 8, No. 273, A. G. O., November 23, 1882.

CLEARY, PETER, J. A., captain and assistant surgeon, now awaiting orders, will report to the commanding general, Department of Dakota, for assignment to duty. S. O., paragraph 10, No. 273, A. G. O., November 23, 1882.

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE MARINE HOSPITAL SERVICE, JULY 1, 1882, TO SEPTEMBER 30, 1882.

BURTON, W. H. H., surgeon. To inspect keepers and crews of Life Saving Service. July 11, 1882.

MILLER, T. W., surgeon. To inspect keepers and crews of Life Saving Service. August 7, 1882.

WYMAN, WALTER, surgeon. To inspect keepers and crews of Life Saving Service.

LONG, W. H., surgeon. Granted leave of absence for ten days. July 1, 1882. Granted leave of absence for fourteen days. September 16, 1882.

MURRAY, R. D., surgeon. To proceed to Brownsville, Texas. August 21, 1882.

PURVIANCE, GEORGE, surgeon. To inspect keepers and crews of Life Saving Service. July 13 and 18, 1882. To report for temporary duty at Washington. August 23, 1882. To report for temporary duty to Chairman Board of Examiners Revenue Bark Chase, at Norfolk. August 26, 1882.

SMITH, HENRY, surgeon. Granted leave of absence for thirty days. July 5, 1882.

FISHER, J. C., passed assistant surgeon. To report for temporary duty to Chairman Board of Examiners Revenue Bark Chase, at Norfolk. August 26, 1882.

IRWIN, FAIRFAX, passed assistant surgeon. Granted leave of absence for thirty days. July 28, 1882.

CARTER, H. B., passed assistant surgeon. To proceed to Hickman, Ky., for temporary duty. August 10, 1882. To proceed to Memphis, Tenn., for temporary duty. August 12, 1882.

To proceed to Little Rock, Devall's Bluff, and Newport, Ark., as inspector. September 16 and 21, 1882.

PORTER, F. D., assistant surgeon. To proceed to St. Louis, Mo., for temporary duty. August 21, 1882. To report to Surgeon Sawtelle for examination for promotion. September 1, 1882. To rejoin his station (Chicago) when relieved by Assistant Surgeon Upham. September 1, 1882.

BESSON, J. A., assistant surgeon. To proceed to Cairo, Ill., for temporary duty. August 12, 1882.

DEVAN, S. C., assistant surgeon. To join Revenue Steamer Corwin for cruise in Alaskan waters. July 10, 1882.

WRIGHT, F. M., assistant surgeon. To proceed to Wilmington, N. C., for temporary duty. July 26, 1882. To proceed to St. Louis, Mo., for temporary duty. September 1, 1882.

#### PROMOTIONS.

PORTER, F. D., passed assistant surgeon. Promoted and appointed passed assistant surgeon by the Secretary of the Treasury, from October 1, 1882. September 1, 1882.

## Original Articles.

TRACHEOTOMY, WITH A REPORT OF THREE CASES.<sup>1</sup>

BY M. H. RICHARDSON, M. D.

The operation of opening the trachea is one of great interest and importance, especially to the young men of the profession, for it is frequently the first difficult operation they are called upon to perform. All who have had any experience with tracheotomy will agree with me, I think, in saying that no other surgical procedure calls for greater skill, coolness, and nerve than this sometimes called minor operation.

The object of this paper is to consider the different methods of performing the operation now in use, to review the anatomy of the anterior cervical region, and finally to discuss a few details of treatment that may arise.

CASE I. Annie Waters, six years of age. I was called to see this girl on the morning of October 29, 1876. She had been sick with sore throat for several days, but not confined to the bed. She was breathing noisily, with considerable difficulty. Examination of fauces revealed grayish white patches on tonsils and uvula. Cervical glands enlarged and tender. Constitutional symptoms not marked. There was considerable sinking of epigastrium and intercostal spaces, as well as dilation of the alæ nasi, during inspiration. Some cyanosis of countenance. Diagnosis diphtheritic laryngitis.

The patient was at once removed to the kitchen, which was filled with warm moist air. Some relief was obtained for the most urgent symptoms. In the afternoon of this day, the dyspnea having become excessive, by the advice and with the aid of Dr. Porter, the trachea was opened just below the cricoid cartilage. Either had been given for the purpose of keeping the child quiet. The first cut had scarcely been made when breathing ceased entirely, and it became necessary to complete the operation quickly. The parts were rapidly dissected with the blade of the scalpel, the median line being carefully sought, and the trachea was exposed and opened with the greatest ease. After keeping the tracheal wound open with dilators a few moments to allow the escape of bloody mucus, diphtheritic membrane, etc., the canula was introduced and fixed in the usual manner.

In this case the operation was very simple. There were no complications whatever. The trachea was sought for where it lies nearest the surface, and all the structures covering it were cut through. The child made a rapid and complete recovery. She was kept in the kitchen all the time in a warm and moist atmosphere. Stimulants were freely given, and abundant nourishment. She had unremitting care and attention from Drs. Morse and Elliot, at that time medical students, to whose devotion she undoubtedly owes her recovery. The great source of danger to the patient was the clogging of the canula. This was so great that one night it was necessary to remove the whole tube and clear the trachea by means of long forceps and feathers. The tube, which was the ordinary double one, with fenestra, was removed in about two weeks. The wound closed with great rapidity, and the child regained

very soon her usual health and voice. I saw her in May last, and she was in perfect health. An irregular cicatrix just below the cricoid cartilage was the only evidence of the operation.

The diagnosis of diphtheria was confirmed a short time after by the severe sickness of Dr. Morse, who contracted diphtheria while in charge of the case.

CASE II. One Friday morning in March, 1877, I was called to see H. T., four years of age, a very robust child of English parentage. He had been ailing a few days, but nothing was thought of it till he became "croupy." An examination of the throat gave unmistakable evidence of the diphtheritic process. There was the usual appearance of a sloughing mucous membrane. Laryngeal symptoms existed, but were not severe. The child was at once placed in the kitchen and a washboiler put on the stove. The moistening of the air which followed caused considerable amelioration of the symptoms. In the evening the patient was still breathing with sufficient ease. At about 9.30 that night I was called in great haste, and found the child in much distress. He was breathing with extreme difficulty, and was greatly cyanosed. Tracheotomy was advised at once, and was performed with the assistance of Drs. Haven and Morse. Great difficulty in this case was anticipated. The child had a short and very fat neck. Cyanosis was extreme, and the veins very much distended. The light was very bad. An incision was made from just below the thyroid cartilage about two inches towards the sternum, exposing part of the crico-thyroid membrane, cricoid cartilage, isthmus of the thyroid, etc. Hardly had the operation been begun when the child ceased to breathe. A moment later a large vein was cut which obscured everything. Some time was lost in unsuccessful attempts to tie the bleeding vessel, when it became evident that the trachea must be opened instantly, the child being practically dead.

With the finger as a guide I opened the larynx and trachea from the crico-thyroid membrane down through the isthmus of the thyroid. No bubbling of air followed, the hemorrhage continued very great. The child was black in the face, and had not inspired any air whatever for at least three minutes. It being impossible to introduce either canula or catheter through this wound, I continued my incision through all the superlying structures, and the trachea itself in the median line, put in the dilators, introduced a large-sized gum-elastic catheter, and expanded the child's lungs fully. An assistant then compressed the thoracic wall with considerable force. By this means a large amount of blood was expelled from the trachea, and two or three repetitions of the process were followed by natural and successful attempts of the patient to breathe. Meanwhile the bleeding vessel had been ligated by an assistant.

The object of the operation was successfully accomplished. The breathing became perfectly free and quiet. The patient was stimulated and nourished as much as possible. He had constant medical care and supervision by students. The air was kept so moist that the paper fell from the walls. Gauze was kept over the tube (the same kind as in the previous case).

Sunday following the operation a cast of the trachea down to its bifurcation was coughed up and removed. The breathing had been for some hours impeded, in spite of all attempts to keep the trachea clear by means of a long feather. Quiet respiration now con-

<sup>1</sup> Read before the Boston Society for Medical Observation, November 16, 1882.

tinned. On Tuesday, four days after the operation, the child died with symptoms of constitutional infection.

CASE III. J. H., eleven months old, in the winter of 1877-78, was referred to me, as Dispensary physician, by Dr. Knight. I found a child with the most wretched surroundings in a back alley of Pitts Street. The child had a very large head, almost suggesting hydrocephalus. The anterior fontanelle seemed as large as ever, and the posterior had made no attempts at closing. Moreover, the parietal bones did not meet within half an inch.

The boy was poorly fed and pale. There was great dyspnoea. The mother said it had gradually appeared without apparent cause. The only signs present were a considerable swelling of the cervical glands, especially those on the right side of the neck. These by their mere presence seemed to cause the laryngeal stenosis.

After watching the case a few days, and observing that the symptoms had become aggravated, with the aid of Drs. Cabot and Mixer I opened the trachea. The patient, though poorly nourished, had quite a fat neck. As in the two preceding cases, the administration of ether produced complete asphyxia. After two or three very diffident respirations they ceased entirely, and haste became the main object. The incision was made a little lower than in the preceding case. The tissues were quickly and safely divided through the fascia, which, springing from the deep cervical fascia, investing the thyroid body, descends to the sternum, and forms a covering to the sterno-hyoid and sterno-thyroid muscles. From this point the dissection was carried on by the use of the director and other blunt instruments. The greatest ease was found in exposing the trachea, putting aside the thyroid body and veins so as to show the glistening rings of the trachea. Two enormously dilated veins were found to run side by side anterior to the trachea, in close apposition. These were easily separated. The trachea was found to be very small, barely admitting the smallest-sized tracheal tube, and some little difficulty was experienced in its introduction. Meanwhile the asphyxia had gone on to an extreme degree, and the patient was resuscitated as in Case II, with some difficulty, by means of the gum-elastic catheter and compressing the thorax. [In this and in similar cases I have found this method of waking up, so to speak, the suspended respiratory functions of the greatest benefit.] In this operation there was no hemorrhage, though the difficulties were much greater than in either of the preceding cases.

The patient recovered well from the operation, and is now a large and strong boy. Very little was done in the way of after-treatment. The tube was changed once or twice, and the greatest possible difficulty was had in replacing it, the child becoming at once cyanotic, struggling at its throat, and finally ceasing to breathe. This difficulty in reintroducing the canula I could only account for on the theory of the tube being too large for the trachea, or by the presence of granulation masses, which, filling the tracheal wound, became partially detached on attempts to introduce the canula. After remaining about six months the tube was withdrawn permanently. There was some difficulty at first in re-establishing laryngeal respiration, as some of the original stridor still existed, but this gradually subsided. In May of this year I saw the boy, and found him a very strong and robust child, with a

slight scar in the neck as the only relic of his original disease.

A *résumé* of these cases suggests two or three points directly connected with the anatomy and surgery of this operation, and one or two interesting topics for discussion concerning methods of after-treatment.

#### (1.) METHOD OF OPERATING.

The common method of performing tracheotomy among modern surgeons is to make an incision from the cricoid cartilage down towards the sternum about two inches, the child lying on its back with the neck raised on a pillow and the head extended. The point of election is about half an inch below the cricoid cartilage, and below the isthmus of the thyroid. If possible a careful or, if necessary, a rapid dissection may be made through the soft parts covering the trachea. A hook may be used to draw the trachea forward for incision if it is deeply placed. Otherwise it may be opened with the index finger as guide. Bleeding arteries should be tied; veins will stop bleeding with the relief of asphyxia by the first few inspirations. (Bryant.)

#### ROSE'S METHOD.

Among the modifications of the ordinary method is that in the position of Rose, in which the head is allowed to hang down over the end of the table at right angles to the body.

Punier<sup>1</sup> reports one hundred and one cases of tracheotomy for diphtheria, in which the pre-dilection was in favor of operating with the head hanging.

Wolf<sup>2</sup> recommends this position, and says that the increase in the amount of hemorrhage due to this position is very slight.

Pfeil-Schneider, without knowing of Wolf's paper, came to a similar conclusion, and recommended the position because the field is well illuminated, the trachea is well drawn out, and especially because blood does not enter the lungs.

Dr. Bradford reports a case<sup>3</sup> in which he performed the operation in this method, in which there was no difficulty beyond the unusual position.

I have had no experience in tracheotomy by this method, but I have seen several operations about the tongue and jaws in which the respiratory passages were kept perfectly free from hemorrhage by this method. The respiration was somewhat labored, and in a case of laryngeal obstruction I should expect serious difficulty in the child's breathing.

#### THERMO-CAUTERY.

Dr. J. Bockel<sup>4</sup> reports twenty cases of tracheotomy. He prefers the use of the thermo-cautery to that of the knife where he can choose his own time of operating. In twenty-one cases there were twelve recoveries and nine deaths. There was no hemorrhage in eighteen out of twenty cases. The thyroid body was divided without hemorrhage with the instrument at incandescence. He claims as advantage the possibility of dividing the thyroid body without hemorrhage, and that it is therefore unnecessary to draw the isthmus up or down. The trachea can thus be opened at its most superficial portion (that is, directly under the thyroid isthmus), and therefore at the point of the greatest security. See-

<sup>1</sup> In *Deut. Zeit. für Chirurgie*, xiv.

<sup>2</sup> *Volkman's Sammlung. Klin. Vort.*

<sup>3</sup> *Archives of Laryngology*, vol. i., No. 2.

<sup>4</sup> *Archives of Laryngology*, vol. i., p. 205.

ondary hæmorrhage did not occur. In four cases where it became necessary to complete the operation with the bistoury, hæmorrhage was so profuse as to give him great anxiety. In two of these cases the hæmorrhage occurred before opening the trachea, and in two the blood seemed to come from the tracheal mucous membrane.

Berger's communication before the Chirurgical Society of Paris on the use of the galvano-cautery was followed by a great difference of opinion, the majority being apparently against its use.

M. Auger reports a case of tracheotomy by the galvano-cautery which had been used down to the trachea, when a bistoury was used.<sup>1</sup>

#### ISTHMUS OF THE THYROID.

There has been a great difference of opinion as to the point of election with regard to this structure. Bryant recommends that the isthmus be pushed upwards, that the incision be made below the isthmus, though it may be disregarded in infants.

Parker, in the *Lancet*, 1878, recommends the high operation, and in his book on Tracheotomy in Laryngeal Diphtheria advises the performance of the high operation. Sometimes the cricoid may be cut.

Fouls<sup>2</sup> refers to Bryant, Erichsen, and other authorities as saying that the isthmus of the thyroid may be cut without danger of hæmorrhage. He quotes Hyrtl that there is no anastomosis between opposite sides of the thyroid gland. Fouls mentions cases in which the operation had been done too high up, namely, one in which the tube had been pushed into the larynx at the base of the epiglottis, and one in which the tube had gone into the pouch of Morgagni. In other cases it had been too low down, getting into the thyroid plexus of veins, the occasional *thyroidea ima* artery, or even the innominate vein itself. He therefore selects the isthmus itself as best and safest. Begin, therefore, at the crico-thyroid membrane and go downwards as far as necessary.

Dr. Porter, in the discussion of Dr. Bradford's paper, considers the isthmus of the thyroid a *surgical bugbear*, and has repeatedly torn it with a director.

Holden, in the Landmarks, recommends incising the cricoid and pushing down the isthmus.

#### TRACHEOTOMY IN ONE STROKE.

Saint-Germain reports, in the *Gazette des Hôpitaux*, two hundred and twenty-seven operations. He completes the operation in one stroke. The knife is introduced into the trachea through the crico-thyroid membrane, and by an outward stroke all the tissues are divided at once.

#### ANATOMY OF THE ANTERIOR SURGICAL REGION.

The most important anatomical points to be borne in mind in this operation are, first, the external landmarks of the neck. The thyroid and cricoid cartilages can be made out distinctly even in fat-necked children. The lobes of the thyroid can be felt on either side. It should be borne in mind that the cricoid cartilage is much nearer the sternum than one would suppose. When the head is in the erect position the distance is barely an inch and a half in a person of ordinary height. By extension three quarters of an inch may be gained. There are generally not more than seven

or eight rings of the trachea above the sternum. The second, third, and fourth are covered by the isthmus of the thyroid. The trachea recedes from the surface rapidly as it descends, so that in a short, fat-necked adult it is an inch and a half below the skin.<sup>3</sup> In a child of three the trachea lies one fourth of an inch beneath the skin, at the upper level of the isthmus, about at the first ring; three centimetres (four fifths inches) below this, in the same child, we come to the level of the clavicle, and find the trachea to be at a depth of eleven sixteenths of an inch, and covered over in front by the thymus gland (measured from Dr. Dwight's frozen sections). The other important structures are the median line separating the sterno-hyoid and thyroid muscles, thyroidean veins, and the outlying vessels. The deep cervical fascia has an important bearing on this operation (first suggested by Dr. A. T. Cabot) when it is performed below the isthmus of the thyroid.<sup>4</sup> Passing forwards from the anterior border of the trapezius muscle, under the platysma, it invests the sterno-cleido-mastoid, and forms a membranous covering for the anterior triangle. In front it is attached to the hyoid bone, invests the thyroid body, and then splits as it descends to become attached to the sternum, the superficial layer to the anterior border, and the deep to the posterior border of that bone, having closely invested the sterno-hyoid and thyroid bodies (Quain). In the sub-thyroidean operation this fascia is of considerable importance. On arriving at the septum between the sterno-hyoid and thyroid muscles attempts to tear apart these muscles will be unsuccessful until this fascia has been divided with the knife. Having done this it will be very easy to complete with the director a bloodless dissection to the tracheal rings.

It must be borne in mind, also, that a plexus of veins invests the thyroid body, those of the opposite sides communicating by small branches across the trachea. From this plexus the blood unites to form the two inferior thyroid veins, which descend on either side of the trachea to join the corresponding brachio-cephalic veins. That on the left side lies more closely upon them than the right, which diverges somewhat (Quain). It is from these veins that the most dangerous hæmorrhage comes. They are wounded when the incision is made through the tracheal rings—at the most unfortunate time. If possible, therefore, the trachea should not be incised until its pink-white surface is distinctly apparent between the separated veins.

There remain to be mentioned a few variations from the normal arrangement of the parts.

The left innominate vein may be placed unusually high up.

Pauley, already quoted, noticed in one hundred and one cases but one vascular anomaly—a carotid artery ascending on the right side of the trachea.

MacLewain, quoted by Erichsen, has seen the innominate cross the trachea just where the operation ought to be performed.

Bellamy, in a foot-note to his translation of Branne, mentioned a case of a man of sixty, in whom he found the innominate artery running across the isthmus.

Symington,<sup>5</sup> in an article on the anatomical rela-

<sup>3</sup> Holden's Landmarks.

<sup>4</sup> Since writing this my attention has been called to an article by Pilcher (*Annals of Anatomy and Surgery*, 1881), in which the relations of this anatomical structure are fully considered, and its importance in tracheotomy carefully pointed out.

<sup>5</sup> Symington, in *Edinburgh Medical Journal*.

<sup>1</sup> *Gazette Medicale*.

<sup>2</sup> Some Points in Tracheotomy, Glasgow Medical Journal.

tions of the trachea in a child, describes a mesial section through trachea of frozen child two years old. He first observed the increasing distance from the surface as the trachea descended, being one half inch deep just below level of the cricoid, one inch where it was crossed by the innominate, and one and one half inch at level of upper border of manubrium. The isthmus of the thyroid extends downwards from the cricoid one half inch, lying in front of the upper five rings of the trachea. The thymus gland extends from lower border of thyroid downwards to pericardium.

The innominate artery and lower innominate vein lie in front of the trachea. The artery is only one half inch below the isthmus of the thyroid, and in close apposition to the trachea. The vein is lower, under the manubrium sterni.<sup>1</sup>

Symington disapproves of the low operation except in the hands of good anatomists and experienced surgeons. Others should keep above the isthmus. He quotes Spence and Joseph Bell as in favor of the low operation, and Chiene in favor of the high.

#### USES OF MOIST AIR.

In the first two cases reported the patient was kept in a warm and moist atmosphere. The first case seemed to be very much benefited by it. I have since thought that in the second case the treatment was overdone. The room was kept so moist that the paper fell from the walls. The child was in a state of uninterrupted perspiration, and it seems to me now that he was injured to some extent. In other varieties of laryngostenosis, especially in the spasmodic croup, I have found direct inhalations of the spray from the steam atomizer give immediate relief. In the third case the larynx and trachea being healthy, only moist gauze was used.

In this method of after-treatment I find a great difference of opinion. Parker praises moist air, and uses a canopy over the bed for the purpose of confining the steam. The amount of moisture depends on the amount of tracheal secretion. The less secretion the more steam. Punier praises the use of warm steam in cases of tracheotomy for diphtheria.

On the other hand Foulis does not believe that the child is benefited by having a damp fog playing over him all the time.

#### ANÆSTHESIA.

There is one other point upon which I find very little said or written, which seems, nevertheless, a very important one—the effect of ether on the larynx. In all the cases reported the effect of the anæsthetic was to produce complete stenosis. This may have been due in part to the extension of the head just before making the first incision. Cases are reported where ether or chloroform may cause spasm of the glottis. Mr. Howe, in Guy's Hospital Reports, gives a case in which spasm of the glottis occurred from inhalation of chloroform prior to an operation for stricture of the urethra. At the next attempt ether was used with the same result. Tracheotomy had to be done in each case. I have seen the same thing happen in etherization of a patient with bronchocele, where death was averted by opening the trachea through the tumor.

Parker says an anæsthetic may safely be given.

Enchebelle believes that it may be given always except in cases of extreme croupal dyspnea. The laryngeal

inflammation and obstruction is associated with so much spasm that he thinks the breathing is easier with an anæsthetic than without it. Holmes says there is no objection to the use of chloroform.

In my cases I have been, perhaps, unfortunate in the use of ether. In spite of my experience with it, I should make further trial with it.

I quote Dr. John Homans, who says that he would rather not use ether in a case of severe asphyxia, but would prefer the disadvantage of a struggling patient to the chance of being obliged to hurry through the operation.

#### CASES OF EXTREME EARLY AGE.

There is one other point worthy of remark in the cases reported—the age of the third case. The child at the time of the operation was eleven months. It is so rare for recovery to follow tracheotomy at that age that few cases have been reported. That a very early period of life is not incompatible with a successful issue is proved by the experience of Scoutetten, of Strasburg, who operated on his own child at the age of six weeks with recovery. Bell had a successful case at six and one half months. Taft at seven, Greenfield at ten months, and Cooper at eleven months. Steimeyer has just reported a case of nine weeks old, in which the trachea was the size of a goose quill, and displaced to the left.

Croft reports a case where a child of six months recovered from tracheotomy performed for erysipelatos inflammation of cervical region.

Elias, two successful cases of the operation in the first year of life for diphtheritic croup.

The cannula I have used has been the ordinary double fenestrated tube. Parker recommends as large a tube as can be introduced without actual violence, and approved the angular rather than the quarter circle form.

Foulis carefully adapts the tube to the size of trachea. At birth the trachea measures 4-5 millimetres, and for several months it is not enlarged. He has five different sized tubes, adapted to different ages, from 4 millimetres to 12 millimetres in diameter.

#### CONCLUSIONS.

From the experience of others and from my own, I have arrived at the following conclusions:—

- (1.) The point of election is just below the cricoid isthmus.
- (2.) The isthmus of the thyroid, if recognized, should be pushed down, the cervical fascia of the median line having first been incised, and the trachea exposed by carefully separating the parts with a director; or
- (3.) The thyroid isthmus may be entirely disregarded, and the parts freely incised, in which case all hæmorrhage should be checked before opening the trachea.
- (4.) Deliberation, careful dissection, and a bloodless operation is better than the gain of a few seconds at the expense of hæmorrhage into the trachea.
- (5.) Ether should be used except in extreme asphyxia.

—The *Medical Times* asserts editorially that at the Philadelphia Hospital the public clinic room where ovariectomy and other most delicate operations are performed is situated directly between a ward devoted to erysipelas and a mortuary.

<sup>1</sup> Edinburgh Medical Journal, April, 1881.



MEDICO-LEGAL RELATIONS OF INSANITY.<sup>1</sup>

BY IRA RUSSELL, M. D.

THE subject assigned me is one of great difficulty. Much has been written upon it by men of profound learning and superior ability, and the conclusions formed are matters of controversy. Some writers, like Ray, seem to make too much of unsoundness of mind as an excuse for crime, while others go to the opposite extreme, and make acts punishable that are due to disease. The great problems first encountered are, What is mind? and What constitutes insanity?

What is mind? Is it an independent entity distinct from and existing separate from matter, or is it a function of the brain? We only know mind by its properties—thought, reason, love, hate, etc. We only know matter by its properties, such as extension, weight, etc. None of the properties of either are common to both. We see matter and mind existing together; we see matter without mind; hence we infer that as mind and matter have no properties in common, mind can exist without or disconnected with matter. Assuming, then, that mind is an immaterial entity, can it be diseased? I quote some of the highest authorities upon this point. Dr. Forbes Winslow, the able editor of the *Psychological Journal* of London, says he has examined no less than ten thousand cases of insanity, reported by different authors, with a view to ascertain if there was physical disease as the basis of the trouble, and the result is perfectly satisfactory to him of the material cause of mental derangement. Yet he says, "I do not maintain that I am in a position to describe the peculiar and specific alterations which some allege to give origin to that derangement of the action of thought to which we apply the term insanity. Admitting such a discovery to be beyond the range of finite intelligence, it does not, in the slightest degree, militate against the material view just propounded." Dr. D. Meredith Reese thinks "the brain is now recognized as the organ or instrument of the mind, in every enlightened creed, either among jurists, theologians, or physicians. The mind sits enthroned in its immaterial majesty, employing the brain and its continuous elongation in the nerves, not only in directing all the intellectual, moral, and instinctive faculties, but in the perception by the several senses, and in the mobility of the voluntary muscles, in obedience to the will, and in a subordinate way, by innervation, it may be regarded as enabling every organ and tissue in the human body to perform its destined function in conformity to the vital laws." Thus the ablest advocates of the doctrine that insanity depends always upon disease of the structure of the brain, or of some other part of the body, are unable to tell what or where it is.

On the other hand, difficulties of equal and perhaps greater magnitude stare those psychologists in the face who reject the material explanation, and thereby admit, if not squarely declare, that the immaterial, immortal essence of pure thought may be subject to disease. That this God-like principle is liable to become diseased like the grosser parts of the singularly intricate combination we call the physical man? is not this contrary to our conception of that wonderful spirit that thinks within us? If the spiritual principle is subject to disease, why not to death, to complete de-

struction or dissolution, the natural result of disease? "How can that subtle, mental essence, which has neither members nor parts, be disordered? How can the immortal principle within us decay? It cannot be; disease, disorder, decay, all belong to the body, and to the body only; and consequently we must place the essential seat of insanity in the body, not the mind." It does not, however, follow conclusively that because mind is immaterial it cannot become diseased in itself, nor does this view render the immortality of the soul less probable and true. An able writer says, "It is not a purely corporeal disease, like one of the neuroses; it is not a nervous affection merely, but a neurosis and something more; neither is it purely a mental affection or disease. Both mind and body are at fault." According to the views of Feuchterleben, it is their relation that is diseased—of the body to the mind, so that perception is morbid; of the mind to the body, so that volition is disordered. From which, then, does that disturbed relation proceed which, when established, becomes reciprocal?

Perhaps I ought to say that, strictly speaking, insanity is not entirely due to a physical disease as its first cause. Purely mental disturbances are sometimes the cause upon which the physical disease which produces insanity depends. Granting that insanity is a physical disease, can it be defined? Is there a definition that will cover all its phenomena? I have seen no such definition; all attempts to define insanity have been faulty. There is no standard of health or disease; so gradually do they shade into each other, mental as well as physical, that the line between them is an imaginary one.

Who at the close of day can mark where daylight ends and darkness begins? Who can tell where a child passes the line of accountability? Where do virtue and vice shade into each other? Where is the boundary of courage and rashness, between prudence and cowardice, between frugality and avarice, liberality and profligacy? When any or all of these things can be done, then, and not till then, may insanity be defined and its boundaries established.

As medico-legal witnesses we have to trace the line which separates passion, the subtle and shifting transformations of wild, ungovernable, impetuous passion, from the excitement of mania, the nice and shadowy distinction which separates lunacy from malignity, madness from brutality, crime from alienation of mind, vice from mental derangement, and between the delusions of the lunatic and the false reasoning and absurd conclusions of many sane persons. There are many cases of insanity so palpably plain as to admit of no doubt by either physician or layman, but there are a great variety of obscure cases that require the closest scrutiny to arrive at a correct diagnosis. As Maudsley says, in a general way, we may arrange the manifold varieties of insanity into two great divisions, according to the presence or absence of palpable intellectual derangement. The first division will contain all those in whom are insanity of thought or insanity with delusions, intellectual insanity. The second division, all those cases in which, without delusions, there is insanity of feeling and action, and may be called affective or moral insanity. Guiteau, in my opinion, should be considered as belonging to the latter class; he committed an insane act; he was not laboring under any delusion; his plea of divine inspiration was not a delusion, it was a part of his religious belief.

<sup>1</sup> Read before the Massachusetts Medico-Legal Society, October 4, 1882.

In fact this latter form is the most dangerous, as it displays itself in acts and not in thoughts.

Of intellectual insanity there is a great variety. In some the delusions are general and embrace all the intellectual operations, and may be termed general mania. Then there is a large number in whom the insanity pertains to only one thing or subject, while upon all other subjects the intellect is clear. Medical literature is full of such cases, and every insane asylum has numerous illustrations. We have pyromania, kleptomania, etc., etc., each of which has a symptomatology peculiar to itself.

The form of insanity known as general paresis, in its different stages, has many of the symptoms peculiar to the other forms of insanity. Perhaps the first symptom manifested will be some moral obliquity; a person of the strictest moral character, upright in all his transactions, when suffering from this form of insanity not unfrequently becomes grossly immoral and dishonest, and is arrested and punished, to the great chagrin of all his friends.

The disease has its regular course, and after passing through various phases ends in death.

Any one familiar with epilepsy has observed the mental condition that frequently precedes and follows the convulsive attack. The sufferer becomes violent and homicidal, and many of the most horrible murders are perpetrated while he is in this condition. There are cases of masked or abortive epilepsy in which the convulsive paroxysm does not occur. The diseased action manifests itself in convulsion of *ideas*, not of muscles. Several very interesting cases of this kind have come under my observation. In one instance a person, after great mental and physical effort, would become suddenly excited, and abuse his most intimate friends with the most opprobrious language. The attack would pass off, and he would have but an imperfect recollection of what he had said or done. I have known cases where, when the paroxysm had passed, they would accuse others of having said to them what they had said to others.

This class of epilepsies are always dangerous, and rendered more so from the fact that the paroxysms may occur at long intervals, and during the interim they are entirely harmless. Did time permit I could relate many instances of crime committed by persons suffering from the various forms of insanity, but I hasten to consider the question of responsibility.

It being admitted that a person committing a crime is suffering from some one of the various forms of insanity, to what extent should he be regarded as responsible for his acts? The old English Common Law regarded everybody who knew the difference between right and wrong as responsible. Thus in the trial of Arnold—an undoubted lunatic—for shooting at Lord Osoley in 1729, Justice Tracey said, "It is not every kind of frantic humor or something unaccountable in a man's action that points him out to be such a madman as is exempted from punishment. It must be a man totally deprived of his understanding and memory, and who doth not know what he is doing no more than an infant, than a brute, than a wild beast." While the above rule was observed in relation to criminal acts, an entirely different one prevailed in relation to civil matters. Men that were not regarded capable of managing their affairs were held strictly responsible for all criminal acts. On the wild bent test many insane persons have been executed in Great Britain, notably

the case of Bellingham, who was tried and executed for the murder of Spencer Percival in 1812. Although it was perfectly clear that he acted under the influence of an insane delusion, he was tried immediately, and executed without delay. Since then the rulings in the courts of England have been somewhat modified. In 1843 McNaughton was tried and acquitted of the murder of Mr. Drummond, whom he shot under the delusion that he was following him with evil intent and blasting his character.

Much popular alarm and indignation was caused by his acquittal. The House of Lords, participating in the general alarm, propounded several questions to the judges of the courts to obtain from them an authoritative exposition of the law for the future guidance of courts. The judges ruled that to establish a defense on the ground of insanity it must be clearly proven that at the time of committing the act the party accused was laboring under such a defect of reason from disease of mind as not to know the nature and quality of the act he was committing, or, if he did know it, that he did not know he was doing what was wrong. Thus it will be seen that a knowledge of right and wrong is still the legal test for responsibility in Great Britain. To the medical man, acquainted with the protean forms of insanity, this test is far from being satisfactory. Go into any insane asylum and examine the cases of undoubted lunacy, and a large proportion of the inmates will be found to know, and, in a measure, to be influenced by their knowledge of right and wrong.

Many will do things because they know them to be wrong. The true test, in my judgment, should be this. Is the criminal act the result of disease?

The rulings of the courts in this country are in advance of those in England.

Chief Justice Bell, of New Hampshire, says "that a person to be punishable by law must have, in addition to a knowledge of right and wrong, sufficient mental power to control the sudden impulses of his own disordered mind. The power of controlling the thoughts being lost, the power of the will over the conduct may be equally lost." Chief Justice Perley instructed a jury to render a verdict of not guilty if the killing was the result of disease; "that neither delusion nor knowledge of right and wrong, nor design nor cunning in planning and executing the killing and in escaping or avoiding detection, nor ability to recognize acquaintances, or to labor, or transact business, or manage affairs, is, as a matter of law, a test of mental disease; but that all symptoms and all tests of mental disease are purely matters of fact to be determined by the jury." Judge Doe, of New Hampshire, in a lengthy and able charge to the jury, too long for me to quote, says that the product of mental disease "is not a contract, a will, or a crime." I have under my care a patient, crafty, cunning, and treacherous. He is a graduate of Harvard College, has traveled abroad, can talk intelligently in regard to many things, art, poetry, etc., and is fully able to distinguish between right and wrong. He is under the constant watch and care of an attendant. He would not hesitate for a moment to kill his attendant or any one else if by so doing he could accomplish some secret purpose. In law a person accused of crime has the benefit of a doubt as to whether he has committed that crime.

When the plea of insanity is urged in extenuation of crime, and there is a doubt about the sanity of the ac-

cused, it is allowed to have weight in six of the United States, while in the remainder the insanity must be proven. I know that there is a popular feeling that the plea of insanity is often a trumped up one, and that there are physicians who, for a consideration, will testify that the accused is insane, and that many escape deserved punishment upon that plea. The popular indignation against Guiteau has done much to intensify that feeling. Leaving out the question of Guiteau's responsibility, who that is conversant with insanity doubts his unsoundness of mind? Occasionally cases occur like that of General Sickles, who was acquitted on the plea of insanity, when in reality it was the popular opinion that there was a justifiable cause for the crime that influenced the jury to acquit. Doubtless ten insane persons have been executed where one sane person has been acquitted on the plea of insanity. One of the reasons why there is so much skepticism about insanity in the popular mind, and among the general practitioners of medicine, is doubtless owing to the fact that the insane are mostly under the care of asylum physicians. Until recently students in medicine had but little instruction in psychological medicine. When the older members of this Society attended medical lectures, almost nothing was taught respecting insanity, and when we met with cases we sent them to the asylum for treatment, and that, in many instances, when they could have been better cared for at home. We sent them to asylums because they were insane, and we did not feel competent to treat them. It is much easier for an insane person to feign sanity than for a sane person to feign insanity. I might mention numerous cases to substantiate this statement.

The celebrated Erskine relates the following circumstance: "I well remember," says he, "examining for the greater part of a day, in this very place (the Court of King's Bench), an unfortunate gentleman who had indicted a most affectionate brother, together with a keeper of a madhouse at Hoxton, for having imprisoned him as a lunatic, whilst, according to his evidence, he was in his perfect senses. I was, unfortunately, not instructed in what his lunacy consisted, although my instructions left me no doubt of the fact; but not having a clew, he completely foiled me in every attempt to expose his infirmity.

"You may believe that I left no means unemployed which long experience dictated, but without the smallest effect. The day was wasted, and the prosecutor, by the most affecting history of unmerited suffering, appeared to the judge and jury, and to a humane English audience, as the victim of the most wanton and barbarous oppression. At last Dr. Sims came, who had been prevented by business from an earlier attendance; from him I soon learned that the very man whom I had been above an hour ineffectually examining, and with every possible effort which counsel are in the habit of exerting, believed himself to be the Lord and Saviour of mankind, not merely at the time of his confinement, which was alone necessary for my defense, but during the whole time he had been triumphing over every attempt to surprise him in the concealment of his disease. I then affected to lament the indecency of my ignorant examination, when he expressed his forgiveness, and said, with the utmost gravity and emphasis, in the face of the court — 'I am the Christ.' And so the case ended."

How are we to determine whether a person is insane or not? Is it by comparing one person with another?

The civilized man with the savage? The upright, conscientious man with thieves and pickpockets? The man must be compared with himself. Here is a middle-aged man who, all his life, has maintained an unblemished reputation, — an earnest, conscientious, religious man. Perhaps he is detected in some immoral practices, — he commits some dishonest act entirely foreign to the whole tenor of his life, — he is arrested and punished. To the world he appears perfectly sane, but the expert alienist sees the incipient signs of general paralysis of the insane and predicts, with absolute certainty, the end. The localization of function, as taught by Ferrier and others, throws light on partial insanity. Here is a patient that talks incessantly. May we not infer in such a case, that there is an irritative lesion of the oro-lingual region in the third frontal convolution?

Another patient runs or walks continuously in a purposeless manner, and if held down in bed will continue to move his feet. In such a case may we not suppose there is irritation of the postero-parietal lobe of the brain, in which Ferrier has localized crural movements? Another is constantly swinging his arms, and may not this movement be due to irritation of the ascending and frontal gyri, in which the brachial and manual movements are localized?

In the same manner may we not account for mental manifestations, — some one of the faculties of the mind being affected while all others are intact? Take the case of the suicide; may it not be that that part of the brain which presides over the instinctive love of life is dormant? May we not also thus account for many cases of partial insanity? Be this as it may, to what extent shall the partially insane be held responsible for criminal acts? A patient of mine, a physician, had syphiliphobia without any sign or symptom of syphilis, and was pronounced free from the disease by several eminent syphilographers. While his mind was clear and reasoning correct upon any other subject, he deliberately formed the plan to take his own life and that of his wife and child, and would have accomplished his purpose had not his plans been frustrated. Had he committed this act would it not have been in direct consequence of his disease? Should he have been held responsible for it? To return to the epileptic. I once had under my care an epileptic, a young and interesting lady. She had a husband and child, and although she had formerly been an affectionate wife and mother, she neglected every home duty, assigning as a reason that she no longer cared for her family; in the mean time she endeavored, by various arts, to attract the admiration of the opposite sex. She could reason correctly upon many matters, but would any intelligent physician hold her responsible for this peculiarity that I have mentioned?

I might go on citing instances, but time will not permit. I will simply say that in my opinion the whole mental condition should be considered in deciding this important question of responsibility. A person may be rightly held responsible for all acts except those bearing upon some one point, and yet, from the condition of some part or function of the brain, be wholly irresponsible on this one point. I believe, then, that the mental condition of the partially insane should be carefully shown, and if the criminal act shall be proven to result from one or more delusions, then the person shall not be held responsible for such act, although sane in every other respect.

In conclusion, I would say that I deem it of the utmost importance that provision should be made for the care and custody of insane criminals. In no case should they be allowed to be at large, neither are they suitable subjects for insane asylums or the State prison.

## REPORT UPON NEW PHARMACEUTICAL PREPARATIONS, AND THE INSPECTION OF FOOD AND DRUGS.

BY BENNETT F. DAVENPORT, M. D.

THE recent appearance of the sixth revision of the United States Pharmacopœia has added thirty crude organic drugs, sixty inorganic chemicals, one hundred and fifty pharmaceutical preparations, and sixteen miscellaneous substances, two hundred and fifty-six titles in all, to the official list of our materia medica, while it has dropped two hundred and twenty-nine titles that were contained in the preceding revision. The present Pharmacopœia contains nine hundred and ninety-seven official titles.

Among the newly added preparations are eleven abstracts, ten solid extracts, thirty-five fluid extracts, eleven syrups, twenty-two tinctures, and six wines. The abstracts are a new class of preparations introduced to supply the demand for dry powdered extracts. They are just twice the strength of the crude drug, or about twice that of the corresponding fluid extracts, which, according to this revision, will be made about five per cent. weaker than before. General directions for the preparing of triturations and tinctures of fresh herbs (*tinctura herbarum recentium*) have been introduced to insure uniformity in their preparation whenever they are prescribed.

The new official base for ointments, petrolatum, obtained from petroleum, is to have a melting point of from 49° to 51° C. The low melting variety is always to be dispensed when the melting point is not specified.

The single elixir of orange has been introduced to furnish a pleasant official vehicle for the administration of narcotic medicines.

By the process of reducing the proportion of drug to solvent in the tinctures, wines, etc., to some simple decimal relation, the strength of the tinctures of aconite, of nux vomica, of veratrum viride has been slightly reduced. The tincture of opium, however, has been strengthened about fifty per cent., while the acetum and vinum opii, upon the other hand, have been reduced.

The triturations are prepared with sugar of milk and ten per cent. of the powdered drug, just as is now the case with the new Dover's powders. The tinctures of the fresh herbs will contain fifty parts of the bruised herb to one hundred of alcohol. The abstracts are those of aconite, belladonna, conium, digitalis, hyoscyamus, ignatia, jalap, nux vomica, podophyllum, senega, and veratrum.

Among the other new official preparations the following are the most important: Boric acid, which has of late been brought into prominence for its antiseptic properties.

Moulded nitrate of silver, which contains about five per cent. of silver chloride; and the diluted, having fifty per cent. of potassium nitrate.

Chloride of gold and sodium, which contains fifty per cent. of gold chloride.

Nitrate of potassium paper, which is an unsized paper that has been dipped into a saturated solution of the salt and then dried.

The several cinchona alkaloids, which were not before official.

A styptic collodion, containing twenty per cent. of tannic acid.

A capsicum plaster, having one fourth grain of oleoresin of capsicum spread upon each square inch of surface.

Fluid extracts of aconite root, of erythroxylon, of eucalyptus, of guarana, of hamamelis, of leptandra, of lobelia, of nux vomica, of pilocarpine, of podophyllum, of rhamnus frangula, of rhus glabra, of rose, of stramonium seeds.

Among the iron preparations are a saccharated carbonate and an iodide.

An ammoniated extract of liquorice in a scale form.

An ammonia liniment made with cotton-seed oil, a belladonna liniment having ninety-five per cent. of the fluid extract to five per cent. of camphor. A compound liniment of mustard containing three per cent. of the volatile oil.

A liquor pepsin containing four per cent. of the official saccharated pepsin, which is of such an assayed strength that one part dissolved in five hundred of water acidulated with seven parts of hydrochloric acid will dissolve at least fifty parts of hard-boiled egg-albumen in from five to six hours when kept at a temperature of 38° to 40° C.

Lithium benzoate and salicylate.

A mixture of acetate of iron and ammonia, of magnesia and asafœtida, and of rhubarb and soda.

A ten per cent. oleate of mercury, a two per cent. oleate of veratrine.

Denarcotized opium as a dry powder with sugar of milk, assaying fourteen per cent. of morphine.

A one per cent. phosphorus pill.

A compound powder of liquorice having two per cent. more semina than the familiar powder from the German Pharmacopœia.

Sugar of milk replaces soda sulphate in Dover's powder, and Tully's powder has been introduced under the title of pulv. morphin. comp.

Sapo viridis is now made official, as is also sodium benzoate, bromide, iodide, and salicylate. So also is cologne, under the title of spiritus odoratus.

To the tinctures, which have now all some simple proportion to if they are not of an exact ten per cent. strength, have been added those of fresh orange peel, ferri acetate, gelsemium, ignatia, ipecac with opium containing one hundred parts of deodorized tincture of opium to ten of fluid extract of ipecac, physostigma, aromatic and sweet tincture of rhubarb, and, the most important of all, the simple tincture of opium, with the camphorated and deodorized tinctures, all of which are of new strengths in this revision, the deodorized being made of the same strength as the simple tincture, while the camphorated is only one twenty-fifth of that. The simple tincture itself is now required to be made from eleven per cent. more opium powder than formerly, while the opium itself must have at least twenty per cent. but not over sixty per cent. more morphine than was formerly required. The tincture is thus now required to have from thirty-three to seventy-seven, or an average of about fifty per cent. more morphine strength than it was formerly. This is a fact that it

will be well for all physicians and pharmacists to bear in mind whenever using the preparation.

The only trituration given in the pharmacopœia is that of elaterin.

An ammonium chloride troche has been introduced, also one of sodium santoninate.

Among the ointments is the petrolatum or petroleum ointment, and also that of chrysophanic acid, also gallic, besides the dachylon, iodoform, and the compound sulphur ointment.

The new wines are the white and red, both of ten to twelve per cent. of alcohol by weight, also the stronger white of twenty to twenty-five per cent. There are also the wines aromatic, ferri anarum, and citratis.

Besides the above new official preparations, tannate of albumen has come into use as an internal astringent.

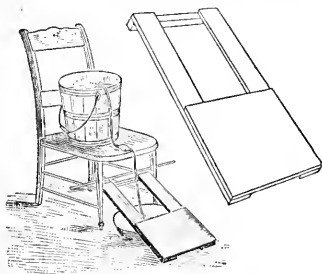
## New Instruments.

### A VAGINAL DOUCHE.

BY J. B. GEROULD, M. D., NORTH ATTLEBOROUGH, MASS.

THE hot douche as a therapeutic means in the treatment of uterine and vaginal disease is of recognized value. But outside of the hospital and among people of means its use is very limited. The apparatus which renders the taking of a hot vaginal douche a comparatively easy undertaking is quite expensive, thereby excluding it from a large class of patients. When we try to reach the same end by the use of pillows, rubber cloth, chairs, etc., our patient is generally overcome by the manifold directions, and if the attempt is made she is almost sure to saturate herself, the bed, and bedding, and the hot douche is ever after thought of only with disgust. Then with any apparatus an assistant can hardly be dispensed with.

The following simple contrivance I have found ma-



terially simplifies the matter, and renders the taking of the hot douche not such an appalling operation. The expense is practically nothing, an assistant can be dispensed with, and the preparations for taking the injection can be made in a moment. A blanket, chair, pail of hot water, syringe, wash-basin, and board (which I will now describe) constitute the necessary apparatus. The board is of one half inch, either pine or white-wood, from ten to twelve inches long, and ten inches wide, on the under side of which two strips two and a half by twenty-four inches are nailed (see cut); uniting the two free ends is a short strip, which hooks over round in the chair, thus preventing any slipping. A cushion tacked on the board will increase the comfort of the

patient; this should be covered with some rough cloth rather than anything smooth. The siphon syringe is the best, but by adding two feet of one fourth inch rubber tubing to suction end of a Davidson's we get the same thing. A broom-stick resting on the upper rounds of the chair and tied to the front legs makes a very good rest for the feet.

The patient is to take the blanket and fold it lengthwise two or three times, and lay on the floor; two feet from one end of it is placed the chair, in which is a pail of hot water and syringe, and between is the board (described above). An earthen wash-bowl is placed at one side within easy reach. She is now to lay down with the nates well over the edge of the board; by raising herself on feet and shoulders the board can easily be hooked on round of the chair. Now slip basin under the board and everything is in readiness for the injection. The ordinary wash-basin holds nearly one half pail of water, so by having two the necessity of interrupting the douche will be avoided.

## Reports of Societies.

### BOSTON SOCIETY FOR MEDICAL OBSERVATION.

C. M. JONES, M. D., SECRETARY.

NOVEMBER 6TH. DR. C. H. WILLIAMS presided.

DR. M. H. RICHARDSON read the regular paper on

TRACHEOTOMY, WITH A REPORT OF THREE CASES,<sup>1</sup>

and illustrated various points of the paper by reference to a careful dissection of the region involved.

DR. PORTER said: The subject of tracheotomy is deeply interesting to me personally, and in the whole range of surgery there is no operation which I approach with so much dread, not that it is more difficult than any other, but the life of the patient depends on its proper seasonable performance, and the time allowed is short. On the cadaver the operation is simple and easy, nor on the living subject where the parts are healthy, and the trachea is opened merely as a matter of convenience in order to facilitate operations on the throat or face, is there likely to be much trouble. But in the diseased subject, where the parts are swollen and in motion, where the trachea lies abnormally deep, where the patient is suffering from asphyxia present or impending, and the veins are distended, the operation is often exceedingly difficult. One can never tell beforehand what difficulties must be encountered. They come suddenly as the operator advances in dividing one tissue after another. The operation is most frequently done for diphtheria, and it is with especial reference to this that I shall discuss the subject.

What are the most important complications? They are three in number: first, spasm of the glottis caused by ether; second, hemorrhage; third, the frequent membranous lining of the trachea.

First, spasm of the glottis often results from ether. It probably occurs in the majority of cases, and renders it necessary to complete the operation quickly. I never undertake tracheotomy without at least two trained assistants, one to attend to the ether, the other to help the operation. Twice I have nearly lost patients through inability to observe this rule. In one case where I had but one skilled helper, it was only through the aid of the father, who had the nerve and

<sup>1</sup> See page 553 of this number of the JOURNAL.

the confidence to do implicitly as he was directed, that the operation was completed, and the child re-suscitated by artificial respiration. In another case in which a second assistant had been sent for, spasm of the glottis occurred, and the opening of the trachea could not be delayed. The operation was therefore done while the father held his struggling child.

The books pay but little attention to spasm of the glottis occasioned by ether, but it is, notwithstanding, very common. It is one of the most trying complications, necessitating, as it does, instant action, and emphasizes beyond anything else the importance of adequate assistance.

Second, hæmorrhage and tension of the veins. On this point I need add nothing to what has been already said by the reader.

Third. The trachea is often so lined with membrane that after the opening is made air does not enter. The dilators press on the membrane, and the tube is completely stopped. In one case the membrane was so tough that after introducing a long catheter and practicing artificial respiration a complete cast of the trachea was drawn out before respiration was re-established. If air in any case does not enter, the presence of this membrane should be suspected and sought for.

In general in cases of stenosis of the larynx the operation is too long deferred. The child is allowed to become exhausted by his labored breathing. The disease is asthenic, and the child should be saved this demand on its strength. Hence as soon as the suprasternal and clavicular notches are depressed in the act of inspiration the operation should be performed without delay. By an early operation it is probable that many cases would be saved which are now lost.

Further, the parts may be very different in disease from their normal condition. The soft parts may be swelled so that they come out even with the chin, and I have seen a case where they made a straight line from the chin to the sternum. In one case I had to penetrate three inches below the surface before reaching the trachea, and the dissection was long and difficult. In this case I refused absolutely to do it with ether, and, as a rule, it is better to operate on adults without anæsthetic. There is little pain except from the initial stroke through the skin, which can be made in an instant, and the remainder can be done, if ether is not used, easily and deliberately. Patients thus operated have said they had almost no pain, and were glad they had not taken the anæsthetic.

The proposed position for operation with the head hanging over the table seems, theoretically at least, to be the worst possible. With the head thus placed the air passages would be closed and the veins tense. It is, of course, a point to be settled practically, but I should hesitate to operate in this position.

The operation with a single stroke is essentially unsurgical. In a child whose trachea is soft and small success is very doubtful. In the adult it can be done in this way, but it should never be resorted to except in an emergency which brooks no delay.

In a case at the hospital in which the throat had been suicidally cut, the operation was performed with the trachea pushed forcibly to one side by the digital compression of the carotid artery.

As regards the after-treatment, the essentials are food, disinfection, and stimulants. Medication is secondary. To disinfect is of the first importance. Cases

in which there is a discharge from the nares, showing the presence of the disease in this part, generally turn out unfavorably. They die of blood poisoning. This result may possibly be due to the fact that we cannot so well disinfect the nares as the throat, and we should make especial efforts to this end.

The cardiac paralysis which so often occurs in cases of diphtheria is an important feature, and it is necessary to lay stress on the free exhibition of stimulants. A case which appeared to be doing well in all respects, taking food abundantly and gaining strength, died suddenly of heart paralysis. It is not impossible that a freer use of stimulants would have saved the patient. In another case the child was able, cautiously, to go out to walk and to drive. She was taken out for a horseback ride, and on returning fell suddenly dead, also from paralysis of the heart. If cardiac paralysis comes at all it is generally a late symptom, and this should be borne in mind, and the exhibition of stimulants continued to full convalescence.

DR. GAY. I have found the easiest point at which to open the trachea to be just below the cricoid cartilage, that being its most superficial part. The isthmus of the thyroid is to be divided if necessary, no harm ever having resulted from so doing in my experience. I have discarded the director in doing this operation, preferring to cut through the fascia and other tissues by repeated incisions until the trachea is reached. By keeping exactly in the median line, gentle traction being made on each side of the wound, the larger vessels may usually be avoided.

Although it has fallen to my lot to meet with profuse hæmorrhage in doing the operation, yet I have never lost a patient from this cause. Considerable bleeding is to be expected in children with fat or swollen necks, especially if dyspnoea be great, or has been long continued.

The readiness with which blood may be expelled from the air passages by simply inflating the lungs through a tube was well illustrated in the case of a Chinaman, who was admitted to the City Hospital, under my charge, a few months since. He had attempted suicide by shooting himself in the mouth. Having been etherized, an incision was made on the left side of the neck near the spinous processes, and the ball easily removed. Suddenly the patient became cyanotic, and stopped breathing. Artificial respiration failing to revive him, the trachea was opened, and a large elastic catheter passed down into the bronchi. By inflating the lungs with moderate force a considerable quantity of blood was expelled from the wound, and the patient was soon breathing naturally again.<sup>1</sup>

This would seem to be the most rational way of clearing the air passages of any liquids. Suction is not usually efficient. Nature herself gets rid of irritating substances in the bronchial tubes by forcible expirations, and these are impossible, unless air can first get into the lungs. Whether this method would be successful in expelling fluids usually found in diphtheria, I do not know; but no surgeon is called upon to risk his life in an attempt to suck out such fluids. It is seldom, if ever, attended with success, and too many valuable lives have already been lost in the profession by this rash and unjustifiable effort to save others.

I have performed tracheotomy eleven times without

<sup>1</sup> The hæmorrhage was the result of a wound of the vertebral vessels on the left side.

ether, and am convinced that it is the better way in cases of children with impaired strength and severe dyspnoea. There can be no doubt that ether obstructs respiration to a dangerous extent in some cases, thus requiring the operation to be finished in haste, and mostly by the sense of touch. The pain is not severe after the skin is divided, and with good assistants, who are invaluable in these cases, the operation can be done in children almost as easily without, as with, an anæsthetic, and moreover the surgeon is not constantly harassed with the fear that his patient may stop breathing before the windpipe can be opened.

Some surgeons do not believe in tracheotomy in diphtheria. Their argument is, that as many recover without the operation as with it. That assertion lacks proof. I have performed tracheotomy twenty-nine (29) times for this disease; and six of the patients recovered. I have never seen a case of laryngeal diphtheria get well without the trachea having been opened. Every operator of much experience must have met with cases in which there seemed to be no doubt that life was saved by the operation. With the exception of two instances, in which the patient survived the operation but a few hours, I have never had cause to regret performing it. Diphtheria, when it invades the air-passages, is such a fatal disease, that the patient and his friends should be made to feel that every resource of our art is being tried in the case. I believe in the operation in suitable cases, but I do not think it is wise to operate on children who are in the last stages of septiciæmia, and are liable to live but a few hours. They do not generally rally from the operation, and hence get little or no benefit from it. I am convinced by experience that tracheotomy in diphtheria will often relieve suffering, it will prolong life, it will give comfort to the friends, and occasionally it will save the patient.

DR. PORTER said that, in his opinion, it was the duty of the surgeon to perform the operation, with a view to euthanasia alone, for any patient who asks it, even if he does not survive an hour. Let him at least die in comfort. To die by stenosis of the larynx is terrible. A patient on whom I operated wrote, almost in his dying hour, a message of gratitude that he had been relieved of so much suffering, and this would be the general testimony. In going to an operation a catheter should always be taken, in order, if need be, to blow up and relieve the lungs to produce artificial respiration. No surgeon should run the risk of sacrificing his own life for a patient. One may in the excitement sometimes forget himself. But he should deliberately make up his mind not to do it under any circumstances.

DR. M. H. RICHARDSON said that the lungs were much more effectually relieved by inflating them through a catheter than by sucking the wound. Fluids are usually expelled from the lungs in the form of froth, by coughing, and they appear in this form when one blows into the lungs. To suck fluids from the body of the lungs is a mechanical impossibility.

DR. BOLLES said he had operated seven or eight times. The spasm of the glottis spoken of had occurred in some of his cases, but not until the dissection was well advanced towards the trachea, and it seemed to him to be not so much an effect of the ether as a reflex phenomenon, produced by the irritation of the knife or finger upon the tissues in the neighborhood of the larynx. A cessation of respirations for a few sec-

onds, from this cause, in patients not too much debilitated, is not so dangerous as it seems to the surgeon and bystanders; for if the breathing does not begin again spontaneously it can be restored by the usual methods of artificial respiration, or by tickling the trachea or Faradism after the opening is made into the air-passage—the most important thing being to complete the operation.

Unless he has some special apparatus for the purpose, the surgeon should *always* carry to a tracheotomy a large elastic catheter, and a syringe fitting it, capable of either suction or expulsion of air,—to assist either in inflating the lungs or in expelling mucous blood or membrane.

In two cases where the operation was performed upon patients in a condition of great exhaustion, apparently just before the end, when respiration and the action of the heart had both ceased, so far as could be seen or felt, the Faradic battery, *ready for instant use*, restored both functions after artificial respiration and other stimulants had failed. The battery should not only be carried, but set up—with all its connections made, and the electrodes attached.

DR. BOLLES and other physicians in Dorchester have given up heating the room to an excessive degree and saturating it with vapor, as was formerly practiced after the operation, having found that a soft, good bath sponge, large enough to cover over the front half of the neck, and porous enough to allow easy breathing through it, occasionally moistened with hot water, either pure or medicated, and securely fastened over the tube, answers a better purpose. It moistens the inspired air more effectually, leaves the temperature of the room more comfortable, and catches the matter coughed out, often better than the attendant can. It is not generally necessary to keep it on more than half the time, the loose or dry character of the breathing being an easily understood guide. Of course, when soiled it must be taken off and washed. He found the atomizer, whether hand or steam, apt to frighten the little sufferers. The value of the operation as a means of euthanasia appeared to him to be generally overstated; the instant relief afforded by it, the comfort, sleep, and perhaps playfulness of the patient for a few succeeding hours, and the gratitude of the friends, make a most dramatic contrast to the agony which had preceded it. After this, if all goes well, or even if death occur from exhaustion or syncope, as it sometimes does, a great relief has been accomplished. But oftener diphtheritic bronchitis supervenes, and the unfortunate goes through another death, more prolonged, more hopeless, and to Dr. Bolles's imagination no less distressing, than that from which he had been once rescued. The restlessness, beating the air, clutching at the throat or chest, the supplicating and agonized look may be but little less intense than before, and several times as prolonged. The surgeon has mean time gone home, well satisfied with his operation, leaving the case in the care of his assistants; he sees it only at intervals during the day, and is apt to undervalue the dreary hours following an unsuccessful tracheotomy, unless he can recall his student days, when as assistant he has watched every breath of such a patient, from the beginning to the end. As a life-saving means it ought almost never to be refused.

DR. J. B. AYER spoke of the great responsibility of the physician in advising in regard to tracheotomy in diphtheria. Most of his cases had, in his judgment,

not been adapted to the operation, as the obstruction to respiration was due to exudation and membrane in the trachea and bronchi as well as in the larynx. Instead of the terrible paroxysms of dyspnea, accompanied by lividity, followed by a period of easy respiration, there was continuously rapid and labored respiration, exacerbations being fewer and less severe than in croup.

He advised an early operation when the dyspnea was due to laryngeal stenosis, but advised against the operation when a large part of the respiratory tract was involved, especially as he had seen the recovery of a young child without operation in an apparently hopeless case of this description.

#### WATER SUPPLY OF BOSTON.

DR. POST brought up the subject of the water supply of Boston, and said that the commission appointed by the mayor to investigate the water was holding sessions, but they were poorly attended and meagrely reported. The people generally seem apathetic, and it would be a fair inference that the medical profession also took little interest in the matter. An expression of opinion, at least, should be presented from the physicians, and would not be without influence. He therefore moved the adoption of a resolution by the Society, to be transmitted to the commission, expressing the interest of the Society in the subject.

DR. WILLIAMS asked if any cases had been known where sickness or disease could be ascribed to the water. He had personally examined the various basins. The difficulties probably arose from the loam that had been left in them. We have drunk up much of this, and very little remains. To remove the balance would involve a large expense, and probably do very little good. Formerly the city used but 10,000,000 gallons of water daily. The present consumption reaches 30,000,000 to 40,000,000 gallons, and we cannot get this large quantity of as good quality as the smaller quantity. We should be careful not to frighten people without good reason into believing they are in danger of disease from this source.

DR. POST replied that he had not known any instance of disease traced to the water. The resolution is so worded as to encourage the commission and not to frighten the people. It is brought forward for fear the commission may be led, through the apparent lack of interest, to bring its work to an unseasonable close. We need not wait for the actual development of disease. The smell and the taste are sufficient warnings, and the commission should be urged to a thorough investigation. The Natick sewerage certainly affords ground for apprehension of the future.

DR. WILLIAMS stated, as regards the Natick sewerage, all is now done which the statutes allow. It is on the whole pretty well taken care of, for it is filtered through several dams, and only a little enters the basins at certain seasons of the year.

DR. BRADFORD said there existed an apparent lukewarmness on this subject. There is no reason why we should not say that the water is disagreeable. The law, and their mode of execution are not important in this connection, but we should as physicians urge all possible improvement in our water supply.

DR. C. E. SHATTUCK stated that the water in London was considered very poor, and a commission had been appointed to devise means of improvement. A member of that commission had recently been in this

city making investigations, and found that the Boston supply was much inferior to their own.

DR. JEFFRIES said the manufacturers wanted water for business purposes, and to this fact is due the vast consumption of water in Boston. We should have good water for cooking and drinking purposes, even if it be necessary to cut off the manufacturers, and to say that we want it is only just. The city officials are apt to be satisfied with the existing status, and if we wish to get any result we shall have to work for it constantly. We can get the requisite laws passed when the city decides what it wants. The proposed resolution is fair and legitimate. The water is bad, and has been worse, and the agitation should be kept up until the water is made satisfactory.

The resolution<sup>1</sup> was then adopted by a unanimous vote, and the secretary directed to transmit it to the commission.

#### SUB-CORACOID DISLOCATION OF THE HUMERUS.

DR. M. H. RICHARDSON showed a specimen of dislocation of the humerus. Nothing was known of the history of the case. The acromion had been fractured, apparently by a fall upon it, or by direct external violence from above. The tip of the process had been violently depressed, and by the same blow the head of the humerus had been knocked from the glenoid cavity downwards and forwards. At the same time the glenoid cavity itself had been fractured.

The head of the humerus had made for itself a false socket, and moved freely in it. It was interesting to observe that the brachial plexus and axillary vessels were directly pressed upon by the humerus, and their normal course considerably interfered with. There was no wasting of the muscles of the fore-arm to suggest paralysis. The supra and infra spinatus, however, were in a state of very great fatty infiltration.

The head of the humerus itself had not escaped injury, it being fractured through its surgical neck.

#### PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, NOVEMBER 23, 1882. The President, DR. JAMES TYSON, in the chair.

#### GREAT HYPERTROPHY OF THE HEART DUE TO SEVERE VALVULAR LESIONS.

Presented by DR. M. O'HARA.

J. H., male, aged thirty years, laborer, contracted syphilis when eighteen years of age. Health good until within past three years, when he began to suffer from pain in the left breast, palpitation of the heart, and slight dyspnea after violent exertion. Gradually becoming worse and unable to work, he was admitted into St. Mary's Hospital in June, 1882. He then complained of great pain over the upper part of the sternum, in the left arm, and shoulder. He lost considerably in weight, his appetite was poor, and albumen was present in small proportion in his urine, although casts were absent. He had marked dyspnea on admission, which increased rapidly until sleep could only be obtained in the upright position. There was no evidence of pulmonary trouble. With the fore-arms flexed to a right angle the brachial arteries became prominent at each impulse of the heart; the pulsation of the carotids was wavy and prolonged; the temporals were tortuous and visibly pulsated; no retinal arterial

<sup>1</sup> See page 452.



pulsation was seen. Retinal venous pulse was marked, but no visible venous pulsation was detected elsewhere. The left præcordial region was specially prominent. The apex beat was most distinct in the sixth and seventh interspaces on a perpendicular line running midway between the left nipple and anterior border of the left axilla. The heart's impulse was usually forcible and diffused, but at times it became weakened and wavy. In the second, left intercostal space a systolic impulse was observed. The pulse varied from 80 to 120 per minute, struck the finger with considerable force, but at once lost most of its volume. All these phenomena were exaggerated by raising the hands above the head. The radial pulses were unequal, but the brachial arteries presented no differences. No hepatic pulsation was felt. The cardiac area of complete dullness was nearly twice its normal size, the increase being downward and to the left. Over the second right costo-sternal articulation the closure of the aortic valves was distinctly heard, and with this a slight diastolic murmur. A systolic murmur was also heard over the same spot. The systolic murmur was nearly lost in the carotid and sub-clavian arteries, but the diastolic one remained distinct. On a line with the second costal cartilage over the sternum, and to the left of this bone, the diastolic and systolic basic murmurs were most intense. Over the cartilage of the left fourth rib the murmurs heard at the base of the heart were less distinct, or were observed by the development of other murmurs. In this situation, a short, sharp, presystolic murmur, apparently prolonged into a systolic one, was detected. At the apex, and just above it, the systolic murmur became intensified, its blowing character aiding in differentiating it from the short harsh murmur which immediately preceded it. From the fourth to the seventh rib, and from the sternum to a point about five or six inches to the left, a diastolic murmur of considerable intensity was heard. The character of the diastolic murmur over this area was different from that presented by the second sound murmur at the base of the heart, and its intensity was much greater. Posteriorly, at the lower angle of the left scapula, a blowing systolic murmur, entirely deprived of its harsh presystolic complication, was heard. Dr. Eskridge thought the physical signs justified him in venturing the diagnosis of constriction and regurgitation at the mitral orifice; a rare form of aortic regurgitation produced by the inability of one of the aortic semilunar valves to close while the others acted properly, great hypertrophic dilatation of the left ventricle, and to a less extent of the left auricle, and aneurismal dilatation of one of the great vessels, probably of the pulmonary artery near its origin from the heart. The patient rapidly sank, and oedema of the lower portion of the trunk and lower extremities with hydrops pericardii pleurae et peritonaei developed. He died exhausted in August, nearly two months after admission to the hospital.

*Secitio Cadaveris.*—*Brain.* Some venous congestion of the pia-mater. The brain substance and the ganglia nearly normal in appearance. *Thorax.* The pericardium was nearly filled with serum. The only evidences of inflammation were a few patches of recent lymph at the left anterior upper portion of the sac. The heart weighed eighteen ounces, the increased weight being chiefly due to eccentric hypertrophy of the left auricle and ventricle. The right ventricle was dilated, with slightly thickened walls. The aortic valves were insufficient and thickened. The posterior leaflet was

normal in shape, but the others curled upon themselves on the aortic side of the orifice. The stenosis was slight. The mitral orifice was button-hole shaped, and the valves failed to close on account of calcareous deposits in their tissues, this degeneration also involving the inner surface of the left side of the auricle contiguous to the valves. The auricular surface of the valves was fairly smooth, but in the ventricle just beyond the valves and attached to them hung a bony substance about one eighth of an inch in diameter. The left auricular appendix was much hypertrophied. The valves at tricuspid and pulmonary orifices were normal. The pulmonary artery was considerably dilated. The pleural cavities contained several ounces of serum. There were old adhesions at the apex of the right lung posteriorly, and at the same part of the left lung anteriorly. Several patches of recent lymph were also found at the lower part of the left pleural cavity. *Abdomen.* The peritoneal cavity contained considerable serum and its veins were engorged. The liver was enlarged with distended veins. The kidneys were highly congested. The spleen was double its normal size, and softened.

ABSCESS OF THE LIVER FOLLOWING ARRESTED MENSTRUAL DISCHARGE FROM EXPOSURE TO COLD; PYÆMIC ABSCESSES OF THE LUNGS AND SPLEEN; PERFORATION OF THE BOWEL; SEVERE HEART COMPLICATIONS; DEATH DURING THE SEVENTH WEEK.

Presented by DR. J. T. ESKRIDGE.

M. D., aged twenty-eight years, was a factory girl whose father and two sisters had died from heart disease. She had had two attacks of inflammatory rheumatism, but had never complained of heart trouble. Her fatal illness began at night, by arrested menstrual flow and severe cramping abdominal pains, coming on after exposure to cold during the previous afternoon. Fever and pain in the right lower side of the abdomen continued for three days, when she was able to work again for about a week. Jaundice began early, was well marked during the first three weeks, was slight afterwards, but lasted until her death. Her symptoms three weeks after the beginning of the attack, when admitted into St. Mary's Hospital in Dr. Hickman's wards, were great prostration, emaciation, loss of appetite, pain in the right inguinal and lumbar regions, and irregularly recurring chilly sensations. Two weeks later, when first seen by Dr. Eskridge, the liver dullness extended nearly to the anterior superior process of the ilium, and the normal tympanitic note of the right inguinal region of the abdomen was replaced by one bordering on dullness. The tenderness was so great that neither fluctuation nor a tumor could be detected, if such existed. Great tympany soon developed and obscured the physical signs. A pyæmic condition from which the patient perished in about two weeks set it, attended by chills, fever, sweating, low temperature, and diarrhoea. A few days before death she passed considerable pus by the bowels. The surface temperature taken over the chest and abdomen showed the latter to be about two degrees warmer than the former, but all parts of the abdomen were of nearly the same temperature. Stenosis of the aortic and mitral orifices with insufficiency of the valves of the latter and dilated hypertrophy of the left auricle and ventricle were recognized during life. The post-mortem examination revealed the diagnosticated lesions of

the heart, and demonstrated the possibility of visible left auricular pulsation. The liver weighed eighty ounces, (the right lobe being alone enlarged), and contained a large abscess surrounded by several smaller ones with which it was connected. The cæcum and its appendix were surrounded by about six ounces of pus, the latter being circumscribed by adhesions. Two openings were found in the black and gangrenous cæcum, one where its appendix had sloughed off, the other due to perforation of the bowel by the pus. The portion of the liver external to the hepatic abscess was firmly adherent to the abdominal wall, and from this point (about two inches above the crest of the ilium) the pus had burrowed its way and formed a sinus leading to the right inguinal region under Poupart's ligament. A direct communication between the liver abscess and the accumulation of pus surrounding the cæcum was seen.

Dr. ESKRIDGE thought that the demonstration of the possibility of visible left auricular pulsation in the second left intercostal space, and of the occurrence of a functional murmur in the pulmonary artery without dilatation of that vessel, was worthy of notice at present, as Dr. Broadbent had so recently advocated views almost diametrically opposite. Dr. Eskridge considered mitral stenosis of not infrequent occurrence, and said that with care the mitral presystolic murmur was not usually difficult to detect. The four physicians, including himself, present at the autopsy, then thought that the hepatic abscess was secondary to the inflammation and suppuration around the appendix and cæcum, but he, after carefully analyzing the clinical evidence and pathological lesions in favor of each condition, was satisfied that the case began as one of primary abscess of the liver following exposure to cold while the patient was menstruating.

The discussion on both the preceding specimens, which presented somewhat similar heart lesions, was now opened by

Dr. J. C. WILSON, who said that there was one point of special clinical interest in Dr. Eskridge's case, namely, the chronology of the lesions. He thought that the extensive multiple abscesses of the liver and lungs were secondary to the abscess around the caput coli. In some cases the determination of the primary source of the emboli was difficult, but in this case it was perfectly clear.

Dr. BRUCE said that he would like to go on record among those who had observed auricular pulsation in cases of mitral obstruction in which the stenosis was extreme.

Dr. NANCYDE remarked that in his experience flexion of the thigh on the abdomen was an almost invariably early symptom in cases of perityphlitis, from which he would infer, that as this thigh flexion did not occur in Dr. Eskridge's case until within ten days of the fatal termination of the case, that the pericecal abscess was secondary to that in the liver.

Dr. TYSON said that he had been much impressed with the marked increase of the surface temperature in the neighborhood of the abdominal abscesses as compared with the general body temperature. As to the chronology of the various affections he was inclined to believe that Dr. Wilson was correct.

Dr. ESKRIDGE said, in reply to Dr. Wilson, that he could appreciate how the perityphlitis might be mistaken for the primary trouble, and the hepatic suppuration for the secondary; such a mistake (for he felt certain that the abscess of the liver was the primary

affection) was made by all, including himself, who were present at the post-mortem examination. The pathological and clinical facts in favor of primary hepatic abscess were given at some length in his remarks in connection with the presentation of the specimens. In brief the clinical features were as follows: Deep and early jaundice following exposure to cold, pain in the right side of the abdomen attended by fever and gastric irritability of a few days' duration, an intermission of a week, during which she was able to work, followed, after which gradually increasing weakness, with dull abdominal pain, attended by loss of flesh and appetite, confined her to bed; ten days before death the development of intense tympany associated with flexion of the right thigh upon the abdomen. The hepatic suppuration was confined to the right side of the right lobe, all the smaller abscesses directly communicating with the large one, and the left lobe of the liver being apparently healthy.

(To be concluded.)

## MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

### THE SUMMER VACATION IN THE PUBLIC SCHOOLS.

AN adjourned annual and a stated meeting of the Society were held November 27th. Reports of a number of committees were made, and among them one by Dr. A. JACOBI, who had been appointed to report upon the advisability of changing the length of the summer vacation in the public schools. The subject came before the Society by reason of a petition by members of the Harlem Medical Association to the Board of Education, which asked that the vacation, which now begins about the 3d of July and continues until September 1, should commence two weeks later, and end two weeks later, on account of the dry and unhealthy weather of the first half of September. Dr. Jacobi was opposed to closing the schools two weeks later than at present, and recommended in his report that the Harlem Medical Association should unite with the County Society in asking the Board of Education to take such steps as will result in securing a change in the laws, so that the summer vacation in the public schools shall extend from not later than the 3d of July to the middle or latter part of September.

### IRREGULAR PHYSICIANS.

Dr. F. R. STURGIS, the retiring President, delivered an address in which he reviewed the work of the past year, and spoke especially of the success which had attended the efforts of the Society in its attempts to break up the practice of irregular physicians. He recommended that the Society should appoint a committee to attend the sessions of the Legislature at Albany, in order to prevent legislation being rushed through, which would be injurious to the members of the profession and the public at large.

In assuming the presidency for the ensuing year Dr. DAVID WEBSTER strongly urged the continuance of active measures to prevent quacks and improperly qualified physicians from practicing in the city.

### MALARIA IN CHILDREN.

The paper of the evening was by Dr. L. EMMETT HOLT, on Malaria in Children. The peculiar manifes-

tations of malaria in children, he said, constituted a field of observation which had been too much neglected. The organism of the child was peculiarly susceptible to all acute infectious diseases, and the poison of malaria acted not only more rapidly but more generally and more profoundly in the young than in adults. Again, the susceptibility of the nervous, digestive, and respiratory systems produced such variations in the form and type of the disease as to mislead at times even those most careful in diagnosis. The attacks were sometimes so incomplete and fragmentary that a fatal result might ensue in the masked forms before the diagnosis could be made. The symptoms often came on very insidiously also, and the writer's own experience abundantly confirmed the statement made by Schmiedler that there was scarcely any disease so changeable, so obscure, and so indefinite as intermittent fever in children.

Fortunately, for both the physician and the patient, when once the diagnosis was established, prognosis and treatment usually presented no difficulties, and he should, therefore, confine himself in the paper to symptomatology and diagnosis. His experience was drawn from 184 cases, nearly all of which he had observed at the Northwestern Dispensary, which was situated in a district acknowledged, as he believed, to be the most malarious in New York. For a considerable portion of its extent it consisted of made ground for a distance of from one to two blocks from the Hudson River, which formed its western boundary; while one large pond and several small streams had been filled up in its upper part. The invasion of malaria, he continued, was much more frequently gradual in children than in adults. In 117 cases in which he had recorded the manner of onset, it was abrupt in 45 cases, and gradual in 72. In the abrupt cases the symptoms noted were convulsions, vomiting, drowsiness, prostration, fever, and severe pains in the head and epigastrium, less frequently over the liver or spleen. In the cases with a gradual invasion he had noted anemia, frontal headache, constipated bowels, or diarrhoea (more frequently the former), complete anorexia, muscular weakness, pallor or yellowish hue of the countenance, with dark rings around the eyes, nausea, with occasional vomiting, tongue heavily furred and of a dirty brownish color, epigastric pains and often tenderness, drowsiness by day, restlessness at night, slight cough, and chilly feelings varied by hot spells. In many cases these symptoms recurred rhythmically every day or every other day; but quite as often they occurred without any periodicity. The spleen, in the great majority of cases, but not in all, would be found to be enlarged.

In 106 cases in which the time of the invasion or the exacerbation was noted, it took place in the forenoon in 35 cases, and in the afternoon or evening in 71, a proportion of one to two. The division of the disease into stages, as in adults, he thought might be advantageously dropped altogether. In 150 cases he had noted the chill being present in but 19, and in only about one half of these was it at all pronounced. In almost every instance in which the chill was marked, the child was over eight years of age. In 15 other cases chilly sensations, coldness of hands or feet, etc., were observed; making thus only 34, or a little more than one in five, in which anything resembling a cold stage was present. Fever was one of the most important, and undoubtedly the most constant of all the symptoms.

His cases seemed to fall into three groups in this connection: (1.) Those in which the temperature rose quite high at the outset and remained so with very little variation for 24, 48, or even 72 hours, when a marked remission occurred, and the fever thereafter assumed a distinctly remittent type; (2.) Those in which the fever was at first slight, but gradually increased in its intensity until it might become a continuous fever, usually with slight daily remissions; (3.) Those in which the fever assumed a distinct character, either remittent or intermittent, from the outset. The last was the rarest form. His opinion was that the general impression regarding the temperature estimated it too high. In only 26 cases, or about one seventh of the whole number, was it above 104°F. before the use of quinine. In only three cases did he see it above 106°F. and the highest recorded was 106½°F. Sweating was noted in a little more than one fourth of the cases, and was thus found to be more frequent than the cold stage; though it came later, and was very much less marked than in adults. Cerebral symptoms of some form or other could be said to be the rule, having been noted to be present in 97 out of 150 cases. Pain in the head was the most frequent, and was found to be almost invariably frontal, in children old enough to describe their sensations. He had no doubt in his own mind that some of these were cases of supra-orbital neuralgia. The next most common head symptom was drowsiness, and this was usually noticed to come on at some particular part of the day. Convulsions were recorded in four cases, all of which terminated favorably, and only one of which was especially severe. Pains in other parts of the body than the head were usually complained of by children who were old enough to talk, and the most characteristic of these was pain at the epigastrium, which was found to be present in 101 patients out of 128. In 29 cases epigastric tenderness was also noted. The epigastric pain he believed to be neuralgic and dependent perhaps on congestion of the stomach, which was found as one of the lesions in most of the fatal cases. Splenic tenderness was more frequent than splenic or hepatic pain, and was noted in about one fifth of the cases. The spleen was found enlarged in 64 out of 79 cases. Disturbances of the digestive system were almost uniformly present, and usually pronounced. Vomiting, which was noted in 78 out of 112 cases, most frequently occurred at the onset of the paroxysm, and in 19 it was persistent. The condition of the tongue was to be regarded among the diagnostic symptoms, and the typical tongue was normal or slightly reddened at the edges and tip, while the centre was heavily furred and was of a brownish-yellow color, shading off into a dirty white. A clear tongue he noted in only nine cases. In the simple cases there were no thoracic symptoms beyond a little cough from bronchial catarrh, which was exceedingly common; but occasionally the poison seemed to be localized chiefly upon the lungs, giving rise to very obscure and very threatening symptoms. Symptoms referable to the genito-urinary system were noted in 17 cases, in most of which the urine was examined with negative results. Nephritis, however, was met with in two cases.

Among the complications of malaria affecting the respiratory system were mentioned bronchitis, pulmonary congestion, a kind of pseudo-pneumonia, true pneumonia, and spasmodic asthma. Of those affecting the nervous system were mentioned, neuralgia, hy-

peræsthesia of the lower extremities, paresis of the same, and chorea.

In the matter of diagnosis, enlargement of the spleen was considered, without doubt, more important than any other single symptom, and next in value the writer would place the elevation of temperature. The recognition of the irregular or masked forms of the disease was often more difficult, from the fact that the frequent dependence of the disorders referred to was not appreciated even in a district so malarious as that of New York. The presence of malaria was to be determined by the following points: (1.) Periodicity in the symptoms. (2.) The coexistence of splenic enlargement. (3.) The failure of the usual remedies to relieve the symptoms. (4.) Their prompt disappearance under the administration of quinine. Typhoid fever and malaria were undoubtedly often confounded, and the frequency with which diarrhoea occurred in malaria, the slight bronchitis, the enlargement of the spleen, and the abdominal tenderness occurring in both, made the diagnosis extremely difficult in many cases.

The following conclusions were drawn by Dr. Holt from his observations on the subject: (1.) Malaria in early life presents symptoms as distinctive as any other disease in children. (2.) The classification of the cases as remittent or intermittent, and the division into hot, cold, and sweating stages, leads to misapprehensions regarding the course of the disease, and confusion in diagnosis. (3.) In any acute febrile disease presenting an unusual course, the spleen should be examined. (4.) In obstinate cases of diarrhoea or bronchitis not affected by ordinary remedies, malaria should be investigated as a possible cause. (5.) Spells of drowsiness and frequent attacks of epigastric pain should always excite suspicion. (6.) In children it is even more necessary than in adults to carefully interrogate every organ before making a diagnosis when the symptoms are at all obscure.

### Recent Literature.

*The Physiology and Pathology of the Blood.* By RICHARD NORRIS, M. D., F. R. S. E. London: Smith, Elder & Co. 1882.

In this book the author embodies the results of original investigations made during the last five years, parts of which have been previously published. A brief *résumé* of the leading ideas developed in the book is as follows:—

There exist in the blood of mammals a large number of corpuscles which have the same color and refractive index as the liquor sanguinis. These new corpuscles have important relations, on the one hand, to the well-known red discs, and on the other to the corpuscles of the lymph and spleen. In addition, it appears that the abnormal deviation of these newly-discovered elements gave rise to fibrine in its various forms of films, net-work, and thrombi; that they are in fact the cause of coagulation generally. Further, it can be demonstrated that the lymphatic glands, the spleen, the thymus, the thyroid, and the red bone marrow yield to the blood as their most developed product *smooth free nuclei*, which appear at first as these colorless discs, and subsequently by the gradual attainment of color become the red corpuscles. The white cells of

the blood represent the leucocytes which failed to throw off their envelope and set free their nuclei.

If this view is correct, leukaemia and anaemia are to be considered in a different light from heretofore. The first is due to a failure on the part of the glands to properly set free and develop the nuclei of the primary lymph corpuscle, and as a consequence there is an excessive amount of white corpuscles in proportion to the red. The manner of the production of anaemia is less simple. He first shows, by a series of calculations based upon the number of corpuscles in a cubic millimetre of blood, that the mode of arrangement in the individual corpuscles is such as to be consistent with a view which considers the corpuscles to begin their career in a colorless state, and to assume equal increments of hæmoglobine in equal times. We are thus enabled to explain how it comes about that corpuscular deficiency is associated with a greatly disproportionate loss of hæmoglobine, and to show that this rests in a definite law, to which, with certain reservations, all cases of anaemia may be referred.

It is impossible in the space of a review to criticise all the points presented in the book. Against these views have been urged that the invisible cells are simply decolorized red discs, or that they are masses of coagulated material which have assumed this shape from being imprisoned between other cells. Moreover, the direct escape of the nucleus from the primitive lymph corpuscle has never been directly seen, although there are strong grounds for the belief that it does escape.

The facts are certainly new and of great interest, especially as having a most important bearing upon our conception of the diseases of the blood.

The subject, from a histological point, appears a comparatively simple one to prove or disprove, and although the ground must be thoroughly fought over point for point, yet it is a question which can be definitely settled within a short time.

All who are interested in minute anatomy should read this book, in which there is a great deal of needless repetition and rather involved writings. The methods certainly show originality, and all the points are illustrated by micro-photographs, of which there are some two hundred. The value of these for representing objects which can be sharply defined in one plane is well shown here, the reader feeling as if he were dealing directly with the specimens themselves, and this, as can well be imagined, adds weight to the arguments.

The publishers have done their part of the work well, and the subject loses nothing from being so handsomely dressed.

*Some Practical Observations on Vaccination.* By W. H. WHITEWAY WILKINSON, L. R. C. P. Ed. London: J. & A. Churchill. 1882.

A few weeks since we noticed a little book by an American writer upon the essentials of vaccination. That treated almost entirely of vaccination with animal virus. The present *brochure* comes from England, and treats entirely of vaccination with humanized virus, the writer's experience having been confined to that. He has been a public vaccinator in London for thirteen years, and has vaccinated nearly twenty thousand people, which facts he pleads as qualifications for speaking on the subject.

## Medical and Surgical Journal.

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## NEW ANTIPYRETICS.

Those who are interested in the advance of therapeutics from its scientific side cannot fail to be gratified by the work which has been done by the eminent chemist Dr. Otto Fischer and his associates, Professor Filehne and Dr. Wilhelm Koenig.<sup>1</sup> That quinoline, a substance which has been made artificially, and quinine are closely related is well known, and it was probably this which suggested the recent unsuccessful trial of quinoline as a substitute for quinine.

The richness of quinine in hydrogen, as well as later investigations, have shown chemists that there exists in the quinine molecule not simple quinoline, but quinoline combined with hydrogen. Accordingly Drs. Otto Fischer and Wilhelm Koenig, of Munich, hoped to discover bodies having an action similar to quinine by making synthetically various new substances, starting with the quinoline-hydrogen compound. A variety of combinations by methods of interest only to chemists gave them a long series of substances to which they are still making additions. The preparations they made were given to Professor Filehne to try in the clinic. These investigators have worked together nearly two years, attempting to discover in what way modifications of the structure of the substance should be brought about in order to produce an antipyretic drug. It is sufficient for our purposes to say that this was realized in a substance which they have named "kairin," and in another called "kairolin," as well as in a third, bodies all similar in their chemical structure.

As the manufacture of the last two is attended with many difficulties, and as they have an unpleasant taste and are deliquescent, kairin alone was given further trial.

The chlorhydrate of kairin is a crystalline, nearly white, powder, readily soluble in water; it has a mixed salt, bitter, and aromatic taste.

It has been given to adults in a series of acute and chronic cases. In strong, healthy persons one to one and a half grammes (fifteen to twenty-two grains) do not cause headache, ringing in the ears, or any discomfort; in feeble subjects more than one gramme (fifteen grains) every two hours may cause a cyanotic appearance. The dose which is preferred is 0.3 to 0.5 gramme (five to seven grains) hourly; its effects con-

tinue only two or three hours, so that it is necessary to give it frequently. A dose of 0.3 to 0.5 to one gramme (five to seven to fifteen grains) causes the temperature to sink from one half to two degrees or more; if this is repeated before the action of the first dose has ceased the temperature is still further lowered, and may even be brought to normal without unpleasant accompaniments.

The action of the medicine begins about twenty-five minutes after being ingested; the fall in temperature is more abrupt the larger the dose. In every case the fall in temperature is accompanied by free perspiration, which continues only while the temperature is falling. As soon as the lowest point has been reached, which occurs after from two to four doses, diaphoresis ceases, and the temperature remains constant so long as one chooses to give kairin. During the diaphoresis, as well as after it, the patients are much relieved, especially those suffering from croupous pneumonia; in this disease not only is the temperature reduced, but the respirations and pulse are made much less frequent; the pulse is strengthened and the pleuritic pain lessened by this drug. As soon as it is omitted for two or three hours, according to the size of the last dose, the symptoms return as before, the temperature rises to the height characteristic of the disease, and is accompanied by a chill. Further and more numerous observations will have to be made to determine whether this drug may have a specific action in pneumonia.

The urine is of a dark-green color with all of these drugs, and sugar and albumen are absent. A very troublesome feature is that unless kairin is administered every two and one half hours a chill occurs; but being aroused every two hours, if one may sleep free from fever during the intervals, may well be endured. This inconvenience may be partly overcome in various ways, but as soon as kairolin is to be had a full dose of it instead of kairin may be given to the patient before going to sleep. The action of kairolin comes on more slowly and continues six hours; at the end of this period the temperature rises gradually, and is not accompanied by a chill.

As kairin has been found to allay fever in various acute and chronic diseases without fail, and always in the same manner, it may be found effective in intermittent fever. No extravagant claims are made for kairin, and the investigators desire to await the result of careful observation and trial of its usefulness by the profession.

## JOHNS HOPKINS UNIVERSITY. SEVENTH ANNUAL REPORT.

THE Seventh Annual Report of the president of the Johns Hopkins University at Baltimore presents a favorable review of the work done in its various departments since the opening in 1876, and shows the University to have passed "out of the stage of prospectus into the stage of existence."

The academic staff during the past year included forty-three teachers, seven of whom were non-resident

<sup>1</sup> Ueber neue Mittel, welche die fieberhafte Temperatur zur Norm bringenden. Dr. Wm. Filehne, a. o. Professor d. Bräunemittelhehre zu Erlangen. Berlin. klin. Wochenschr., November 6, 1882.

lecturers. In addition to this staff five professors, not otherwise connected with the University, acted as examiners in particular subjects where their judgment was sought. The number of students enrolled during the year was one hundred and seventy-five, of whom ninety-seven were residents of Maryland, and sixty-eight came here from twenty-one States of the Union, and ten from foreign countries. Among the students were ninety-nine already graduated, coming from fifty-two colleges and universities; there were forty-five matriculates (or candidates for the degree of bachelor of arts), and there were thirty-one admitted as special students to pursue courses of study for which they seemed fitted, without reference to possible graduation. The daily attendance upon eighty-three public lectures was one hundred and thirty-seven. The number registered at the opening of the present academic year is one hundred and ninety-two, of whom one hundred and ten are graduate students.

The University Register for the past six years shows that four hundred and forty-nine individuals have been enrolled as students, of whom two hundred and fifty-one have come from Maryland (including two hundred and four from Baltimore), and one hundred and ninety-eight from thirty-five other States and countries. Of this number two hundred and seventy-five persons pursued courses as graduate students, and one hundred and seventy-four as collegiate students.

The University has become a sort of national seminary for the training of teachers, over one hundred of those there taught having become professors and instructors in colleges, academies, and schools. But this is not the only calling for which young men are prepared. Seventy-eight are physicians and students of medicine; thirty-one are clergymen and students of theology; twenty-nine are lawyers and students of law; forty-three are engaged in business (as chemists, engineers, electricians, manufacturers, merchants, etc.); and a few have entered the scientific service of the United States government.

The medical department of the University is not yet organized, but a number of students have been taught physiology and morphology before going to professional schools.

According to the Report the course of studies recommended to students who expect to become physicians (quite distinct from and antecedent to the strictly professional study of medicine, but quite as essential in these days to the liberal education of a medical man) is made up of physics, chemistry, and biology, with the addition of Latin, mathematics, psychology, and English literature, and with at least sufficient knowledge of German and French for the perusal of scientific works which are written in those languages.

The number of students in biology was twenty-six in 1878-79, and thirty-two in 1881-82. Graduate instruction is given in zoölogy and comparative anatomy, and, in addition to the facilities afforded in the biological laboratory, a marine station for zoölogical research has been maintained upon the sea-board during the last five years. A new method of studying

the mammalian heart, devised by Dr. Martin, by which it is expected that new light may be thrown upon various questions of cardiac physiology, is one of the results of the biological laboratory.

#### CHANGES IN THE MASSACHUSETTS BOARD OF HEALTH, LUNACY, AND CHARITY.

DR. ALFRED HOSMER has resigned his position as a member of the Massachusetts Board of Health, Lunacy, and Charity, and Dr. H. P. Walcott has resigned as health officer of the Board. Dr. Walcott has been appointed to fill the vacancy caused by Dr. Hosmer's resignation, and Dr. S. W. Abbott, of Wakefield, to fill that caused by Dr. Walcott's resignation.

Dr. Hosmer has been a member of the Board for less than two years, and has been chairman of the Committee on Health. During that time he has endeavored, as far as the peculiar composition of the Board permitted, to be of service in promoting the sanitary interests of the State. The same remark is applicable to Dr. Walcott's discharge of the duties of health officer. Since his appointment in June, 1880, Dr. Walcott has always shown himself courteous, assiduous, and thoroughly competent, though the executive officer of a board whose aim seems to have been to preserve a masterly inactivity in matters relating to the public health. He will make a valuable member of the Board if allowed an opportunity, but unless it be strengthened or reorganized in some way we fear no competent man with a single eye to State medicine and without political or other interests to consider can be induced to remain long upon it, even though willing to make the best of the present order of things. With some excellent papers now on hand ready for publication, the Annual Reports of the Health Department have quietly been allowed to come to an end.

Dr. Abbott is an excellent appointment to succeed Dr. Walcott as health officer. He is a well-known member of the Massachusetts Medical Society, a contributor to this journal, and has been an active practitioner and medical examiner at Wakefield. He has published several papers on matters connected with public hygiene, notably on vaccination.

The old Board of Health, though active and able, did not by any means exhaust the discussion and regulation of State medicine in Massachusetts; there still remain questions of the gravest moment and greatest difficulty which will sooner or later inevitably demand solution.

#### MEDICAL NOTES.

— In an account of the Farewell Lecture of Dr. O. W. Holmes, one of our enterprising contemporaries speaks of the retiring professor as having contracted from the printer's type "the disease of authors, head-poisoning, which he had never quite got rid of." The doctor finished with some practical remarks on the way in which the science was tending.

— Sir James Paget, the eminent English surgeon,

when near his country house recently, witnessed a severe accident by which a man's leg was broken. Sir James helped the man into his cart, and proceeded to attend to his injuries. The driver's companion ran to the local doctor, and cried out: "Please, sir, Bill has been and fallen out of the cart and got his leg broke; there's an old cove a-pulling of him about, but I can see he ain't up to much, so I wants you to come at once, sir, 'cos Bill's wery bad." The doctor hurried to the spot, and found that the "old cove" was quite competent to act in the emergency. Sir James had made some rough splints, and used a copy of the *London Times* to bind up the leg. Criticism of medical skill, as often happens, came to grief, and Sir James learned once more that fame has its limitations.

—The method of abolishing nefarious practices in giving degrees is stated by the Commissioner of Education as follows: "The only way to anticipate and circumvent these attempts is to declare all educational charters, heretofore issued and not now in active and reputable use by responsible corporations, void and defunct after a specified time; to enact laws forcing persons who wish to obtain charters for institutions of collegiate or professional character to give heavy bonds for their proper use; and, finally, to discourage the practice of conferring honorary degrees save under careful restrictions."

—A British contemporary, commenting on the article in the October *Harper's* on Medical Education in New York, considers the personal descriptions it contains to savor of advertisement of the professors. The journal referred to says (it is to be feared with no less truth than complacency), "America, as we all know, is the land of quackery," and refers with sharp criticism to the fact that "charlatans, some holding diplomas, others ignoring them as worthless, are all legally qualified to exercise the divine art of healing." The medical students who flock to that mart of diplomas are spoken of as a "mixed set," of which a part are young men of lowly antecedents, whose ambition leads them to put up with privations which a day laborer would not endure, and another portion consists of young men of fashion, who are apt, like the student in *Pickwick*, to be "lawless, exuberant, and addicted to nocturnal disorders."

—In India last year snakes killed no fewer than 18,670 human beings, while wild beasts destroyed 2759 more. Further, 43,609 head of cattle were killed by the same agents.

—The use of tobacco among boys in the educational institutions of the United States government has attracted the attention of the surgeons in charge. It is said that an energetic opposition to this practice is being made, for instance, in the Naval Academy at Annapolis and the United States Military Academy at West Point. The naval surgeons, and especially Dr. Gihon, U. S. N., have been the principal movers in the opposition, alleging that tobacco (1) leads to impaired nutrition of the nerve-centres; (2) is a fertile cause of neuralgia, vertigo, and indigestion; (3) irritates the mouth and throat, and destroys the purity of

the voice; (4) produces defects of vision; (5) causes a tremulous, hard, and intermittent pulse; (6) develops conspicuously irritability of the heart; and (7) retards the cell-change on which the development of adolescence depends.

#### MEDICO-LEGAL NOTES.

THE full Supreme Bench of the State of Michigan, in reversal of the rulings and findings of a lower court, have given a decision of interest to the medical profession. A surgeon being called in consultation to a case of compound fracture of both legs below the knee, advised amputation of both extremities, which was refused. One leg was amputated, and the other finally recovered with deformity. The plaintiff sued for his pay, and the defendant claimed malpractice. The decision of the Supreme Court establishes the following points:—

There is no presumption of law as to the value of a surgeon's services, nor that a jury can ascertain their value without testimony from persons knowing something about it. Nor has a jury a right to reduce the compensation claimed for such service where undisputed testimony shows it to have been appropriate, and on their own unsupported notions that the treatment adopted should have been different.

A jury has no right to ignore testimony that has not been discredited, and form independent conclusions, without testimony, on matters that require proof beyond their conjectures or opinions.

The fact that a surgeon changes a course of treatment adopted by another does not in itself show that the former course of treatment was not proper at the time; nor is the patient's failure to recover perfect soundness of limb in itself evidence of malpractice, nor is the fact that he survived, although he refused to allow a particular course of treatment, evidence that such course might not have been proper under the circumstances.

The jury in an action for the value of surgical services has no right to find malpractice without testimony from persons who are qualified to give opinions on the methods of treatment.

#### Miscellany.

##### LETTER FROM BALTIMORE.

MR. EDITOR.—The first snow of the season fell a few days since, leaving behind it a slight increase in the number of cases of bronchial catarrh, laryngitis, pharyngitis, etc.

On the other hand, there has been a corresponding decrease in the small-pox cases, but that is doubtless in great measure due to the rigid course pursued by the City Fathers at their last session, and reasonable hope now exists that in the near future Baltimore will be rid of the scourge altogether. About one hundred and fifty cases still remain.

The new "Infectious Diseases Ordinance" has occasioned much favorable criticism and comment in medical circles; although the power conferred upon the health office is very great and the wording of some sections of the ordinance apparently harsh and stringent, nevertheless its justice is conceded by all. The first

sections relate to reporting cases of contagious or infectious diseases to the Commissioner of Health by physicians, keepers of all hotels, boarding-houses, and the agents and owners of all tenement houses or private residences or dwelling houses having any person or persons on the premises suffering from or afflicted with small-pox, yellow fever, cholera, malignant diphtheria, scarlet fever, varioloid, or any other disease, such as measles, that comes under the term contagious or infectious. Said report is to be made in writing within twenty-four hours.

Section 4 embraces commissioners, managers, principals, or other persons, or head officers of each and every public or private institution or school in the city. Then follow clauses touching masters and officers or consignees of vessels, providing for quarantine, and forbidding the landing of any skins, fish, rags, bones, hides, or similar material coming from any infected place; also the selling or exchanging or exposure of any straw, bedding, clothing, or articles liable to communicate any contagious disease, without a written permit from the Commissioner of Health. It is also forbidden to transport from place to place persons having the diseases in question, and ambulant patients are deprived of personal liberty; further, no public vehicle can be used for such transport, and in case of death in any conveyance for public hire such hackney coach, buggy, cab, or gig shall be taken by the Health Commissioner, disinfected, fumigated, and quarantined for thirty days, unless used for such purpose only.

The ordinance likewise confers power upon the health office to remove any sick or infected person to the hospital. Yellow flags are to be displayed upon all infected premises.

Vaccination is made compulsory. The health office have facilitated the carrying out of the above by sending to every regular practitioner postal cards with the formula of report printed upon them. The penalty for violating, omitting, neglecting, refusing to comply with, or hindering in any way the provisions of this ordinance is a fine of \$200 for each offense, to be collected as other fines are, except that the fine for refusal to vaccinate shall not exceed \$10.

The spirit of the ordinance is excellent, and if properly enforced will go far to rid us of small-pox and give more reliable mortality returns.

The Committee on Poisonous Drugs appointed at the last meeting of the Medical and Chirurgical Faculty of the State of Maryland, and consisting of Drs. G. Halsted Boyland, Thomas S. Latimer, and Lewis H. Steiner (senator), are actively engaged in collating material for their report, and examining the English and American laws upon the subject. The object of the committee is to draft a law regulating the sale of opium and its preparations, restricting said sale to the prescriptions of regularly qualified physicians only, with a view to preventing the purchase of large quantities of the drug for suicidal purposes, and to checking the opium habit. This pernicious practice is largely on the increase here; a chemist, in the eastern section of the city, states that five hundred would not cover the number of persons addicted to the use of laudanum in his district alone; he sells two gallons of laudanum monthly in this way. A fashionable apothecary of the West End says that morphia is the preparation preferred in his locality, but few using solid opium, and that about twenty five pounds of morphia a day are sold by the druggists. The question is a very serious one, both

as regards public health and medical jurisprudence. Maryland has, unfortunately, no law touching this, hence the action of the Faculty.

The Academy of Medicine, our most distinguished medical body, has recently been incorporated; it numbers among its members the elder and more brilliant lights. Regular meetings are held bi-weekly, and no one is eligible to membership unless he has practiced medicine for at least ten years; the papers and discussions are of a superior order. The president, Dr. James Carey Thomas, entertained the members of the Academy at his residence a few evenings ago. An elegant supper was provided, and appropriate speeches made by President Gilman, of Johns Hopkins University, and by Dr. Jno. S. Billings, United States Army, the latter with reference to the inaccuracy of vital statistics.

Work on the Johns Hopkins Hospital buildings is progressing rapidly. The question of finishing some of the wards and having them ready for the reception of patients next year, seems to have been decided in the negative, the trustees deeming it more advisable to wait until all the buildings are completed, and have them, with the Medical School of the University, regularly inaugurated three years hence. The standard is to be so high that only graduates of other schools will be sufficiently advanced to profit by the courses of study proposed; indeed, it is stated on very high authority that the German University plan is the one aimed at. It is nevertheless surmised that its usefulness will be circumscribed, the medical public having a decided penchant for the older institutions of the North, the American curriculum being incompatible with the German idea. In our practical day the student desires to enter as soon as possible that field in which he will learn what is most useful and profitable to him—the practice of medicine; once thoroughly prepared for that, the average American graduate would be inclined to regard the imposition of additional theoretical and scientific studies as attended with double loss, pecuniary and temporal. The new buildings of the University proper, situated at least a mile from the hospital, and on Ross Street, to be used as an addition to the chemical laboratory, are now nearly completed, and a portion already occupied. The present laboratory building, erected in 1874, has a front of fifty-three feet on Ross Street, and a depth of sixty-five feet; the new structures add thirty-two feet to the depth, giving a total depth of ninety-seven feet, thus making the chemical laboratory one of the largest in the country, and its equipments are probably the finest in America. The material used is pressed brick, with ornamental mouldings, trimmed with Cheat River stone, and laid in dark mortar. There are three stories, including the mansard roof. The old laboratory building has also been raised one story. One room is devoted to gas analysis; a room, which can be darkened at will, will be reserved for spectroscopic work; working rooms for students of all grades, fitted with the most improved appliances, etc. There are also separate laboratories for Professor Remsen and Dr. Morse, the associate professor in chemistry; a Fellows' room; lecture rooms, one of which will seat sixty students; a room devoted to mineralogy; private offices, and retiring rooms. A complete apparatus for assaying, and for all the operations of applied chemistry, will be placed in the basement.

There is no longer any doubt that the celebrated



Bluntschli Library will, in a very short time, be secured for the Johns Hopkins University.

The new Baltimore Eye and Ear Infirmary, on Franklin Street, is now open. The building contains fifteen large and well-ventilated rooms, suitably adapted to the purposes of an eye and ear infirmary. The rent is \$600 per annum, but the managers and professors are desirous of purchasing the property, which can be obtained for \$15,000. Many patients have already been received. The physicians who will attend to diseases of the eye and ear are Drs. Theobald, Russell, Murdock, S. L. Frank, and L. Bermann. Affections of the throat will be treated by Drs. Hartman, Samuel Johnson, and John N. Mackenzie.

At the annual meeting of the Hospital Relief Association of Maryland, held on Monday last, the movement now on foot to inaugurate Hospital Saturday and Sunday was under consideration. The chairman of the committee reported that he had extended an invitation to the Rev. W. G. Baker, secretary and originator of the very successful Hospital Saturday and Sunday movement in New York, to address a meeting of physicians, clergymen, and other prominent citizens of Baltimore. Among the managers are Drs. Alan P. Smith, Riggin Buckler, and H. P. C. Wilson.

A morgue is still one of Baltimore's pressing needs. Dead bodies found within the city limits are now laid out on the floor or benches of the police station house, there to await recognition and claimants. The matter has not yet taken definite form, but public opinion will doubtless soon place it before the city council through the Academy of Medicine or the State Faculty.

The Child's Hospital was formerly known as the Protestant Infant Asylum, and was located beyond the limits of Baltimore. About four years ago the management of the asylum secured the large, substantial building with surrounding grounds on Schroeder Street, covering an entire square. At the close of the war this place was turned from a private estate into the Union Orphan Asylum, where children whose fathers had perished in their country's service were brought up until able to go out into the world. There were one hundred and four children cared for during the last year.

The hospital room, though in the same building, is entirely separate from the nursery. It is a bright, cheerful, airy apartment on the first floor.

In the nursery children are not generally kept after they have attained the age of five, but in the hospital they are treated until cured, and provided for until they are fourteen or fifteen years old. Nearly all the children are cripples, but their general health appears good, and they pass the time happily with a liberal supply of toys, donated by the patronesses of the institution.

#### THE CENSOR QUESTION OF THE MASSACHUSETTS MEDICAL SOCIETY.

MR. EDITOR,—Dr. Haven, in his reply to my paper on the Censor question, seems disposed to substitute adjectives for argument. He cannot gainsay the fact which I stated that the Suffolk Censors, having twice failed to get a meeting in response to their invitation, appealed to the Council to compel attendance, though the most "superficial" examination of the By-laws would have shown them that the Council had no such power. If this was not a "step looking to the invasion of district rights," it would be hard to say what was.

Yours respectfully, EDWARD T. WILLIAMS.

#### DR. HAVEN'S REPLY TO DR. E. T. WILLIAMS ON THE CENSOR QUESTION.

MR. EDITOR,—In Dr. Haven's answer to Dr. Williams's criticism of the action of the Suffolk District Censors, which appeared in the last issue of the JOURNAL, two points were not alluded to which seem of some importance. Dr. Williams considers the Suffolk Censors to blame: (1.) For originating an attempt to change the present mode of examining candidates to the Society; (2.) As being party to, or initiating illegal action on the part of the Council.

The facts are as follows: First, the original action did not come from the Suffolk Board of Censors, but from an out of town Board, presumably, according to Dr. Williams, composed of "old and experienced practitioners." The examiners of the State at large (as the members of the Suffolk Board are *ex officio*) were requested by one of the local boards to initiate the movement. Second, their action did not transcend their defined duties — and was not illegal — as will be seen.

It is self-evident that one member of the Society has a right to ask another member to meet him, and the Censors have, of course, just the same right and can meet informally whenever they wish to.

A member can ask the President, the Secretary, or the Council to issue the invitations. And the Council can, of course, in answer to such a request, instruct the Secretary of the Board of Examiners for the State at Large to issue his invitations himself.

This is what was done, and this the position taken by the Council and Dr. Haven, who were as well aware as the member from the Norfolk District that an attempt to coerce the Censors would be illegal. The Council could not compel attendance, and did not attempt to; compulsion implies the power of threatening or inflicting a penalty, and there is no possible penalty in this case. The Council or Dr. Haven can invite, ask, request, or instruct Dr. Williams to come to Boston, or go to New York or anywhere. Such action might be foolish, but would not be illegal. There was, we believe, no illegal action, no attempt, or threatened attempt, to send a regiment of soldiers, or a band of strong men, or a policeman for Dr. Williams, and we have not heard that the latter was even blamed for not coming to the meeting. It is true, however, that his absence was regretted. He would have found that the meeting was not a failure, but an opportunity for informal discussion taken advantage of by a number of members from different parts of the State. At that meeting it was generally admitted that many of the Censors throughout the State were painfully ignorant of their duties, to which generalization, according to Dr. Haven, the chairman of the Norfolk Board of Censors does not furnish an exception.

As a former member of the accused Board of Suffolk District Censors, I should ordinarily feel myself in need of defense when under criticism from one so conscientious and intelligent as Dr. Williams, but in this instance it would appear that his zeal as chairman of a local board has blinded him to the interest of the Society at large, to the facts of the case, and even, according to Dr. Haven, to the By-laws, which should govern him.

I am told by the Secretary that Dr. Williams was also misinformed as to failure of the Censors to respond to the invitation of the Board of Examiners at Large (that is, the Suffolk Board). Forty gentlemen

were present at the preliminary meeting, all voting in favor of communicating with the Council in regard to the matter. The result is as mentioned above. This was Dr. Williams's invasion of "one of the few privileges which we have not already thrown away."

Yours respectfully,

E. H. BRADFORD, M. D.

#### A NEW TEST FOR ALBUMEN.

A NEW test for albumen is recommended in the *Lancet* by Dr. Wm. Roberts, consisting of a saturated solution of common salt slightly acidulated with dilute hydrochloric acid. The saline solution itself causes no reaction, but with an acidulation of five per cent. of the dilute acid one has a most delicate test for the presence of albumen. The method of applying the test is the same as by nitric acid. The cloudy zone of precipitation does not represent a coagulation of albumen as with the acid or by boiling. The precipitate is in fact soluble on free addition of water or of the albuminous urine itself. It is therefore essential to the efficient application of the test that the salt solution should be in excess at the point of expected reaction. This end is secured by pouring the solution down the side of the vessel so as to form a layer beneath the urine. It may also be secured by adding to the suspected urine a volume of the salt solution at least equal to that of the urine in the test tube. If this point be not attended to the test is unreliable. For instance, if acidulated brine be added drop by drop to an albuminous urine, and the mixture shaken up after each addition, the first few drops either occasion no turbidity whatsoever or the turbidity produced disappears on shaking. But when by successive additions the quantity of brine approaches to or surpasses the volume of urine operated on the turbidity remains permanent.

Dr. Roberts goes on to make the following claims for this method of testing:—

"In point of delicacy the salt test stands on a par with nitric acid. The minutest trace of albumen detectable in the urine by nitric acid is also detectable with equal ease by acidulated brine. In high-colored urines the brine test is distinctly superior. In this class of urines nitric acid produces a deepening of the tint, with often a disengagement of gas, which interferes with the sensitiveness of the reaction, but the brine test neither alters the tint nor causes disengagement of gas. On the other hand, I think that nitric acid gives a better idea of the quantity of albumen present by the density of the white cloud produced than does the brine test. In addition to albumen acidulated brine precipitates peptones which are sometimes present in urine; so that occasionally a slight cloudiness is produced by the salt solution where nitric acid and boiling (which do not precipitate peptones) produce no reaction. This distinction in the action of the brine test may hereafter lead to interesting information. In dense urines, highly charged with urates (but not containing albumen), the addition of nitric acid sometimes throws down the amorphous urates in the form of thick white clouds, and it is necessary to apply heat to distinguish with certainty the cloudiness so produced from cloudiness due to albumen. The salt test does not throw down the urates in this way. It is well known that the urines of patients who are tak-

ing large doses of resinous substances (such as the resin of copaiba), although free from albumen, yield a cloudiness with nitric acid in the cold, but if the urine be previously made hot nitric acid produces no such reaction. This difference serves to distinguish cloudiness due to resin from cloudiness due to albumen. The brine test also produces a cloudiness in resinous urines, and the reaction occurs whether the urine be hot or cold. To avoid the fallacy thereby arising, all that is necessary is to add an excess of the urine which is being tested. If the cloudiness be due to albumen it disappears on such addition, but if it be due to resin the cloudiness does not disappear on the addition of more urine. One of the chief advantages of the salt test is its incorrosive character. It does not stain nor burn holes in garments and carpets, nor fleck the hands with yellow spots. The use of it makes it possible to arrange a pocket case for urine testing that shall not be a terror to the wearer. From this point of view the substitution of the salt solution for nitric acid will be a real boon to practitioners. The salt test has this additional convenience, that it enables us to test successively for albumen and sugar on one and the same sample of urine. The suspected urine is first tested for albumen with the salt solution, and then Fehling's solution or, still better, a pellet of the solid Fehling's test sent out by Cooper is added, and heat applied. After boiling a few seconds the absence or presence of sugar is ascertained. The admixture of the brine in no way interferes with the copper reaction in case sugar should exist in the urine."

#### ERRORS OF DIAGNOSIS IN RETROPHARYNGEAL ABSCESS.

DR. ALEXANDER W. MCCOY, in the *Medical News*, reports another case of retro-pharyngeal abscess, and in commenting on this, with his other cases, says:—

"The fact most impressed upon the mind of the writer from the examination of these three cases was that there was a mistaken diagnosis in every case by the attending physician. One case was treated with liniments, etc., nearly four weeks for rheumatism of the neck. Another patient had many opinions expressed by his several attending physicians, none of which were at all correct. The third case appeared to have been treated for tonsillitis, as well as could be determined from the medicine prescribed—tincture of iron and chlorate of potassium.

"These errors in diagnosis, made by good practitioners, appear more surprising to a specialist in diseases of the throat than they do to the general practitioner, because the specialist has peculiar appliances and methods for examination of these affections which are overlooked by the mass of practitioners; noticeably, a good light and palpation with the index finger well into the pharynx. By palpation in this manner, an abscess can hardly be mistaken after pus has formed. In the judgment of the writer all cases of retro-pharyngeal abscess, where no disease of the vertebrae is present, give indications of early formation of pus. In all three cases mentioned in this paper pus had undoubtedly been present for weeks, and had caused, from its accumulation and mechanical interference, a serious train of suffering accompanied by impending starvation, which could have been so readily and

promptly relieved. Abscess in this quarter occurs so seldom that the physician is generally off his guard. This fact, coupled with those already mentioned, — insufficient illuminations and incomplete examination of the throat, — makes the mistaken diagnosis almost a certain sequence.

"The treatment consists in prompt surgical interference as soon as pus has formed. The evacuation of the pus can be accomplished best by one or two procedures: evacuation by a small vertical incision as high up as the free border of the soft palate, and not low down at the point of greatest tension, as would be generally selected; or by aspiration, which is a safe and satisfactory method. In infants and children, where exhaustion is always marked, and danger of suffocation from entrance of pus into the larynx imminent, aspiration can be employed with so little risk, and with so much

facility, that, in the judgment of the writer, it should supersede all other methods. After the tension of the abscess has been relieved (either by the small vertical incision or with the aspirating needle) and thereby all risk avoided from the flow of pus, the incision can be somewhat extended, or take the place of the needle. An opening lower down can then be safely made if desirable. The writer does not ever advise a free incision, lest particles of food and drink, or atmospheric air, get into the sack. For the same reason he prefers the incision high up and very small in extent.

"The accumulation of pus can be pumped out from time to time, satisfactorily with the finger, until the cavity has become filled with reparative material. It is doubtful if any surgical interference from the outside of the oral cavity, made with a view to reach the abscess, is ever justifiable."

# REPORTED MORTALITY FOR THE WEEK ENDING DECEMBER 2, 1882.

| Cities.                           | Population by Census of 1880. | Reported Deaths in each. | Deaths under Five Years. | Percentage of Deaths from         |                |                       |                |                      |
|-----------------------------------|-------------------------------|--------------------------|--------------------------|-----------------------------------|----------------|-----------------------|----------------|----------------------|
|                                   |                               |                          |                          | The Principal "Zymotic" Diseases. | Lung Diseases. | Diphtheria and Croup. | Typhoid Fever. | Diarrhoeal Diseases. |
| New York.....                     | 1,206,390                     | 584                      | 213                      | 16.08                             | 19.17          | 6.51                  | 1.03           | 2.23                 |
| Philadelphia.....                 | 846,984                       | 376                      | 129                      | 21.17                             | 7.23           | 14.74                 | 1.34           | 1.10                 |
| Brooklyn.....                     | 566,889                       | 249                      | 111                      | 19.27                             | 24.49          | 10.04                 | .80            | 1.21                 |
| Chicago.....                      | 503,804                       | 183                      | 66                       | 8.73                              | 14.25          | —                     | 4.37           | .55                  |
| Boston.....                       | 362,835                       | 176                      | 53                       | 19.95                             | 14.20          | 8.55                  | 1.71           | 5.06                 |
| St. Louis.....                    | 350,522                       | —                        | —                        | —                                 | —              | —                     | —              | —                    |
| Baltimore.....                    | 332,190                       | 202                      | 77                       | 42.08                             | 5.94           | 17.85                 | 3.47           | 3.47                 |
| Cincinnati.....                   | 255,708                       | 97                       | 29                       | 10.31                             | 15.46          | 4.12                  | —              | —                    |
| New Orleans.....                  | 216,140                       | —                        | —                        | —                                 | —              | —                     | —              | —                    |
| District of Columbia.....         | 177,638                       | 48                       | 18                       | 16.66                             | 14.58          | 6.25                  | —              | —                    |
| Pittsburg.....                    | 156,381                       | 70                       | 14                       | 24.90                             | 10.62          | 4.28                  | 15.71          | 2.86                 |
| Buffalo.....                      | 155,137                       | 64                       | 32                       | 21.20                             | 12.48          | 14.04                 | 4.68           | —                    |
| Milwaukee.....                    | 115,578                       | 48                       | 22                       | 14.58                             | 14.58          | 12.50                 | 2.08           | —                    |
| Providence.....                   | 104,857                       | 57                       | 10                       | 36.83                             | 10.52          | 7.02                  | 21.05          | 3.51                 |
| New Haven.....                    | 62,882                        | 33                       | 9                        | 18.18                             | 12.12          | —                     | 9.09           | —                    |
| Charleston.....                   | 49,999                        | 30                       | 9                        | 6.66                              | 9.99           | —                     | —              | 5.00                 |
| Nashville.....                    | 43,461                        | 20                       | 8                        | 5.00                              | 5.00           | —                     | —              | —                    |
| Lowell.....                       | 59,485                        | 17                       | 7                        | 29.41                             | 5.88           | 11.76                 | 11.76          | —                    |
| Worcester.....                    | 58,295                        | 20                       | 11                       | 25.00                             | 25.00          | 10.00                 | 5.00           | —                    |
| Cambridge.....                    | 52,740                        | 26                       | 8                        | 11.54                             | 30.77          | 7.89                  | —              | —                    |
| Fall River.....                   | 49,006                        | 19                       | 10                       | 31.58                             | 10.52          | 15.79                 | 5.26           | 10.52                |
| Lawrence.....                     | 39,178                        | —                        | —                        | —                                 | —              | —                     | —              | —                    |
| Lynn.....                         | 38,284                        | 7                        | 1                        | 14.28                             | 14.28          | —                     | —              | —                    |
| Springfield.....                  | 33,340                        | 8                        | 2                        | 37.50                             | —              | 12.50                 | —              | —                    |
| Salem.....                        | 27,598                        | 9                        | —                        | 11.11                             | —              | —                     | 11.11          | —                    |
| New Bedford.....                  | 26,875                        | —                        | —                        | —                                 | —              | —                     | —              | —                    |
| Somerville.....                   | 24,985                        | 8                        | 2                        | 37.50                             | —              | 25.00                 | —              | —                    |
| Holyoke.....                      | 21,851                        | 11                       | 6                        | 36.36                             | 18.18          | 18.18                 | —              | 9.09                 |
| Chelsea.....                      | 21,785                        | 5                        | —                        | —                                 | —              | —                     | —              | —                    |
| Taunton.....                      | 21,213                        | 6                        | 1                        | —                                 | —              | —                     | —              | —                    |
| Gloucester.....                   | 19,329                        | 4                        | 1                        | —                                 | —              | —                     | —              | —                    |
| Haverhill.....                    | 18,475                        | 4                        | —                        | 25.00                             | —              | —                     | 25.00          | —                    |
| Newton.....                       | 16,995                        | —                        | —                        | —                                 | —              | —                     | —              | —                    |
| Brockton.....                     | 13,608                        | —                        | —                        | —                                 | —              | —                     | —              | —                    |
| Newburyport.....                  | 13,537                        | 5                        | 12                       | —                                 | 20.00          | —                     | —              | —                    |
| Pitchburg.....                    | 12,405                        | —                        | —                        | —                                 | —              | —                     | —              | —                    |
| Malden.....                       | 12,017                        | 3                        | 0                        | 33.33                             | —              | —                     | 33.33          | —                    |
| Eighteen Massachusetts towns..... | 139,078                       | 46                       | 8                        | 13.04                             | 6.52           | 6.52                  | 2.17           | —                    |

Deaths reported 2439 (no reports from St. Louis and New Orleans); under five years of age 860; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 493, consumption 379, lung diseases 342, diphtheria and croup 218, typhoid fever 69, scarlet fever 53, diarrhoeal diseases 44, small-pox 33, malarial fevers 23, whooping-cough 21, erysipelas 10, cerebro-spinal meningitis nine, puerperal fever eight, measles five. From scarlet fever, New York 14, Brooklyn and Buffalo seven each, Baltimore six, Philadelphia five, Boston and Cincinnati four each, District of Columbia and Worcester two each, Pitts-

burg and Lynn one each. From small-pox, Baltimore 25, Philadelphia and Chicago three each, Pittsburg and North Adams one each. From malarial fevers, Brooklyn eight, New York six, Philadelphia, District of Columbia, and Charleston two each, Baltimore, Cincinnati, New Haven, and Springfield one each. From whooping-cough, New York nine, Philadelphia four, Providence and New Haven two each, Brooklyn, Chicago, Baltimore, and Buffalo one each. From erysipelas, New York six, Brooklyn two, Philadelphia and Boston one each. From cerebro-spinal meningitis, New York two, Boston, District of Columbia, Providence, Lowell, Somerville, Holyoke, and Woburn one each.

From *puerperal fever*, Boston three, Chicago two, New York, Cincinnati, and Cambridge one each. From *measles*, New York four, Chicago one.

One hundred and twenty-seven cases of small-pox were reported in Baltimore, Cincinnati five, Pittsburgh four; diphtheria 52, scarlet fever 30, typhoid fever 12, in Boston; scarlet fever 14 and diphtheria 10 in Milwaukee.

In 33 cities and towns of Massachusetts, with a population of 914,068 (population of the State 1,783,086), the total death-rate for the week was 20.31 against 18.81 and 17.48 for the previous two weeks.

For the week ending November 4th, in 172 German cities and towns, with an estimated population of 8,522,712, the death-rate was 22.4. Deaths reported 3668: under five years of age 1787, consumption 481, lung diseases 358, diphtheria and croup 211; scarlet fever 129, whooping-cough 59, typhoid fever 55, measles and rubella 51, puerperal fever 22, small-pox (Mannheim one) one. The death-rates ranged from 10.4 in Mannheim to 29.9 in Chemnitz; Königsberg 29.4; Breslau 27.2; Munich 25.6; Dresden 22.4; Berlin 23.2; Leipzig 22.2; Hamburg 19.1; Cologne 24.8; Frankfurt a. M. 15.2; Strasburg 20.

In the 28 English towns, with an estimated population of 8,469,571, for the week ending November 18th, the death-rate was 22.6. Deaths reported 3668: acute diseases of the respiratory organs (London) 345, scarlet fever 140, measles 115, fever 82, diarrhoea 69, whooping-cough 65, diphtheria 30, small-pox (London four, Newcastle five) nine. The death-rates ranged from 13.9 in Birkenhead to 30.7 in Sunderland; Leicester 17.8; Brighton 19.5; London 21.1; Sheffield 23.7; Birmingham 23.3; Nottingham 25.3; Liverpool 28; Manchester 29.9. In Edinburgh 21.1; Glasgow 29; Dublin 26.1.

For the week ending November 18th, in the Swiss towns, population 494,390, there were 30 deaths from acute diseases of the respiratory organs, consumption 21, diarrhoeal diseases 16, typhoid fever 10, diphtheria and croup nine, scarlet fever three, puerperal fever three, whooping-cough two, measles one, erysipelas one. The death-rates were, at Geneva 10.3; Zurich 18.3; Basle 16.3; Berne 18.4.

The meteorological record for the week ending December 2 in Boston, was as follows, according to observations furnished by Sergt. O. B. Cole, of the U. S. Signal Corps:—

| Date.                    | Barom-eter. | Thermom-eter. |             |          |          | Relative Humidity. |            |             |             | Direction of Wind. |            |             | Velocity of Wind. |            |                | State of Weather. <sup>1</sup> |            |             | Rainfall.            |                   |
|--------------------------|-------------|---------------|-------------|----------|----------|--------------------|------------|-------------|-------------|--------------------|------------|-------------|-------------------|------------|----------------|--------------------------------|------------|-------------|----------------------|-------------------|
|                          |             | Daily Mean.   | Daily Mean. | Maximum. | Minimum. | 7.23 A. M.         | 3.23 P. M. | 11.23 P. M. | Daily Mean. | 7.23 A. M.         | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.        | 3.23 P. M. | 11.23 P. M.    | 7.23 A. M.                     | 3.23 P. M. | 11.23 P. M. | Duration Hrs. & Min. | Amount in inches. |
| November-December, 1882. |             |               |             |          |          |                    |            |             |             |                    |            |             |                   |            |                |                                |            |             |                      |                   |
| Sun., 26                 | 30.028      | 28            | 35          | 25       | 48       | 45                 | 95         | 63          | NW          | W                  | NE         | 10          | 11                | 6          | C              | O                              | S          | —           | —                    |                   |
| Mon., 27                 | 29.941      | 26            | 31          | 20       | 76       | 77                 | 88         | 80          | NW          | NW                 | NW         | 11          | 18                | 11         | O              | C                              | O          | —           | —                    |                   |
| Tues., 28                | 30.148      | 28            | 36          | 19       | 70       | 76                 | 77         | 74          | NW          | W                  | NW         | 10          | 4                 | 10         | F              | O                              | C          | —           | —                    |                   |
| Wed., 29                 | 29.904      | 27            | 32          | 25       | 77       | 90                 | 100        | 89          | NE          | NE                 | NE         | 16          | 21                | 14         | S              | S                              | C          | —           | —                    |                   |
| Thurs., 30               | 29.987      | 25            | 30          | 20       | 76       | 67                 | 76         | 73          | NW          | W                  | SW         | 9           | 13                | 8          | S              | C                              | C          | —           | —                    |                   |
| Fri., 1                  | 29.969      | 34            | 39          | 18       | 76       | 66                 | 62         | 71          | SW          | SW                 | SW         | 12          | 13                | 8          | O              | C                              | O          | —           | —                    |                   |
| Sat., 2                  | 29.877      | 39            | 52          | 32       | 82       | 63                 | 96         | 77          | S           | S                  | N          | 5           | 8                 | 11         | O <sub>4</sub> | F                              | O          | —           | —                    |                   |
| Means, the week.         | 29.979      | 30            |             |          |          |                    |            | 78          |             |                    |            |             |                   |            |                |                                |            | 15.00       | .70                  |                   |

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., snow; R., rain; T., threatening.

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM DECEMBER 1, 1882, TO DECEMBER 8, 1882.

POWELL, J. L., assistant surgeon. Relieved from temporary duty as attending surgeon at headquarters, Department of Texas, and to proceed to Fort Davis, Texas, and report to the commanding officer for duty. S. O. 129, Department of Texas, November 23, 1882.

MOORE, JOHN, major and surgeon. The extension of leave of absence granted November 3, 1882, is further extended one month. Paragraph 4, S. O. 283, A. G. O., December 6, 1882.

CRAMFON, LOUIS W., captain and assistant surgeon. Granted four months' leave of absence. S. O. 289, A. G. O., December 2, 1882.

CALDWELL, DANIEL G., captain and assistant surgeon. Leave of absence granted in special orders, No. 105, October 3, 1882, Department of the Platte, extended three months. S. O. 279, A. G. O., December 1, 1882.

GORGAS, W. C., assistant surgeon. Relieved from duty at Fort Brown, Texas, and will accompany the Nineteenth Infantry to Forts Clark and Duncan, Texas. Their future stations will be announced. S. O. 130, Department of Texas, November 27, 1882.

MADDOX, T. F. C., assistant surgeon. Relieved from duty at Fort Brown, Texas, and will accompany the Nineteenth Infantry to Forts Clark and Duncan, Texas. Their future stations will be announced. S. O. 130, Department of Texas, November 27, 1882.

ELDE, WALTER, captain and assistant surgeon. Assigned to duty as attending surgeon, headquarters Department of the Platte. Paragraph 2, S. O. 127, Department of the Platte, December 1, 1882.

TAYLOR, MARCUS E., captain and assistant surgeon. The

leave of absence granted August 14, 1882, is extended two months. Paragraph 6, S. O. 283, A. G. O., December 6, 1882.

GRAY, WILLIAM W., first lieutenant and assistant surgeon. The leave of absence granted on surgeon's certificate of disability, October 31, 1882, Department of the South, is extended five months on surgeon's certificate of disability. Paragraph 3, S. O. 278, A. G. O., November 29, 1882.

RESIGNATION AND APPOINTMENT.—Dr. H. P. Walcott has resigned the position of Health Officer of the Massachusetts Board of Health, Lunacy, and Charity, and Dr. Samuel W. Abbott, of Wakefield, has been appointed his successor.

BOSTON SOCIETY FOR MEDICAL OBSERVATION.—A regular meeting of the Society will be held at the Medical Library, on Monday, December 18, 1882, at eight o'clock p. m. Reader, Dr. T. M. Rotch. Subject, A Case of Peritonitis in a Child Eighteen Months Old, following Cheesy Degeneration of the Mesenteric Glands. Dr. W. A. Dunn will report a Case of Emphysema occurring during the Third Stage of Labor.

C. M. JONES, Secretary.

BOOKS AND PAMPHLETS RECEIVED.—WATER-ANALYSIS. A Handbook for Water-Drinkers. By G. L. Austin, M. D. Boston: Lee & Shepard. New York: Charles T. Dillingham. 1883.

Anatomical Technology as applied to the Domestic Cat. An Introduction to Human, Veterinary, and Comparative Anatomy. With Illustrations. By Bart G. Wilber, B. S., M. D., Professor of Physiology, Comparative Anatomy, and Zoology in Cornell University, and Simon H. Gage, B. S., Assistant Professor of Physiology and Lecturer on Microscopical Technology in Cornell University. New York and Chicago: A. S. Barnes & Co. 1882.

## Lectures.

CLINICAL LECTURE.<sup>1</sup>

BY DAVID W. CEEVER, M. D.,  
Professor of Surgery, Harvard University.

I. PARTIAL ASPHYXIA BY HANGING. INCISED WOUNDS OF TRACHEA AND OESOPHAGUS. STRICTURE OF LARYNX. SECONDARY TRACHEOTOMY. FORCIBLE DILATATION OF THE RIMA GLOTTIDIS.

GENTLEMEN.—The first case is one of extraordinary interest, and one which you will hardly see paralleled. This young man is a Roumanian, and served as a soldier in the Turko-Russian war. Roumania was, I believe, occupied alternately by the opposing armies, and was the scene of some of the worst excesses of the Turks. This man was captured by them and strung up to a tree. Before he was dead, however, he was cut down for some reason. He was then hacked, as he says, with scythes, of which you see the wounds upon his neck and face. By these weapons his trachea was cut open transversely, and his oesophagus, he says, was pierced. At any rate he lay for many months in a hospital of his country, during which time he was nourished by enemata. This mutilation was received five years ago. He gradually healed his wounds, and for a time breathed through the opening made by the *transverse* tracheotomy performed by his assailants. But gradually the chink narrowed, exudative inflammation of the larynx and trachea came on, and three years later (two years ago) he went to the Vienna General Hospital for relief of his breathing. There he came under the charge of Professor Schrötter, who has written a paper about him. Of course the immediate treatment for the spasms of asphyxia was tracheotomy. A tube was inserted, which he is wearing to-day. He carries with him a number of hard rubber tubes which he shifts with great facility. The next attempt of the surgeon was to restore the passage through the constricted larynx. The patient says that at first nothing could be passed through the glottis larger than (as he expresses it) this silk ligature. When the dilating process was begun of course he had no power of speech or of breathing through the larynx. Schrötter carried on the dilatation by means of bougies of constantly increasing size. The bougies are of lead, in form like the sinkers used on fishing lines. The patient was kept under treatment for two years; he was then given a set of the instruments, and after being taught how to use them upon himself was allowed to go. He has come to this country, where he earns his living partly by exhibiting himself as a surgical curiosity. By means of an ingenious apparatus he is able to put the sinkers in place and withdraw them at will, as you will see in a moment. What is especially striking is that the larynx, which in health is so exceedingly sensitive that it cannot tolerate a hair or a particle of mucus without a distressing cough, becomes after such a cicatrization and chronic thickening so tolerant that it will support the presence of one of these heavy sinkers all night. By day the patient breathes through the tube without having anything in his larynx, and by closing the tube with his finger he is able to talk very well. Every night he introduces a sinker, fastens it in place, and sleeps without discomfort. For half an hour after removing it in the morn-

ing he cannot speak aloud. For this reason he dislikes to have it in for any length of time during the day, as it interferes with his speech for a while. All this manipulation he does with great dexterity himself, seeming to have no special sensibility of the mucous membrane. He has thus made a great gain in the restored function of his vocal cords. The question occurs, what will be the future of the case? In view of the remarkable success which has followed the treatment of the eminent surgeon, it may seem that an unfavorable prediction is not warranted, but I must doubt whether he will ever be able to dispense permanently with his tracheal tube. All organic strictures are constantly shrinking, and it is not likely that the present size of the glottis will be permanently insured by the foregoing dilatation. There is risk if he leaves out the trachea-tube and lets the orifice close that while he will do well for a time stenosis of the larynx may again supervene, and the opening will have to be again made. And we must remember that when his tracheal wound is closed he cannot tolerate the dilating sinkers in the larynx.

You will now have an opportunity of seeing him manipulate his instruments. As he takes out the tube you can look upward and see the vocal cords and down the trachea into the bronchi. He now takes the repositior and crowds the sinker down between the vocal cords, so that you see the end appearing at the tracheal opening. It fits in a fenestra at the upper side of the rubber tube, and is grasped and fixed by this small pair of forceps, which he introduces through the tube and then screws together like a clamp. The sinker is oblong in section, and its long diameter runs antero-posteriorly. He now withdraws the repositior over the string which is attached to the sinker, and ties the string around his ear. This is the way he keeps the sinker in place during the night, and in the morning he has only to unscrew the clamp-forceps below and pull the string with the sinker attached out at his mouth. When the sinker is in position he breathes easily through the tube, and, as you see, has no difficulty in swallowing either liquids or solids. He says that to-day the larynx and pharynx are both a little swollen, owing to his having caught cold, so that they are slightly irritable, which they usually are not. For this reason also his voice is a little husky, but even now, immediately after the passage of the sinker, you observe that he speaks quite distinctly and audibly.

I call your attention to the tube he wears habitually as being considerably shorter than the silver ones we have for use in this hospital.

The case is rare, both from the unexampled nature of his wounds and for the great surgical skill with which he has been treated.

II. COLD ABSCESS FROM PROBABLE CARIES OF THE PELVIS.

The next patient I bring before you this morning will be operated upon without ether.

He is a healthy young man of twenty-six years of age, who works for a grocer in a suburban town. He has always been active and strong, and has performed without difficulty the duties of his occupation, jumping on and off his wagon, and lifting weights sometimes as heavy as a barrel of flour. What is especially remarkable about the case is that although he presents marked evidences of disease, he has retained his flesh, strength, and color, and looks, in fact, the picture of

<sup>1</sup> Specially reported for the JOURNAL.

health. He has actually left his work to-day to present himself for treatment for what is likely to prove a long and exhausting illness. Six months ago he first consulted a physician for wandering pains about his loins, hip, and back. They were considered to be rheumatic, and were treated with blisters, etc., but without effect. Next there began to be noticed a swelling of the left hip and thigh, and the question of hip disease was, of course, raised. The swelling continued, and was accompanied by signs of venous obstruction, which suggested to an eminent practitioner of a neighboring city the likelihood of malignant disease, probably sarcoma, of the thigh. Later the detection of fluctuation rendered the existence of sarcoma less probable. He now carries about with him a swelling and weight which is destined soon to tell upon his health. You will see when he is brought in that the swelling is now most marked in two localities: the first nearly over the trochanter major, the second in the site of psoas abscess. The former gives the more distinct fluctuation. The history and the signs therefore point to a cold abscess, located somewhere about the pelvis.

The first question is as to its origin. The swelling, though so marked externally, evidently proceeds from within the pelvis. We discover a rounded prominence inside the internal iliacus muscle. In the absence, as I shall show you, of any indication of disease of the kidney, the spine, or the hip-joint, I conclude that the abscess proceeds from a caries within the pelvis (either of the ilium or ischium), and that the pus has found its way out at the sciatic notch, and probably also along the sheath of the psoas and iliacus muscles. I shall aspirate and draw off as much of the pus as possible, then apply a firm spica bandage, and see if that will prevent its refilling. If, however, the diagnosis of caries is correct, the cause not being removed, pus will again be formed, and the abscess will fill up. It will eventually break, sinuses will appear, and the patient will go through the stages of wasting caries. The prognosis, then, in spite of the man's present healthful appearance, is quite unfavorable.

We will now have the patient brought in. You will notice that he is unable fully to extend his left leg, but keeps the knee and thigh a little flexed. This is a characteristic of psoas abscess, and is an involuntary attempt to relax the fascia, which lies above the pus. The increased size of the limb is obvious. This swelling in the neighborhood of the trochanter major gives marked fluctuation. The swelling on the inner and front aspect of the thigh is harder and firmer, owing to the pus being under the fascia lata. The venous congestion to which I referred is evident on the outer side of the limb. I will now demonstrate to you that the trouble does not proceed from the kidney, spine, or hip. First notice the hollowness of the flank. Grasping his loin at this point, midway between the crest of the ilium and the last rib, I can nearly make my fingers and thumb meet without causing him any pain. This is the region for perinephritic abscess, and you can see that in this case it is empty. Secondly, on running my hand along the spine I find there is no tenderness or projection at any point, hence we have no evidence of Pott's disease. Finally, I ask him to flex his thigh, which he does without difficulty; I rotate it, and the motion is absolutely free and painless. There is, then, no hip disease.

I now enter this small needle over the trochanter,

and, as you see, the indicator at once shows the presence of pus. I can feel that the needle is in a great cavity, but the pus does not flow into the receiver, because it is too thick. I use a larger needle, and the pus flows freely for a minute, and then the eye of the needle becomes plugged. The obstruction being removed the pus flows again for a few seconds. After several attempts we have succeeded in getting only six or seven ounces of pus, which is thick, homogeneous, and healthy looking. Fluctuation can be obtained through the whole thigh, from side to side, and though we have nearly emptied the outer swelling, we have probably not withdrawn a quarter of what is in the leg. It would be easy to evacuate the rest with a trocar or a free incision, but this would give rise to an immediate inflammation in the sac. I shall therefore do no more to-day, but cover the puncture with a bit of plaster, have him bandaged, and put to bed.

### III. REAMPUTATION OF THE LEG: FOURTH SIMILAR OPERATION ON THE SAME PATIENT.

This man met with a railway injury two or three years ago, for which both legs were amputated in Worcester. Last March I reamputated the left leg on account of conical and irritable stump. At that time he urged that the other, which had also broken out, might be reamputated. I consented to do it in case I should find any necrosis. Only a painful ulcer of the soft tissues was found, and I declined to take the risk of a double operation. He has now come back with the right leg still ulcerated, and wants it again taken off. For the past six months the patient has earned his living by working for a manufacturer of artificial limbs, and he can give you any information you wish as to places of election in amputating, and as to what is necessary in a good stump. The first operations left the two legs of equal length, but the resection of the left one leaves only three and one half inches below the tubercle of the tibia. We are told that four inches is a desirable length for a good stump. He wants the right one left a little longer than the other, and I think we can spare him just four inches. Certainly I can promise him no more. I shall save every possible fraction of the skin and bevel the bone. The stump, from my operation in March, as you see, is good. He even says he can bear a considerable weight on the very end of it, which, of course, is not allowed in a well adjusted artificial limb. The ulcers which he presents on the right leg are due to lateral pressure of the artificial socket pulling the skin back over the end of the bone, and not to direct pressure on the end of the stump.

[The leg was amputated four inches below the tubercle of the tibia, and ample oval skin flaps made. The vessels were tied with catgut and cut short. A rubber drainage tube was put in, and the stump done up in carbolic oil and Lister gauze.]

### IV. LACERATED WOUNDS OF BOTH HANDS, AND LOSS OF FINGERS BY A CIRCULAR SAW ACCIDENT.

The stumps of these fingers were trimmed, and one joint resected, a week since, in this hospital. The hands have suppurated extensively, and require incision. I open one abscess on the dorsum, and one in the palm. Long setons are passed through both for drainage. Most of our circular-saw accidents have done admirably this winter. I fear this case will prove an exception to this success.

Thorough drainage, irrigation twice daily with antiseptics, splints to insure rest, and a Lister dressing comprise our treatment in these cases.

## Original Articles.

### PUERPERAL ALBUMINURIA.<sup>1</sup>

BY FRANCIS F. BROWN, M. D.

JUNE 12, 1881. Mrs. H., of nervous temperament, and subject to neuralgic headaches, but who has otherwise always enjoyed good health, twelve days before the expected time of her first confinement, became suddenly almost entirely blind. Her urine was found to be loaded with albumen, becoming almost solid on boiling, and the quantity was less than normal. There was œdema, but not a great amount. She did not feel sick at first, and was unwilling to see a physician. On the 18th she had severe pain in her head back of the eyes, and for a short time delirium, — which is not an uncommon thing for her when sick, — but generally she continued comfortable till the night of the 22d and on the 23d, when she suffered excruciatingly from headache and pain behind the eyes, and vomited. Urine less scanty, three pints in twenty-four hours, and somewhat less albuminous than when first examined. She had been taking bitartrate of potash and digitalis. Labor commenced on the evening of the 23d, and progressed normally to its termination in seven hours and a half. There was no convulsion. She was kept moderately under the influence of ether, inhaling ten or twelve ounces. Pain entirely left her head and eyes when her labor pains came on, but returned again not long after the birth of the child, and her sufferings from this source for a fortnight were so great as to require twice daily one fourth of a grain of morphia subcutaneously. A severe attack of purulent cystitis came on two days after delivery to increase her sufferings, sometimes causing more than the head trouble. After two weeks she began to mend more decidedly, and was able to get along without opiates.

Her recovery was slow. The cystitis was severe, the pain of it great, and the amount of pus in the urine larger for a fortnight, after which time it rapidly diminished, and in a few weeks more entirely disappeared. The albumen, instead of soon disappearing, as was hoped, persisted in gradually diminishing amount for months. In October it amounted to about one fifteenth of the bulk of the urine. In March and April, 1882, it was tested twice, and none found. In August and September, 1882, it was tested four times, and one specimen contained a small amount, and one merely a trace. At this latter time she was convalescing from an attack of inflammatory rheumatism. No renal casts have ever been found, though careful search has been made by my friend, Dr. S. W. Abbott, of Wakefield, six times at intervals during the year. Frequent and severe headaches, and short and sharp neuralgic pains in her head and face, persisted for months, gradually diminishing. At present I do not think she suffers in this way much, if any more than previous to her sickness. Five months after confinement she called herself well, with the exception of her vision. This returned only in part, and slowly; for a long time she saw things as through a fog, or as if sun-blinded. It was variable also; when her head felt

bad she could scarcely see her own hands, when it felt best she could see to sew and thread her needle. Up to the present time, September, 1882, it has continued to improve, so that she reads and sews as before her sickness, except when she has neuralgia; then her sight is dimmed somewhat. The left eye is poorer than the right.

The result of this case has been both a satisfaction and a disappointment. Her safe delivery without the occurrence of convulsions was a happy relief, but her tedious convalescence and imperfect recovery, instead of a rapid disappearance of the albumen and recovery of her vision, as is usual in such cases, was not all that was hoped for. Her blindness was at first undoubtedly uræmic; what the condition of the retina is undetermined, for I have never been able to persuade her to have an ophthalmoscopic examination. Bartels says we must distinguish between the sudden and complete blindness of uræmia, which, as a rule, subsides as suddenly as it comes, and those disturbances of vision due to structural alteration of the retina, sometimes the result of chronic Bright's disease. The physical cause of the former is unknown; it may be œdema of the retina.

Puerperal albuminuria is one of the most frequent of the puerperal diseases. Dr. William L. Richardson examined one hundred and fifty-six successive pregnant women admitted to the Boston Lying-in Hospital, and found albumen in varying amount in sixty-four, about forty-one per cent. Others have found it in from twenty to thirty per cent. of the cases examined. It rarely occurs before the sixth month, and more often in primipare.

To repeat, from one to two fifths of all pregnant women have albuminuria in the latter part of their pregnancy in greater or less amount. In a large majority it is never discovered because not looked for, giving rise to no noticeable symptoms, and having no unfavorable influence on the mother or child. And yet from this class come some of the most formidable cases with which we have to deal, for puerperal convulsions occur almost exclusively in the subjects of puerperal albuminuria. How may we know which of them are likely to result seriously? They may be divided into three classes: —

The first in order of gravity includes those pregnant women who are already the subjects of chronic Bright's disease.

The second, cases of acute parenchymatous nephritis.

The third, a much larger number than both the preceding, those subjects of albuminuria who, except the albumen, show no evidence of either of the preceding diseases.

(1.) I have put first in the order of gravity those cases of pregnant women who are already the subjects of chronic nephritis. I have seen but little written about this class, as a class, so that what I have to say on this point are inferences of mine from the general behavior of the disease, rather than from my limited experience or from the direct statements of those who are considered authorities. It seems to me that this disease in a pregnant woman must be likely to give rise to very serious if not fatal complications. We know that premature delivery is liable to occur in such cases. If the mother goes to her full term, what is her liability to uræmic convulsions compared with sufferers from acute nephritis, I do not

<sup>1</sup> Read before the East Middlesex District Medical Society.

recollect to have seen stated, but I think it is greater. If she has convulsions, my impression is that they are more apt to prove fatal than in cases of acute nephritis. Should she survive them, she has received an impulse which must accelerate her progress downward, and in some one of her successive pregnancies, if she does not die in convulsions she will be likely to of puerperal anæmia soon afterwards.

(2.) Cases of acute parenchymatous nephritis. How frequently this occurs is uncertain. Of one thing we may be sure, if we consider that we have this disease to deal with every time we find albumen in the urine of a pregnant woman, we commit a blunder of the first magnitude. For, as we have seen, from one to two fifths of all pregnant women are found to have albuminuria in the latter part of their terms. Bartels estimates that acute nephritis occurs in about one case out of one hundred and thirty-six of pregnancy. That is to say, from twenty-five to fifty cases of puerperal albuminuria occur to one of acute nephritis of pregnancy. Of course these figures are only very rough approximations, but they show the infrequency of the latter compared with the former.

Acute parenchymatous nephritis of pregnancy runs a similar course to that from other causes, with some important modifications. It is usually developed without any striking disturbance of the general health. Edema is often absent. Uræmic symptoms are more common than in ordinary nephritis. It may occur in healthy women; Bartels has observed it with special frequency in the robust and plethoric. The amount of albumen is larger than in ordinary acute nephritis. The elements found in the sediment are those found in nephritis from other causes, but hyaline casts are usually not abundant, and blood is rarely found.

The pathological changes found in this disorder are identical with those of other forms of acute nephritis, with the exception that hemorrhagic extravasation is less frequent.

*Prognosis.* It is said that one fourth of the cases under consideration have convulsions, and one third of those who have convulsions die. It is claimed, however, that the use of anæsthetics and a better understanding of the disease has of late years lessened its fatality. In those who escape this complication the prognosis is rather more favorable than in nephritis of other origin. Recovery after parturition is usually quick and complete. In either the ordinary or puerperal nephritis the transition from the acute to chronic disease is exceptional.

The most pressing and immediate danger, and the one most likely to be met, is that of convulsions. The more infrequent and remote and insidious one is the transition from the acute into chronic Bright's disease. The latter course is comparatively rare, but it occurs, especially if pregnancies occur in close succession.

(3.) The third class need detain us but briefly. "It is probable that in nineteen cases out of twenty of puerperal albuminuria," Dr. Fordyce Barker says, "the structural lesions of the kidney implied in the term Bright's disease do not exist." It is an interesting fact, for it seems to be one, that so large a fraction of pregnant women have more or less albuminuria in the latter period of their pregnancy. This condition in a majority of cases gives rise to no symptoms, and consequently is suspected neither by the patient nor her physician. There is one point which I do not recollect to have seen distinctly stated, namely, the quantity of

albumen usually found in this class of cases; it is, I think, not large.

What are the signs by which we may be forewarned of an explosion of convulsions? Dropsy, albuminuria, granular and hyaline casts, and blood corpuscles, and uræmic symptoms may all be present in a marked degree even, and no convulsions occur; and, on the other hand, all these may be found to a less degree in cases which are severe and even fatal. Dr. William L. Richardson and others suggest that the quantity of urine excreted is a guide as to the probable danger, and Bartels makes the same statement in regard to ordinary acute nephritis. The more scanty it is the greater the liability to convulsions, and *vice versa*. The indication is obvious. Professor Thomas says he rarely sees a case of convulsions where the patient has been under preventive treatment.

When we meet a case of puerperal albuminuria one of the questions that comes up is as to the previous existence of chronic Bright's disease. It seems to me that it is not always easy to determine this at once. It is not an uncommon experience to meet advanced cases unsuspected by the patient, and overlooked, perhaps, by the physician. Robin, as quoted in Barker's Puerperal Diseases, and Neubauer and Vogel make statements in regard to the reactions of albumen in the presence of oxide of copper, which convey the impression that a differential diagnosis may be made by chemical tests between the albuminuria of chronic nephritis and temporary albuminuria of pregnancy. But Prof. Edward S. Wood writes me that he knows of no way of distinguishing between the albumen in the two classes of cases.

In every case in which we find albumen in the urine of a woman, it is well not to overlook the possibility of pregnancy. I was once called to a young unmarried lady in convulsions. The urine was loaded with albumen, becoming nearly solid on boiling. She had been in rather feeble health ever since she had scarlet fever, when a child. There had been some slight puffiness of the face and swelling of the feet. My diagnosis was Bright's disease, prognosis unfavorable. Later, after I had expressed my opinion, passing my hand over her abdomen, I found a *tumor* there. This was in the evening. In the night my bell was rung furiously, and her father shouted, "Doctor, come quick, — has got a baby." I went, and found a dead child of about six months, born during the unconsciousness of a convulsion. The girl recovered, the albumen diminished and disappeared in a few weeks, and for about a year she appeared in better health than usual. Fifteen months afterwards she went through a similar experience, minus the pregnancy, and died. Her urine was not examined after the disappearance of the albumen till the recurrence of her fatal sickness. I think now that this girl had chronic Bright's disease previous to her pregnancy. I thought so when I first saw her in convulsions before I found out that she was pregnant, but after she recovered, considering the improvement in her health, the disappearance of the albumen, and vagueness of indications of the disease in her history, I hoped I had been mistaken. Renal casts were found in this case, I think, but when and of what character I cannot say.

I recall in my practice but one other marked case of puerperal amaurosis. Was called in December, 1879, to Mrs. E., age about thirty-five, mother of five children, seven months pregnant. Had no difficulty in



her former labors. Found her on the bed, with her ordinary clothing unremoved, blanched as if with loss of blood, cold, collapsed, pulse 130, and scarcely to be felt. Pupils were widely dilated; she was delirious, and totally blind. For two or three weeks she had had increasing dimness of vision, which she compared to a mist before objects. A week before she had had symptoms of labor, slight hemorrhage, and pain, which subsided with rest. With it she had had excruciating headache, which continued two days. During the week past she had been comfortable, and about the house, but her eyesight was so bad she had difficulty in seeing to cut her children's food. While alone with her little children she was taken, about five P. M., with hemorrhage, and lost consciousness, which she did not recover till after my arrival, two hours later. I gathered that she had some sort of convulsive attack, but no severe convulsion. How much external hemorrhage there had been, I could not ascertain. She rallied, regained consciousness, but not at that time her eyesight. There was no more external hemorrhage. Drew by catheter two ounces of urine, all that had been secreted in six hours; found it albuminous to one third of its bulk. No convulsion occurred. Labor went on normally to its termination, about nine hours from the first hemorrhage. A small amount of ether was used. The cord was flaccid, and the child dead. Immediately following the child, and before the expulsion of the placenta, came a dark clot, saucer-shaped, or as if moulded between the child and the uterus, nearly as large as the child, or weighing, I should think, two or three pounds, which explained her collapse when first found. Her recovery was slow. She was anæmic, her skin had a waxy look, and her face was puffy for some time. Albumen diminished, but did not disappear so long as I kept track of the case, that is, about five months. Her vision improved to some extent, but was so poor that five months after confinement I persuaded her to consult Dr. Derby, who found atrophy of the optic disks, vision in one eye one third, in the other one twenty-fifth. Prognosis as to recovery of vision unfavorable. Subcutaneous injections of one fortieth grain strychnia were advised and tonic treatment. Patient did not follow the advice at all, and has left town. I have seen her once since, unprofessionally, during the summer of 1881, and could make only general inquiries. She said she was pretty well, and her vision was improved somewhat. I am sorry to say that no microscopical examination of the urine was made.

Whether this case is one in which nephritis tends to pass from the acute into the chronic form, or whether, as I suspect, there was some disease of the kidneys previous to her last pregnancy, there are not sufficient data to determine.

#### FOUR CASES OF "PHLEGMASIA ALBA DOLENS."<sup>1</sup>

BY HAROLD WILLIAMS, M. D.

I PRESENT to the notice of the Society to-night four cases of so-called phlegmasia alba dolens which have occurred in my practice, not so much because I consider these cases of especial interest in themselves,

<sup>1</sup> Read before the Section for Clinical Medicine, Pathology, and Hygiene of the Suffolk District Medical Society, November 8, 1882.

as because, taken in connection with each other, they seem to suggest a common cause, upon which I believe too little stress has hitherto been laid.

CASE I. Mrs. A. was confined six days previous to my first visit, after a normal labor. She had been doing well until the night before, when she had a chill, followed by pain in the left groin.

During the following week the signs characteristic of phlegmasia dolens appeared, the thigh and leg becoming enormously swollen, being white and shiny in appearance, and hard, tense, painful, and unyielding on pressure. The pain was most severe on pressure over the popliteal and femoral vessels, which were enlarged and hardened. This case was a typical one, and followed the usual course, the patient recovering in about six weeks.

CASE II. Mr. B., forty years of age. The patient had been suffering from a well-marked case of typhoid fever for two weeks previous to my first visit. He had been treated with cathartics, diaphoretics, and a low diet, and was very much reduced when I first saw him. It was an unusually severe case of typhoid fever, with low delirium and hypostatic pneumonia, but the patient did well on a milk diet with brandy, until the fifth week of his illness, when, after an increase of temperature, a small swelling was detected in the right groin, which increased in size, and on the second day after it was first noticed fluctuation was detected and an incision advised; but to this procedure the relatives would not consent. Two days later the thigh and leg began to enlarge, and although the bubo was spontaneously evacuated, the swelling still persisted. The popliteal veins could be distinctly felt, hardened and enlarged, and could be rolled to and fro under the fingers, and this state of things could be traced upward in the thigh through Scarpa's triangle. The whole limb now became enormously enlarged, was tense and unyielding, and presented the characteristic appearance of phlegmasia alba dolens. The limb continued in this state for two weeks, when it was noticed that the calf of the leg had become cedematous. On the following day there was a second rise in temperature, and deep fluctuation was felt in the calf. Free incisions, with the insertion of drainage tubes, were again advised, but to this the relatives would not consent, and the patient gradually became weaker, and subsequently died of pyæmia.

There was no antopy.

CASE III. Mr. C., a lawyer, sixty-three years of age. Patient has always been well with the exception of occasional pains, supposed to be rheumatic. One week previous to present attack he had pain of this character in the left shoulder. On my first visit, March 16th, he complained of intense pain in the right ankle-joint. The night before he had had a rigor, and had not been feeling well for some time, being in a much overworked condition. Pulse 48. Temperature 100° F. Ankle-joint slightly swollen, red, hot, and painful. No history of injury. These signs in the ankle-joint gradually subsided, but on March 20th patient complained of intense pain in the calf of the leg. Both foot and leg were slightly enlarged, but neither hot nor red. Pain most severe in popliteal space, where the veins could be felt hardened and enlarged. No change in vessels of the thigh.

March 22d. Thigh began to swell, and there was intense pain on pressure in Scarpa's triangle, where the vessels could now be felt hardened and enlarged.

Dr. Porter saw this case with me in consultation, and there seemed to be no doubt that there were thrombi in the veins.

The pain diminished as the swelling increased, and the limb remained in this state until April 3d, about three weeks after the beginning of the attack, when precisely the same sequence of events occurred in the left leg. Patient made a good recovery, and was able to move about six weeks after the beginning of the attack in the second leg.

In this context I would say that phlegmasia dolens seems to be idiopathic in this gentleman's family, and his son has had seven different attacks of this disease.

CASE IV. Mr. D., a dispensary patient in an advanced stage of phthisis. Two weeks before death he had phlegmasia dolens in both lower extremities, beginning in the thighs and extending downwards, until the whole of both limbs were involved.

In this case the pain was never excessive. No autopsy was permitted.

The treatment in each of the cases was expectant. Morphia was given subcutaneously in sufficient quantity to control the pain. The most liberal diet possible was insisted upon, consisting of eggs, milk, meat, and broths, and large quantities of brandy were prescribed, one of the patients taking as much as a quart in the twenty-four hours.

The local treatment in three of the cases consisted in the application of thin flax-seed poultices, with laudanum, and they were made large enough to envelop the whole limb, their application being continued as long as the pain was severe.

In Case I. cold applications afforded greater relief. When the pain had subsided the limbs were swathed in cotton batting and bandaged to the groin with flannel bandages.

In the two cases which recovered elastic stockings were ordered before the patients were allowed to leave their beds.

Now in each of these four cases we have a group of clinical phenomena, described under the head of phlegmasia alba dolens, and the first question which suggests itself to us is, What is the pathological process which gives rise to these phenomena?

On this subject we find an immense difference of opinion, but without going into the various views I will merely say that the most important theories may be included under three classes:—

First, that phlegmasia alba dolens is due to venous thrombosis.

Second, that it is due to inflammation and thrombosis of the lymphatics.

Third, that it is due to a combined inflammation and occlusion of both veins and lymphatics.

Under these three heads we may include the views of most modern writers on this subject, although we may find that other structures besides the veins and lymphatics are involved in the process, as, for example, those cases occurring in midwifery patients, in which there is an inflammation of the skin, the subcutaneous and the intermuscular cellular tissue, which seems to be an extension of the inflammation of the cellular tissue about the uterus. But that this inflammation of the cellular tissue should occur without an inflammation of the walls of the veins and lymph vessels does not seem probable, and I know of no writer who asserts positively that such is the case.

In this context I would mention, in passing, the sep-

tic theory of phlegmasia dolens, as there seems to be no doubt that phlegmasia is often a septic process. I merely mention this because it is more properly a cause of the pathological state, while the question before us now is in regard to exactly what the pathological process may be.

To return to our three classes, it seems to me that the first may be positively excluded, since venous thrombosis alone is not in itself a sufficient cause for the phenomena of the disease, as we have in many instances thrombi occurring in the veins of the lower extremities unaccompanied by characteristic phenomena of this disease.

In regard to the second class, I do not believe that a simple inflammation and occlusion of the lymph vessels is in itself a sufficient cause for the phenomena in question. But this is a matter of opinion as yet, and I am aware of no investigations which can settle this point definitely.

It is under the third class that I group my cases, since venous thrombosis was present in all. Whether the venous disease preceded that in the lymph vessels it is impossible to say with any degree of certainty, but I am inclined to the belief that in each case the venous disease preceded the inflammation of the lymphatics, since the hardened and thickened wall of the veins could be distinctly felt before the shiny, white appearance of the limb was manifest. And not only do I believe that the venous thrombosis was the initial phenomena in these cases, but also does it seem to me possible that the venous thrombosis, combined with the hardened and enlarged condition of the walls of the veins, may have been in itself a mechanical cause for the thrombosis and consequent inflammation of the lymph vessels by exerting pressure upon them.

But be that as it may, venous thrombosis was present in every one of my four cases, and the next question which naturally arises is in regard to those conditions which favor such thrombosis.

Apart from a stagnation of the blood and the changes in the walls of the vessels, we have authority for saying that thrombosis in the vessels is rendered more likely by an altered condition of the blood itself, and this alteration in the blood seemed to be the only condition common in my four cases, all of which occurred under very different circumstances.

In Case I. we have the anæmic condition of the blood, which is always present in pregnancy, when the blood is more watery, when its serum contains less albumen, but more fibrine and extractive matters.

In Cases II. and IV. both patients were extremely anæmic, as one would expect in a case of typhoid fever treated antiphlogistically and in a patient in an advanced stage of phthisis.

In Case III. the patient was much less anæmic than the others, but still he was in a very much overworked condition, and I am told that the seven attacks his son has had all came on after overwork.

Of course it is impossible to say that there was no alteration in the walls of the veins, as a cause for the thrombosis, but still there was no reason for assuming that such was the case. Then, again, in all the cases except the typhoid fever case, the heart's action was vigorous. It is by no means a new idea that an altered condition of the blood is a condition favorable to the formation of thrombi in the veins, but I emphasize the subject because it seems to me that hitherto far too little stress has been laid upon it, and because I regard

a consideration of this condition of the blood a most important factor in the treatment of phlegmasia dolens, and I venture to recommend to you the importance of advising a general tonic treatment, the most nourishing diet, and the free exhibition of stimulants in cases like the above.

## RECENT PROGRESS IN OTOLOGY.

BY J. ORNE GREEN, M. D.

### HÆMORRHAGE AND HÆMORRHAGIC INFLAMMATION OF THE LABYRINTH OF THE EAR.<sup>1</sup>

WITH our present knowledge a hæmorrhage into the nervous structures of the labyrinth must be assumed in a certain number of cases in which a sudden and total deafness occurs in a previously healthy ear. Cases where this occurs from injury, especially from fractures and fissures of the petrous bone, are not uncommon, and have been frequently proven anatomically. Moos has reported the dissection of a case of total deafness resulting from a gun-shot injury to the external ear without injury to the deeper parts where an effusion of blood in the membranous labyrinth was the cause of the deafness, without a loss of the labyrinthine fluid which would in itself have accounted, if it had existed, for the deafness.

Idiopathic hæmorrhages in the labyrinth without any preceding injury are, however, very rare. The famous case by Menière,<sup>2</sup> which furnished the foundation for the so-called Menière's disease, is almost if not the only one on record. This case, incomplete as it is, for the dissection was by no means thorough, leaves scarcely a doubt that the total deafness was due to labyrinthine hæmorrhage, although the term "lymphe plastique rougeâtre" points to a simultaneous inflammatory process in the membranes of the labyrinth. Notwithstanding the mass of literature which has appeared on Menière's disease this single and imperfect dissection remains as the only anatomical proof of the pathology.

In this connection another form of disease deserves attention, as it is doubtful whether it is Menière's disease, a disease of the brain, or an extension of an inflammatory process from the brain to the labyrinth. It occurs not infrequently in children, is associated with a staggering gait, and is preceded or accompanied by a sharp fever and other symptoms closely resembling cerebro-spinal meningitis. In common with Menière's disease it shows deafness, subjective noises, and staggering gait; it is febrile, while the latter is not, but rather apoplectic in its symptoms; it occurs chiefly in children, and is almost without exception bilateral, consequently producing deaf-mutism, while Menière's disease occurs generally in adults and is generally unilateral. Of this disease Luca has seen one hundred and nineteen cases in the last eleven years, and one hundred and one of these were considered due to meningitis or cerebro-spinal meningitis, as such was the diagnosis of the attending physicians at the time of the acute symptoms. Of these cases eighty-five were children totally deaf, eight were adults totally deaf, while seven retained a slight degree of hearing. In one the total deafness was only unilateral, in all of the others it was bilateral. The remaining eighteen of the one hundred and nineteen were considered to be cases of Menière's disease, as they certainly showed the complex symp-

toms characteristic of that disease. Of these eighteen one was in a child and bilateral, and seventeen were in adults, of which thirteen were unilateral and four bilateral affections.

As yet no dissections of the ears of children affected during cerebro-spinal meningitis have been published, although three dissections of such cases in adults<sup>3</sup> showed a bilateral purulent inflammation of the labyrinth which had extended centrifugally from the brain to those cavities. A fortunate combination of circumstances has, however, now enabled Luca to observe a case both clinically and anatomically. A child aged three and a half years, healthy and of good hearing and speech, showed symptoms of a light cerebro-spinal meningitis; in ten days the threatening symptoms had so far passed away that he was able to sit up and play. On the eighth day he complained of a sharp ringing in the ears, which continued till the eleventh day, when he suddenly became totally deaf in both ears. Inspection of the ears showed only slight injection of the manubrium on the left side, nothing abnormal on the right. A diagnosis of otitis interna acutissima due to extension of inflammation from the meninges to the labyrinth was made. A few days after the examination he was again taken down with vomiting, fever, opisthotonos, strabismus, and all the undoubted symptoms of meningitis, from which he died fifty-seven days after the beginning of the illness, the deafness remaining total from the time of its first appearance. The autopsy showed, in brief, a meningitis tuberculosa in various stages. Both petrous bones showed before dissection marked redness in the neighborhood of the semicircular canals; the nervi acustici were normal, both macro- and microscopically. The osseous semicircular canals, especially the upper and posterior ones, were filled with fresh clots and fluid blood; both vestibules exhibited the same appearances in a lesser degree. The microscope showed lymph or pus cells with the blood. A small amount of free blood was found in the cochlea. The membranous canals and the vestibular sacs were of a yellowish-red color and imbedded in the clotted blood. Corti's membrane was enormously thickened and the lamina spiralis intensely congested. The external and middle ears were normal, and the conducting mechanism freely movable.

It is unnecessary here to give a full account of the microscopical appearances; they are given in full in Luca's article, with illustrations. Suffice it to say that this very thorough and careful microscopic examination showed that the inflammation had extended from the meninges along the fibres of the dura mater and along the blood-vessel accompanying them to the spongiosa of the petrous bone, the particular spot of extension being through the minute foramen which penetrates the upper surface of the petrous bone just beneath the upper semicircular canal. Here an osteomyelitis was set up, and the inflammation then passed to the membranous semicircular canals, setting up a hæmorrhagic inflammation, thence to the vestibule and cochlea. It was impossible to determine whether the hæmorrhage or the inflammation was the primary disease.

Although in this case of Luca's the pathological appearances in the labyrinth closely resembled those described by Menière, in his case the symptom of vertigo was never present. Two points of diagnostic

<sup>1</sup> Luca, Virchow's Archiv, vol. lxxxviii, p. 556.

<sup>2</sup> Archives of Ophthalmology and Otolaryngology, 1871.

<sup>3</sup> Heller, Deutsches Archiv f. klin. Med., iii. p. 482. Luca, Archiv für Ohrenheilkunde, v., p. 188.

interest are worthy of attention, the sharp ringing in the ears which preceded the sudden total deafness for three days, and which probably marked the beginning inflammation in the petrous bones, and the marked congestion along the manubrium of the left side, which was the side on which the hæmorrhage was greatest.

## Hospital Practice and Clinical Memoranda.

### OBSTETRICAL POLIKLINIK, LEIPZIG.

#### A CASE OF VARICOSE TUMOR OF VULVA.

BY WALTER P. MANTON, M. D.

The following case, which occurred in the Obstetrical Poliklinik in Leipzig, is interesting because of its comparative rarity.

Frau X., undecimipara, was taken with labor pains early in the morning, January 12, 1882. At nine A. M. the attending midwife, finding an abnormal position of child, sent to the Theiosch's Institute (lying-in) for a physician.

Examination showed a transverse position, first variety, anterior. Heart sounds irregular and rapid; os uteri fully dilated; cord prolapsed. In the posterior half of the right labium major, extending inwards to the labium minor, was a varicose tumor the size of a Florida orange, presenting a spongy feel and appearance.

The rapidity and irregularity of the heart sounds indicated danger for child, and extraction was at once performed.

In bringing down the arms, which were crossed behind the head, the clavicle and humerus of the right side were fractured, and the manipulations caused a rupture of the projecting tumor, but, owing to the pressure on the parts, very little bleeding occurred.

Child was born a-phylaxiated, but recovered after a few minutes' resort to the usual methods.

As soon as the head escaped from the vulva a copious hæmorrhage from the torn varix took place, saturating the bedding, and forming a pool on the floor beneath. This was soon controlled by pressure on the wounded parts with the fingers, followed in a few minutes by pledgets of cotton soaked in tr. ferri sesquichlor., and the subcutaneous injection of ergotine.

The placenta was expelled by Crede's method about five minutes after birth of child, and caused a momentary renewal of the hæmorrhage. After washing out the vagina with the hot douche, inspection showed the tear to extend from the right of the middle of the perineal tendon obliquely upwards into the varicose tumor, its length being about two centimetres by one half centimetre wide.

At six P. M., eight hours after operation, the patient's pulse was 140, temperature 102° F. By the third day both pulse and temperature had fallen to normal, and the lying-in bed ran a normal course, the patient going about her usual work on the seventh day, although still weak from loss of blood.

After the first day the perineo-varix tear was dressed with iodoform powder, and healed completely within ten days.

It is interesting to note that the patient's former labors were normal, the tumor occasioning no inconvenience.

As far as could be ascertained the history of the tumor was as follows:—

When a young girl the patient had had a boil or abscess at the point where tumor is now situated, which was opened by a physician. Although tumor existed before marriage no direct connection could be traced between it and the abscess save in point of location. In the non-pregnant state the tumor is one fourth its present size. During menstruation it enlarges and becomes painful. The tumor has also gradually increased in size from year to year. During pregnancy a great increase in size takes place, although in former times it has never equaled its present dimensions.

The only varicose tumor of the vulva, in the non-gravid state, which I find reported in the scanty literature of the subject, was seen by Winckel<sup>1</sup> in his private practice, the case being that of an unmarried lady with a tumor the size of a hen's egg on the left labium major.

Varicose conditions of the veins of the vulva are not infrequently met with in pregnant women, but they seldom reach any important size, are rarely ruptured during delivery,<sup>2</sup> and generally disappear soon after labor.

The danger from hæmorrhage from a ruptured varix is very great, the blood spurting from the vein, says Schreeder,<sup>3</sup> as from a large artery. Hyde<sup>4</sup> saw death result in forty minutes from such a hæmorrhage.

### A CASE OF BRONCHIOCELE.

BY T. AMORY DEBLOIS, M. D.

MARY D., aged twenty-one years, born of French-Canadian and Irish parents, and residing in a dark and unwholesome tenement in South Margin Street, appeared at the Throat Clinic of the Boston Dispensary on the 19th of last December. She complained of "a lump which had been growing on her throat," as she stated, for the preceding six or seven months.

On examination there appeared a small bronchiocele occupying the right lobe of the thyroid gland, and encroaching somewhat on the isthmus. The tumor measured perhaps about 2½ inches in diameter and 1½ inches in thickness.

Having had good results from the internal use of arsenic in these slight enlargements, I prescribed it in this case, together with the topical application of the tincture of iodine to the affected part. This treatment was continued without apparent result for three weeks.

Having read reports of successful treatment of other forms of tumors by the hypodermic injection of Fowler's solution, I determined to try it in this case.

On the 7th of January, with a hypodermic syringe, I injected seven minims of a mixture of Fowler's solution and water, equal parts, into the substance of the gland.

On the 9th, when the patient reappeared, there was no apparent change. She had not been affected in the least by the injection, and it was repeated.

On the 11th there was neither change nor discomfort, and again seven minims were injected.

<sup>1</sup> Pathology of the Female Sexual Organs.

<sup>2</sup> Winckel, Pathology of Child-Bed, states that this occurs in less than three per cent. of such cases.

<sup>3</sup> Obstetrics.

<sup>4</sup> Transactions Obstetrical Society London, 1870-71.

On the 13th the treatment appearing, to say the least, to be well borne, — for the twenty-one minims previously injected seemed to have had no effect, — a fourth injection was made into the tumor.

On the 15th the patient returned to the Dispensary, complaining of great discomfort, and sharp pains in the region of the bronchocele, which, though it showed neither local heat nor redness, yet was hard and tense, and certainly larger than it had been, and was rather sensitive to the touch. The patient's temperature was 102.5° F. Cold applications to the parts were ordered, and medication was suspended.

On the 17th she was again seen. She was markedly anæmic, with slight eruption on forehead; was weak, and complained of nausea; had slight nervous twitchings of the mouth and hands. The pain in the tumor was worse than before. Ordered iron and brandy, which she did not get until the next day, when I saw her at her home. She was then very weak, had had constant vomiting during the day, but by the evening it had ceased. Half an ounce of brandy every two hours was ordered, and pills of the subcarbonate of iron four times a day. At this time the pain in the thyroid gland had nearly subsided, but there was a dark-brown pigmentation of the skin over it.

In four or five days the patient was able to go to the Dispensary. Her menses had appeared two weeks after the last regular menstruation. She was furnished with milk and eggs, and the carbonate of iron was still continued. I did not see her again until about the 5th or 6th of February. She was looking better, and the bronchocele had diminished in size about one half. About the 20th of February there was very little left of the enlargement, though the pigmentation still remained.

I lost sight of the patient until the 1st of April. There was then nothing to be found of the bronchocele, and the parts appeared perfectly normal, with the exception of a very slight discoloration of the skin. She stated that she had been perfectly well for a month.

In considering this case the questions naturally present themselves : —

(1.) Was this a case of arsenical poisoning, and if so, was it caused by the mechanical retention in the gland of the three first injections of the solution, and were they all taken up with the fourth at the last?

(2.) Was the absorption of the bronchocele due to the arsenic, was it the effect of the irritation of the injections, such as would be obtained from the injection of iodine, — or did it subside spontaneously?

(3.) Was the appearance of the menstrual flow dependent in any way on the irritation of the growth, and would this prove any sympathy between the thyroid gland and the ovaries?

— It is worth while to remember that *cautophyllin* in the second trituration is a good thing to give in a case of placenta prævia. This we notice in a homœopathic exchange. The man who discovered its efficacy under such circumstances does not know how much power it has to expel from the uterus "morbid growths," of which he apparently considers the placenta one, but he does know that it has "a decidedly soothing and quieting influence over the disturbed nervous system." Why wouldn't it be a good plan to give a little of it every hour in case of other hæmorrhages, a wound of the radial artery, for instance?

## Reports of Societies.

### PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

J. B. SWIFT, M. D., SECRETARY PRO TEM.

OCTOBER 28, 1882. Stated meeting. Sixty-three members present.

Dr. H. J. BARNES read a paper entitled

#### THE WATER SUPPLY OF BOSTON.

Dr. C. S. MINOT being called upon said that he considered the water supply of Boston a disgrace to the city and a source of danger to the health of the community, and that Boston had been severely criticised for allowing it, not only by her own citizens, but also by outsiders. Professor Leeds, of New Jersey, an expert in the matter, having been asked to make an investigation of the water supply in the towns along the Hudson River, had made one of the most perfect chemical studies of a river (the Passaic) ever made. In connection with his work, for comparison, he had analyzed the water from a considerable number of cities, among them that of Boston, and found that Boston was supplied with the worst of all, and he considered it as absolutely dangerous. He wrote to the *Advertiser*, but no notice had been taken of his communication, and when at last the question was agitated, instead of getting him to do the work, it was put into other hands, with the result with which we were acquainted.

Dr. Minot spoke of the water supply of Leipsic, where much the same blunders had been made as in Boston, but, thanks to Professor Hoffmann, that was now changed. In working up the subject Professor Hoffmann had reached the following conclusions : —

(1.) Water works were not a piece of engineering, except under special conditions, but rather should depend on chemists.

(2.) A city should, when possible, be supplied with soil water, and not by water from ponds or rivers, because these are exposed to surface washings polluted with organic and other matter. Thus there is a variation in the composition, and also being exposed to variations of temperature, the water is uncertain and unreliable in character. Here we have conditions favorable for the development of bacteria, and this fact alone should be sufficient to condemn ponds and rivers.

The advantage in not using ponds is that a constant temperature and composition can be obtained, for if the supply is drawn from the soil, besides getting abundant water, it is well filtered, deodorized, and cooled.

(3.) Another objection to ponds is that using them necessitates constant cleaning of the storage basins, and this is an extremely dangerous thing to do, for by drawing off the water the animals are killed, and when the water is let in again it is filled with dead organic matter, in a condition best suited for putrefaction. Basins should always be cleansed by repeated flushings. In Leipsic a thorough exploration of the country was made, and numerous borings. In this way the natural level of the water was found and the nature of the soil. The borings also determined the direction of the flow. They thus discovered the best point to draw water from. From a single boring made at a spot thus selected they obtained an abundant supply,

and having a good composition, since the boring was made where the supply was cool and pure. From the boring the water is to be carried to a basin just sufficient for each daily supply. It is thought that the same method might be employed here, and certainly the subject is of sufficient importance to have attention drawn to it.

DR. BARNES said that under the present system we were in danger of the stirring up of the basins every year.

DR. A. N. BLODGETT said that he could testify to the filthy condition of the basins, as on two occasions he had been in the neighborhood of Farm Pond when the water had been drawn off, and they had the appearance of flats at low tide filled with decaying vegetable material, like fresh-water swamps, and certainly would lead one to suppose that they contained everything considered injurious to health. The area exposed was quite large, and the water must be distributed daily in the city. Thinks that he has seen ill health produced by the use of the water, some people being quite susceptible to its influence. Spoke of the apathy of the Water Board on the subject, over a year having now passed without any action being taken. Can testify that Dr. Barnes has had to fight against untold difficulties.

DR. H. I. BOWDITCH said he could not allow what had been produced and what he had experienced to pass unnoticed. He suffers personally to a great extent, so that he has been obliged to give up the use of the water for drinking and also for bathing without further filtering. He went to the mayor about it, but could get no satisfaction, as he did not consider it his duty to interfere with the commissioner. Suggested that some action should be taken by the Society. Reading papers did no good, but a committee should go before the city government from the Society.

DR. WEEKS suggested a political revulsion, which would turn the present commissioner out of office. Said that in Chelsea they had suffered in the same way from the Mystic water. Committee after committee was sent to the commissioner without avail, until finally the National Board of Health took up the matter, and it was remedied.

DR. W. H. BAKER testified to great discoloration and disagreeable odor of the water. In his house the water from the main pipe was so much discolored as to be unfit for drinking and bathing.

DR. C. S. MINOT said that the taste of water was a matter of no consequence; may be very offensive, but harmless, or may have no taste and still be dangerous.

DR. GARRATT read a paper entitled

#### STATIC ELECTRICITY AS A REMEDY.

DR. MORTON PRINCE showed some microscopical preparations of

#### THE BACTERIUM OF "RED SWEAT."

stating that the case from which they were obtained was that of a young man who complained simply of the red discoloration caused by the sweat from the axilla, the underclothes being stained by it. Examination showed the characteristic waxy masses encrusting the hairs. The microscope showed these masses to consist of bacteria corresponding to the description which has been given of them.

Adjourned at 9.15.

#### SUFFOLK DISTRICT MEDICAL SOCIETY.

SECTION FOR CLINICAL MEDICINE, PATHOLOGY, AND HYGIENE.

ALBERT N. BLODGETT, M. D., SECRETARY.

NOVEMBER 8, 1882. DR. GEORGE B. SHATTUCK in the chair.

The Secretary read a communication from Dr. Samuel F. Hazellhurst, Secretary of the Pathological Society of Philadelphia, presenting to the Section a copy of the last volume of printed Transactions of that Society.

DR. HAROLD WILLIAMS read a paper entitled

#### FOUR CASES OF PHEGMASIA ALBA DOLENS.<sup>1</sup>

DR. DEBLOIS said that in support of the theory of causation of phlegmasia by anaemia, he could adduce a case occurring in New York in the practice of Dr. Isaac Taylor. Porro's operation for extirpation of the uterus had been performed, and for a month afterward a very low diet was prescribed, consisting chiefly of milk, and not much of that. The patient was very much reduced in strength and flesh from this cause, so that the anaemia was very marked. The operation was successful, the process of repair being completed in a perfect manner. At this time the right leg began to swell, and in two days a typical phlegmasia was developed. The leg was enveloped in cotton and covered with oil silk. On the seventh day of the phlegmasia the patient arose from her bed and attempted to stand. She immediately became faint, and expired at once. Death was supposed to have been caused by embolism.

DR. HARLOW inquired how the phlegmasia of phthisis differs from the swelling of the limbs which is so commonly observed in advanced phthisis.

DR. WILLIAMS replied that the enlargement of the lower extremities in phthisis was generally due to oedema, but that the essential lesion in phlegmasia alba dolens consists of a cordlike occlusion of the veins and lymphatics, and the limb is hard, white, tense and shining.

DR. H. I. BOWDITCH said that it was somewhat remarkable that phlegmasia is not more frequently observed in anaemia, if this can be considered a cause. We often have cases of extreme anaemia, but very seldom see phlegmasia in those cases. The theory that it is dependent upon impoverishment of the blood seems to assume more than observation warrants. If this be true, why are not the upper extremities the seat of the disease as well as the lower.

DR. WILLIAMS replied that while anaemia may be a condition favoring thrombosis, there are other factors which determine the locality of the thrombus, and cited as an example the fact that phlegmasia occurs most frequently in the left leg for the reason that the left common iliac artery crosses and lies upon the common iliac vein, and thus causes a greater or lesser impediment to the flow of blood in the vessel, and so predisposes to thrombosis of this vein. As a clinical fact, phlegmasia alba dolens does not occur in the upper limbs.

DR. H. W. BROUGHTON remarked that anaemia is most commonly met with in unmarried girls, and asked why phlegmasia does not more frequently occur in these cases.

DR. WILLIAMS replied that the immediate develop-

<sup>1</sup> See page 581 of this number of the JOURNAL.

ment of the disease may be induced by a variety of causes, but that anæmia is a preëxisting condition in all cases, and therefore is considered as the predisposing or remote cause.

Dr. STRONG asked if the thrombosis disappeared before the swelling had subsided.

Dr. WILLIAMS replied that in the case of typhoid the whole leg broke down before any attempt at recovery had occurred. In the second case there was probably canalization of the thrombus, and a restoration of the circulation in the same manner as this occurs in phlegmasia during the puerperium.

In reply to the question if puerperal phlegmasia is not due to septicæmia, Dr. Williams stated that there is a difference in origin of this affection at that time. It may arise from septic poisoning, or it may be occasioned by pressure of the heavy uterus upon the iliac veins.

Dr. BLODGETT mentioned two cases of this disease, in one of which it occurred after a mild though prolonged attack of typhoid fever, and was the occasion of considerable distress. Here anæmia and weakness may be supposed to have been present, and possibly to have induced the phlebitis. The other case was that of a gentleman of advanced life, in which there was also considerable debility preceding the attack, and symptoms threatening gangrene were observed during the disease. Both these cases, however, recovered without serious consequences.

Dr. G. B. SHATTUCK referred to a paper by Dr. Lyman which was read before this Section last year, and published in vol. cv., p. 169, of the JOURNAL, which contained a description of many pathological processes which may follow typhoid fever. The cases of phlegmasia complicating typhoid, which he had observed, had not occurred in patients especially debilitated by the disease. There is no doubt that many different causes may, under certain conditions, contribute to the appearance of this disease, and produce variations in its progress and final results.

#### A HOUSEHOLD EPIDEMIC FROM BAD DRAINAGE.

The following brief outline of the history of a series of cases gives the substance of a paper read by Dr. H. W. BROUGHTON, and reserved for subsequent publication.

A family of nine persons lived, in the fall of 1881, in a suite of rooms in a large tenement house in this city. The house is a modern one, of good appearance, and the family respectable, and of neat and orderly habits.

On the 17th of October, 1881, George, aged nine, was seized with a severe febrile attack, resulting in recovery after three days. Three weeks later his sister, Ina, aged twelve, was taken very ill with typhoid fever, of which she died on the fifth day. On the 19th of January, 1882, Mrs. S., aged twenty-nine, was attacked with acute croupous pneumonia, followed by gangrene of the lung and empyema. Dr. A. T. Cabot made a permanent opening, and the patient partially recovered. Whether she will ever fully regain her health is still doubtful. Six weeks later (March 14, 1882), her father, aged seventy, became sick with phlegmonous erysipelas, resulting fatally on third day. In quick succession three other members of the family suffered from attacks of febricula similar to the first case. The only ones exempted from sickness were two men, whose life was largely out-of-doors. After the death

from typhoid the Board of Health examined the house and found the drainage very defective. By some misfortune the family did not learn of this defect for several months.

The following points suggest themselves:—

(1.) Can the defective drainage account for this sickness?

(2.) Ought not the family to have been duly notified of the defect?

(3.) Ought not physicians to notify the Board of Health of all cases of sickness that clearly indicate defects of drainage?

Dr. H. I. BOWDITCH spoke of the many ways in which sewer gases may gain entrance to our dwellings, and said that he considered the set bowls in chambers and sleeping rooms to be dangerous, from the possible escape of sewer gas from the drain pipe and overflow opening into the air of the room. In one sleeping room of his house which communicated directly with the drain he had had the drainpipes cut off and a slop-pail placed under the washbowl, which is emptied as used. He has recently had a completely new system of water-pipes and drains, with carefully adjusted traps, and most thorough ventilation of the soil and waste pipes, but he is still fearful of the escape of noxious gas.

Dr. Bowditch related a story told by Dr. Carpenter on a recent occasion, concerning the outbreak of cholera in Bristol, in which Dr. Budd endeavored to trace the disease to the water supply, it being observed that every case was confined to a district taking water from one service. After much opposition from the overseers of the water system, Dr. Budd finally made an inspection of the source from which the supply was obtained, and which was a natural reservoir of considerable capacity. On making a tour of the margins of this basin he observed a rivulet which trickled down the side of a cliff and emptied into the reservoir. On ascending the cliff a small house was found situated near the rivulet. The occupants were dirty in their habits, and much of the filth of the house was thrown into or near this small stream. On further investigation Dr. Budd learned that the first case of cholera in the neighborhood of Bristol occurred in this house, and that the patient died of the disease. The dejections of this patient were thrown into the stream, and were carried by the water to the reservoir, following which the outbreak of cholera in Bristol took place, and was confined to those streets and houses supplied with water from the infected source.

Dr. Bowditch thought that in many, if not most instances of successive serious disease in one spot, careful examination might reveal some source from which the disease had emanated. He deems it every physician's duty to seek for such sources.

Dr. HARLOW said that cases of the consequent type described in the paper often presented themselves to his observation, and he had no doubt that diseases of this nature were much more frequent than was generally supposed. In regard to the character of febricula, he recalled a remark of the late Dr. Jacob Bigelow, when speaking of such a case, "It was half way between typhoid fever and nothing at all."

Dr. BAINES asked if the Board of Health did not notify the owner of the building? The Board occupies a very delicate as well as very responsible position in regard to these matters. It cannot enter private property unless absolute cause for so doing exists. It

is generally prompt and thorough in its investigations, and its reports are usually found to be correct.

As an instance of the efficiency of the Board, Dr. Barnes mentioned the filling of the Back Bay by the Roxbury Mill Corporation, who were depositing decayed animal matter upon the embankment, to the great offense of the residents. The Board at once compelled them to suspend operations, and the result was a wholesome change in the character of the material provided for the embankment.

Dr. BARNES spoke of a series of cases in his practice in which sore throat was the principal symptom, and which were treated by inhalation of antiseptic vapors. All did well, and quickly recovered. Yesterday, however, another case occurred in the same house, and Dr. Barnes immediately notified the Board of Health.

Dr. BLODGETT thought that there might be no connection between the cases of Dr. Broughton. Typhoid was not reproduced in any instance, and no disease of a contagious or infectious character supervened in the family. It is not uncommon to see pneumonia in winter, and short sicknesses like those of three members of this family, which did not exceed three to five days, are constantly occurring without reference to unsanitary surroundings. There seems to be no special reason for considering the malady to which the father succumbed as depending either upon the previous diseases in this family or upon the sanitary condition of the premises. A person in advanced life is often quickly exhausted by apparently trifling causes when the affection is located in the part of the body which was the seat of disease in this patient. It would hardly seem advisable to require physicians to notify the Board of Health in cases which do not present a real danger from communicability of the disease, and in many instances cases which from their initial symptoms appear very serious, prove, after a few hours, to be of less threatening character, and do not call for the services of the Board of Health. Physicians should also be sanitarians, and should be convinced of the necessity or advisability of notifying the Board before doing so.

Dr. BROUGHTON replied that seven people out of nine sick, in quick succession, with acute disease, was in itself suggestive. The case of pneumonia was by no means an ordinary one. Its rare complications, occurring in a previously healthy person, were to be remembered. The phlegmonous inflammation was also a suspicious event. But, in his mind, that which made the inference of a common source of infection a just one, was rather the combination of circumstances than any single event in the series.

Dr. SHATTUCK observed that one very useful lesson, he thought, could be learned from this interesting paper, which was the necessity, at times, of obtaining the results of the examination of premises by the Board of Health from the records of the Board instead of trusting the statements of others who may have been misinformed or perhaps may willfully misrepresent the results of sanitary inspection.

The Board is usually prompt in responding to calls for its services, but sometimes it meets with much opposition in the performance of its duties, particularly in the direction of compulsory changes in house fixtures. Their first move is to notify the owner of the building of the defect, and of the required changes. After a reasonable time a second inspection takes place, and if the defect has not been remedied a second more

peremptory notice is sent, and the matter is followed up till the changes are made.

Dr. BOWDITCH remarked that the law provides for a compensation from railroad and other corporations for injuries received on account of defective construction or faulty operation of their properties, and they are held strictly responsible for the safety of those whom they serve. Such a law should be made in regard to owners or holders of houses, by which the lives of their tenants might be better protected from the dangers which are associated with the modern method of building houses.

Dr. BLODGETT spoke of a series of cases occurring under his care in one of the recently erected large hotels on the Back Bay, in which some defect of drainage was suspected, but was stoutly denied by the proprietor of the building, who asserted that every possible precaution had been observed, and nothing could be at fault in this direction. The continuation of suspicious circumstances, however, led to an examination of the drainage system of the building, when the surprising discovery was made that it did not contain a sewer trap of any kind. The adjustment of proper traps has been followed by an absence of all symptoms of sewer gas infection, and the house is now as healthful a place of residence as the majority of dwellings in this part of the city.

Dr. Blodgett asked the reader if he had eliminated any possible connection between the very filthy drinking water supplied to the citizens of Boston and the diseases of this household.

Dr. BROUGHTON replied that he had carefully considered the possibility of contamination from water and milk, but could not consider either as the cause of the epidemic.

Dr. BOWDITCH spoke of the unwholesome condition of the present water supply, and observed that he did not dare to use it in his house for domestic or drinking purposes. He had no doubt that it was often the actual cause of disease, and in a far greater degree a very powerful accessory to other unfavorable influences in producing sickness. He then mentioned the fact that a commission had been appointed by the mayor of the city for the purpose of examining the condition of the water supply, and read the following motions, which were unanimously passed:—

*Resolved*, That the members of the Clinical Section of the Suffolk District Branch of the Massachusetts Medical Society convey, through their secretary, to the Water Commission, lately appointed by the mayor of Boston, their appreciation of the extreme importance to the inhabitants of the city of the questions which the Commission was expected to investigate.

*Resolved*, That as practicing physicians of the city of Boston we express to the Commission the earnest hope that it will not adjourn without a thorough and careful consideration of the whole question of the city's water supply, or without making some suggestion for future action in the premises, which may offer a reasonable hope of providing pure water, and of protecting the citizens against a recurrence of the great annoyances of the past.

Dr. BARNES said that any attempt on the part of the citizens to obtain a better water supply was met by the utmost indifference on the part of the Water Board, who had diligently obstructed and ingeniously opposed every effort at an investigation of a subject of such vital importance to every inhabitant of the city.



Dr. Barnes also produced the official report of the Water Board for the past year, and from it deduced the fact that the public has been deceived in regard to the quality and quantity of water delivered in the city, as well as in regard to the sources from which it was drawn, by repeated false statements and studied misrepresentations by the Board. The Board has ignored the testimony of many reliable citizens as to the offensive and dangerous condition of the basins from which the water is drawn, and appears to be utterly oblivious of any feeling of responsibility toward the citizens in regard to the character of the water it furnishes for their consumption. Dr. Barnes said he presented these facts in order to show the character of the men with whom we have to deal in any matter relating to the water supply.

Adjourned at 9.50 o'clock.

## PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. W. SWAN, M. D., SECRETARY.

MAY 13, 1882.

### CERTAIN ACCIDENTS OR ABNORMAL CONDITIONS THE RESULT OF LABOR.

DR. BOARDMAN reported the case of a patient who consulted him on account of inability to retain her urine. She had been confined in July last under the care of a West-End physician, who effected delivery with the forceps. The child was still-born. The milk disappeared without untoward symptoms. The convalescence had been slow, and the catamenia had failed to reappear, nor had there been any indication of a menstrual nixus. Dr. Boardman, on examination, found a general sagging of the internal parts; the uterus was of about the normal size, but its anterior lip, whether torn or sloughed off, was wholly gone up to the vaginal junction. Thorough probing failed to discover any passage to the fundus, the instrument appearing to meet a hard, tough, resisting membrane, the supposed result of a healing process following the loss of the anterior lip. The woman, under thirty years of age, is well formed and proportioned. Previous to her pregnancy her catamenia had always been regular and normal. She came under my care in November last, and by the latter part of January the symptoms for which she sought relief were corrected, and her general good health had returned, but up to the present time there has been no indication of the resumption of the menstrual function, and she was not pregnant when last seen, a short time ago. Possibly there is some canal leading to the cavity of the fundus, but diligent search, repeatedly made by myself and others, failed to detect it. The return of the menstrual flow, of course, will determine this point, and at that time, if the necessity arises, it will probably be an easy matter to make an opening to release the confined fluid.

### A CASE OF SUPERINVOLUTION.

DR. SINCLAIR reported the case of a woman, twenty-six years old, who, after the third childbirth, ceased to menstruate, and, although plump and well, was very nervous. There had been no menstruation for a year when she consulted Dr. Sinclair, who found an extremely small, infantile uterus. This would not admit

a small uterine sound, but a probe could be passed up two and a half inches. She is now thirty-six years old. A year ago the husband had called to say that his wife was in charge of a physician who said that the trouble was due to a ruptured perineum and lacerated cervix. Dr. Sinclair claimed an examination in his own defense, and found no laceration whatever.

### PELVIC EFFUSION. ABSCESS. CHRONIC SEQUELÆ.

DR. LYMAN said that he had been called to the country to see a patient, forty-eight or fifty years old, who had been under the care of two physicians, and presented rather obscure symptoms. She was in bed, most of the time in bad general condition. On inquiry, Dr. Lyman ascertained that the patient had suffered, five or six years previously, with obscure symptoms about the pelvis, but this trouble had never been considered important, or connected with the present difficulty. It was found that she had had at times some discharge from the vagina. On examination a very offensive discharge was found to exist. There was no doubt, Dr. Lyman said, that the woman had had an old pelvic effusion, resulting in abscess, which had gone on, discharging from time to time, and in old cicatrices which had drawn the womb downwards and backwards, thus occasioning the various uncomfortable symptoms, pain in the back, etc., of which the patient complained. No malignant element was discoverable. The case was another illustration of the fact that pelvic inflammations are often overlooked, and for this reason occasion considerable unnecessary trouble.

### SLOUGHING FIBROID.

DR. FIFIELD said that he was asked to see in consultation a woman, fifty-four years old, aged, pallid to the last degree, and emitting a terribly offensive odor. She had been flowing for the previous nine months. Her physician had given her five drops of the fluid extract of ergot three times a day, and had made no vaginal examination. Dr. Fifield discovered a sloughing mass which he at first thought a cauliflower cancer of the uterus, and as temporary means advised an increase in the dose of ergot and large douches of hot water. He saw the patient a few weeks later with Dr. C. E. Wing. The large sloughing mass in the vagina was made out, and the anterior lip of the uterus could be reached, and finally, with great pressure, what seemed to be a large pedicle of the growth, which was cut through with the cord cæsar and the mass removed. This on further examination seemed to be a sloughing fibroid, even by microscopical examination. After the operation the hemorrhage ceased. The color gradually returned to the patient, and when last seen she was looking quite ruddy and comfortable. Yesterday, the day before the meeting, there was some slight return of the flowing, and another fibroid could be detected coming down through the os. This has now been removed. Another microscopical examination seems to leave the question of malignancy doubtful. All bleeding has ceased, and she is able to do some work.

### PRODUCTION OF THE ORGANIC CLIMAX OF SEXUAL FEELING APART FROM ANY SEXUAL APPETITE OR SEXUAL INTERCOURSE.

DR. FIFIELD said that two years ago or more he had operated upon a woman for pus in the pleura.

She had a discharging fistula, and Dr. Fifield made an incision between the ninth and tenth rib, removing a large portion of one of the ribs. The patient did not improve after the operation, and had, what not infrequently occurs with chronic discharges of pus, an alteration in the kidneys leading to the presence of albumen in the urine. But what tormented the patient chiefly was a constantly recurring orgasm about the clitoris, half a dozen times a day, wearing her life out, in fact ceasing only with her life.

In another case, that of a very religious, morbidly depressed, melancholy person, to whom Dr. Fifield was called in consultation, this same orgasm recurred night after night, causing great torment. No vaginal examination had been made previous to Dr. Fifield's visit, when there was found what was first mistaken for a prolapsed ovary, of the size of a very large English walnut, upon the right side, and seemingly immovable. In the absence of other evidence of trouble the attention of the attending physician was called by Dr. Fifield to the presence of this growth or tumor. On seeing her again, this mass would rise when the patient lay down, and there was a question of fibroid with long pedicle. A pessary was introduced, which threw the growth forward and held it in place.

#### IRRITATION OF ABRASSED SURFACES AS A SOURCE OF DISEASE WHICH MAY BECOME MALIGNANT.

Dr. BLAKE reported the case of a mother of two children. She had had pelvic abscess, and had been treated at two hospitals. The cavity, while the patient was at the City Hospital, had been drained and washed out from time to time with antiseptics, and had become very small. The patient finally went home, and was attended by a house officer, who continued the treatment, and after a time noticed a mass of granulations growing from the cavity. These were touched with caustic, but persisted and became evidently malignant, and the woman died.

Dr. Blake asked the question, Whether the frequent passage of instruments, etc., acted as the exciting cause of the malignant disease? There was no known hereditary taint in the case. In connection with the subject of sewing up the cervix, and the alleged dangers of a neglect to do so, it was interesting to know that the cavity of an abscess might become the seat of malignant disease. Dr. Blake himself thought that in the case reported the treatment had possibly something to do with the cause of the disease. In answer to questions, Dr. Blake said that the puncture of the abscess had been made high in the roof of the vagina; that the abscess had so extended as to fill up the pelvis while seeming to be entirely independent of the uterus. The treatment by injections had been going on for about six months, and involved the frequent passage of catheters. The patient was about thirty-three years old, and had been previously perfectly healthy. The disease was supposed to be the epithelial form.

Dr. LYMAN remarked that epithelial disease was common enough on the vaginal wall, that it developed on lacerated cervix as a result of irritation, and that there was no obvious reason why it might not develop on the vaginal wall from a like source. He had yet to see a permanent cure of the epithelial disease, either by operation or local applications. As illustrating the use of Chian turpentine, Dr. Lyman referred to the case of a patient twice in the hospital within the

last three or four years, for the removal of an epithelial mass from the vagina, the cervix, and body. The vaginal growth was entirely isolated from the diseased cervix and uterus, and enucleable more easily than an orange from its skin, and coming so near the cavity of the rectum as to seem to threaten to break through into it. Not only was the vaginal growth removed, but the cervical and the uterine down to healthy tissue on two different occasions, and has now recurred again, and the patient is gradually failing. She has taken the turpentine steadily since last August, first in pills, now in powder, six or eight grains in sugar of milk, three or four times a day. If she leaves it off the pain comes on immediately. At times she passes quite large masses of this epithelial growth. Whether the turpentine will have any permanent effect is very improvable, but attention was called to the article as an admirable remedy for the relief of pain and hæmorrhage.

Dr. HOSMER reported the cases of two sisters who had been under his care, one after the other, one having died of malignant abdominal disease, the other suffering from abdominal disease, cystic in part, requiring frequent tapping, bringing on death by a slow process of exhaustion.

#### PATHOLOGICAL SOCIETY OF PHILADELPHIA.<sup>1</sup>

##### TONGUE AND LARYNX FROM A CASE OF ELEPHANTIASIS GRÆCORUM.

Presented by DR. A. C. W. BEECHER.

The case from which these specimens were removed was reported in the *Photographic Review of Medicine and Surgery*, No. 6, vol. i., August, 1871. Mr. —, aged twenty-six years, born in Cuba of Spanish parents, married. His father was living when the patient died in 1872; the mother died when he was an infant. He was wet nursed by a colored house-servant, who was unmarried, but had had several children by different individuals. She was healthy as far as known, with the exception of sores upon her feet. He had none of the diseases of early life except measles and mumps. His health was good up to fifteen years of age, when superficial yellowish-pink spots appeared upon his body, accompanied by neither pain nor itching. They remained about one year, and disappeared during a voyage to Spain. While there he was attacked with neuralgia of the little fingers, extending along the course of the ulnar nerve to the elbow, which was relieved, and he returned to the West Indies. Six months after his return he experienced a second attack, which lasted for one month. In 1862 he came to this country to study, and after one year became the subject of repeated catarrhs, chiefly affecting the throat. Itching of both fore-arms and legs soon after developed. In 1866 edema of the hands and feet, which did not extend beyond the wrist or ankle, set in, producing a sensation of stiffness of the fingers and toes. Blisters then suddenly appeared in varying size upon the dorsum of the hands and fingers, extending over the whole length of the latter. At times a sharp pain in the hands and fingers, arousing him from sleep, would herald one of these bullous attacks. The bullæ contained a whitish opaque fluid, and when burst were succeeded by dark-brown scabs, transversely cracked

<sup>1</sup> Concluded from page 566.

and fissured over the joints. Under these crusts were excavated ulcers.

The finger tips and the ends of the toes presented similar ulcers, over which the nails grew, and these latter being brittle broke off when long. Next, frequent hæmorrhages from the nose, coming on while laughing or in mental or physical excitement, were noted. The nose became tender, was much swollen, and discharged moderately offensive pus, and the bridge of the nose began to sink, gradually assuming its present appearance (a photograph was here shown): a year after the hands were attacked the face became similarly affected, the ulcers on healing leaving distinct cicatrices. The eruption never entirely ceased, new bullæ and ulcers forming while others healed. There was marked emaciation. There was absence, in many spots, of the hair of the body, which was everywhere scanty, and the skin was of a dusky hue. The muscles of the arms were much wasted, and the skin presented small white cicatrices. Over both patellæ and olecranon processes large, hard, firm reddish nodules were seen. The hands were much deformed, with wasted, contracted fingers, having numerous small, hard tubercles scattered beneath the skin of the dorsal surface of the hands. Numerous ulcers, mostly covered with irregular black scabs, covered the back of the fingers. A markedly varicose condition of the veins near the wrist was observed. The hair of the head was normal in quantity, but was hard and harsh, while there was total loss of eyelashes and eyebrows, and the beard was scanty. There was a large, hard tubercle over one frontal bone, near which was an old ulcer. The nose was much sunken, there was an ulcer over the right zygoma, covered by a black, rupia-like scab, the face was marked with scars, and the ears were likewise deformed with traces of numerous cicatrices. Many of the teeth were decayed and broken off close to the gums. The tongue was much thickened, with greatly enlarged papillæ. The velum palati was almost gone from ulceration, and yellowish-white tubercles existed in the pillars of the fauces. The larynx was much contracted by thickening of its mucous membrane. The epiglottis was about twice its normal thickness, and had several well-marked tubercles upon it. The voice was much impaired, weak, and had a peculiar husky sound. There were deep, sloughing ulcers over each tendo-Achillis. Tactile sense was very much impaired, as in the dorsum of the hands, where the sense touch was almost absent, and what was recognized was referred to some point in the neighborhood of the point of contact. The sense of pain was almost entirely absent in the hands and fore-arms, becoming more marked as the body was approached; a pin passed through the pulp of the middle finger gave absolutely no pain. The difference between very hot water and that of an ordinary temperature was readily perceived; moreover, there was general increased cutaneous sensibility to temperature changes. Taste and smell were somewhat impaired. Very slight anesthesia of the trunk existed. Sight was good, although prolonged use of the eyes was painful. The general health of the patient was fair. There seemed to be no trace of venereal disease. Sexual power was absent. Frequent neuralgic pains of the legs and arms were complained of. The atrophy of the hands, feet, fingers, and toes was appreciable from month to month. The cornea next became ulcerated, the conjunctival surfaces became adherent, and almost total blindness ensued. Swallow-

ing was almost impossible towards the last, owing to the pain produced by the throat ulcers, and because from imperfect closure of the rima glottidis fragments of food entered the larynx, producing violent and exhaustive coughing. Respiration was also so much impeded that he died October 29, 1872, partly from dyspnoea, partly from starvation. Up to the death he suffered intensely.

*Autopsy.* Rigor mortis well marked. Great emaciation of the entire body noted. The surface of the tongue was fissured, the papillæ enlarged, with the remains of tubercles well marked towards its base. The epiglottis was curved on its long diameter, thickened and stiff, with its upper margin eroded by a large ulcer. A deep ulcer was situated in the mucous membrane near the apex of the left greater cornua of the hyoid bone. Narrowing, from thickening of tissues, involved the trachea at its upper part, and produced such stenosis of the chink of the glottis that an ordinary quill could not be passed between the vocal cords. Upon section of both ulnar nerves near the elbow extensive degeneration was detected. This case was examined both by Dr. Duhring and Dr. R. M. Bartlett, — the latter making a laryngoscopic examination, — who both considered it to be of the mixed variety, namely, tubercular and anæsthetic leprosy. The case is interesting both from its rarity and the possibility of other cases being brought here from California and New Brunswick, in both of which places it is not uncommon. Again, its resemblance to syphilis at first led me into error, although, said Dr. Beecher, I recognized something strange about the disease. The late Dr. Manry saw the case with me, and had no doubt of its syphilitic nature until Dr. Duhring's examination convinced him that it was really leprosy. Erasmus Wilson says: "The resemblance to secondary syphilis is so striking that an error is certain, excepting on the part of those who have had an opportunity of seeing and observing leprosy."

DR. WILSON asked whether the family history had been investigated.

DR. BEECHER replied that he had carefully questioned all concerned, but had ascertained nothing special, except that when such cases occurred in wealthy families, the fact was always hushed up.

DR. WILSON said that in this connection he would call the attention of the members to a very able article in the last issue of *Hays' Journal*, where the writer took the view that leprosy was contagious, maintaining that it should be investigated where it was of rare and recent occurrence. Dr. Wilson also referred to its occurrence among recent immigrants in certain of our northwestern states.

DR. CARL SEILER said that Dr. Beecher had asked him to examine the specimens of the larynx and tongue of the case of elephantiasis. The dorsum of the tongue was deeply furrowed, and the papillæ appeared enlarged. The epiglottis was thickened, very stiff, and rolled on its long axis like a dry leaf. On its upper free margin was a crescentic ulcer with raised edges, and numerous smaller roundish ulcers were scattered over the laryngeal surface of the epiglottis. Extensive ulceration of both ventricular bands and vocal cords existed, so that the opening of the ventricles was almost entirely occluded. The ulcers were symmetrical, and most marked towards the anterior insertion of the vocal cords. About one quarter of an inch below the cords was a cicatricial band projecting from the

sides of the subglottic cavity, and leaving an elliptical opening through which a crow-quill could hardly be passed. Below this obstruction the mucous membrane of the subglottic cavity was studded with small round ulcers, while the trachea seemed healthy. No further lesions could be detected by the naked eye, although doubtless such had existed, but had been obscured owing to long preservation in alcohol. Dr. Seiler regretted the absence of the records of the laryngoscopic examination made before the patient's death, still the lesions seen in the specimen would explain the symptoms of dyspnoea, aphonia, and dysphagia, and it was astonishing how the patient could have respired at all through the narrow opening left by the cicatricial tissue below the glottis. The chief interest, however, centred in the great similarity of the lesions in this unique case with those found in syphilis and lupus of the larynx. He had seen ulcerations in syphilitic laryngitis almost identical in shape and location with those seen in the specimen, and he remembered having seen two or three specimens of lupus of the larynx when in Vienna, which bore a strong resemblance to syphilis. Lupus and leprosy of the larynx could not be diagnosed from one another by laryngoscopic examination alone, but other signs and symptoms outside the larynx had to aid in the diagnosis. Thus in syphilitic laryngitis there were always sharply defined bands of a deep red color on the free margin of the velum palati. In lupus affections of the skin always preceded, coexisted with, or shortly followed, the manifestations of the disease in the larynx, while in leprosy the larynx was usually attacked later in the disease, when other portions of the body clearly showed marks of the pest.

Dr. LITTLE remarked that having conversed with Dr. F. N. Enders, who had seen a great many cases of leprosy in the Sandwich Islands, he had been interested to note that the eyelids were affected in the early stages, ectropion resulting, and the conjunctiva and cornea, or even the whole eyeball, becoming involved. The affection of the eyelids is sometimes the first symptom, or occurs during the first or second year of the disease. The lids were involved in the case described, and the eyeball subsequently.

#### DILATATION AND ATHEROMA OF THE PULMONARY ARTERY WITH AN OPENING THROUGH THE INTER-VENTRICULAR SEPTUM.

Presented by DR. BRUEN.

Examination of the heart: Left side, slight ventricular hypertrophy, mitral valves somewhat thickened at the margins with roughening of their auricular aspect, valves competent; the left auricle is normal, and also the aorta and the aortic valves. Examination of the right side is of most interest. Two of the semilunar leaflets at the mouth of the pulmonary artery are nearly destroyed by atheromatous changes, the third segment is much thickened, and projects as a leaf-like fold, roughening the mouth of the pulmonary artery. This vessel is dilated to nearly twice its normal size, forming really an aneurismal dilatation. The vessel walls are covered with a fringe of vegetations of inflammatory origin, due to atheromatous changes. The right auricle is very small and imperfectly developed, the bulk of its cavity being formed by the auriculo-ventricular appendix.

The tricuspid valves are much thickened, but are competent, probably. Between the two ventricles is an orifice large enough to admit the forefinger. It is

directly beneath one of the thickened leaflets, and is lined with endocardium, and must have allowed a free interchange between the blood of the two ventricles. The walls of the right ventricle are thickened, its cavity somewhat dilated. Dr. Bruen said that this case was interesting because the perforation of the ventricular septum is often congenital and dependent on obstruction of the orifice of the pulmonary artery, the perforation being due to the pressure of blood within the replete right ventricle. This pressure causes an arrest in the development of the ventricular septum. The pathology of the present case, probably, is as given above, but there was no pulmonary artery obstruction. A similar case is recorded in the *Medico-Chirurgical Transactions*, volume xv., by Fletcher (2). There was no cyanosis. Cyanosis is usually dependent on a deficiency of cardiac evolution or else on retarded evolution of pulmonary artery or aorta. As a consequence there is deficient cardiac power to carry on the circulation, or the pulmonary artery or the aorta are narrower than normal, so that in any of these conditions venous repletion results and cyanosis. Mixture of venous and arterial blood is, then, not the usual cause of cyanosis, although it may be a factor. Walsh says, grant that perforation of the ventricular septum coexist with constriction of the pulmonary artery orifice, and cyanosis seems to become a certainty. In our case there is an example of incomplete development of the ventricular septum and deficient development of the right auricle without cyanosis.

Pulmonary artery disease is consistent with a fair amount of general health, and that compensation by the right heart may occur just as in cases of aortic disease. Descriptions of pulmonary artery disease call attention to bronchitis, pneumonia, hydro-thorax, as sequential states. In our case no such complications were present until just before death, when she finally succumbed to congestion of the lungs added to the cardiac state. The aneurism of the pulmonary artery formed a pulsating tumor on the left side of the sternum, between the second and fourth ribs, extending outward from the border of the sternum, and including an area covered by a trade dollar. Over the tumor a post-diastolic and a presystolic bruit-like murmur could be heard at a point between the second and fourth ribs, while close to their junction with the sternum a hoarse systolic murmur could be heard. The bruit was localized, the heart systolic murmur was carried out into the entire arterial system.

Dr. Bruen then detailed at length the differential diagnosis of these murmurs. During life dilatation of the pulmonary artery with mitral obstruction had been the diagnosis. The patient was a woman of twenty-five years, a syphilitic, and was under observation from November, 1878, to July, 1882.

Dr. Eskridge had not had any difficulty in differentiating a presystolic from a diastolic murmur. He thought the leathery thickening of the mitral valves in the specimen presented by Dr. Bruen was sufficient to give rise to a mitral presystolic murmur. If we adopt the theory of Dr. Austin Flint, Sr., that a mitral presystolic murmur may occur in aortic regurgitation when the mitral valves are perfectly healthy, it seemed to him that there was no difficulty in accounting for the presystolic murmur from the regurgitant blood from the pulmonary artery into the communicating right and left ventricles of this case, especially as thickening, loss of elasticity, and some rigidity of the mitral

valves existed. The chronometry of the pulsation that occurred in the left second intercostal space he thought could have been obtained by adopting Sanson's modification of Balfour's method of comparing the time of the occurrence of precordial pulsations.

DR. SHAKESPEARE said that he had been struck with one point of great interest in connection with inflammation of the lining coat of the pulmonary artery as evinced by the vegetations. These growths are very rarely found in the venous current. He had certainly never seen any other specimen, although he did not doubt that some had been seen or reported by other observers. Arterial blood seemed a requisite for the evolution of such diseased action. Evidently the site of the perforation, being just below the aortic and pulmonary valves, brought about just this necessary prerequisite, namely, abundance of arterial blood with the venous.

DR. WILSON called attention to the evident relation between the incomplete ventricular septum and the condition of the pulmonary artery, which is greatly dilated and atheromatous, and presents the appearances often met with in the aorta, very rarely in this vessel. The wall of the right heart is relatively thickened. This fact, together with the position of the opening in the interventricular wall, which favors the flow of the blood from the left ventricle towards the pulmonary artery, render it probable, almost certain, that the more forcible contraction of the left heart has constantly forced a portion of its arterial blood into the right heart, thus increasing the current entering the pulmonary artery, and occasioning first, hypertrophy of the right ventricle, and second, a subacute inflammatory process in the pulmonary artery itself, in consequence of the increased volume and force of the blood current. Dr. Shakespeare's observation that such growths as are here seen require for their existence arterial blood is in accordance with this view.

#### SARCOMA OF THE PROSTATE GLAND.

Presented by DR. W. E. HUGHES.

The specimen which I have the pleasure of presenting was taken from a patient in the University Hospital under the care of Dr. H. K. Wharton. W. J., aged thirty-five years, admitted to the hospital suffering from retention of urine. Before his admission numerous unsuccessful attempts had been made to empty the bladder by means of a catheter. On admission the patient complained of much pain in the hypogastric region, which was the seat of a smooth, rounded swelling, reaching almost to the umbilicus. He stated that he had gonorrhoea some years previous, which had been followed by a troublesome stricture, which had been perfectly relieved by the passage of bougies. For more than a year previous to his admission he had suffered at irregular intervals from difficulty in urination. The urine had never been bloody, but its passage had often been attended by great pain. It was found impossible, on account of numerous false passages, to introduce a catheter into the bladder. On introducing a finger into the rectum the prostate was felt smooth, rounded, and immensely enlarged. The patient was put to bed, ordered suppositories of belladonna and opium, and a hot poultice to the abdomen. This treatment relieved him almost immediately, and urination became freer. For a few days he did well, but the difficulty in urination soon began to increase, and by the fifth day after his admission the symptoms had become so urgent that

it was deemed advisable to repeat the attempt to pass a catheter. This attempt was as futile as the first. Then aspiration of the bladder through the abdominal walls was attempted, but only a small quantity of blood was obtained. In introducing the canula it gave the sensation of passing into a solid body, and careful palpation revealed the fact that there really was a solid body apparently occupying the whole bladder. It was now decided to open the urethra at the base of the bladder, through the perineum, and the operation known as Cock's was selected. The operation was followed by the escape of a small amount of urine. After this the patient did well, with the exception of an attack of dysentery, until the ninth day after the operation, when peritonitis suddenly developed. He died on the following day.

*Autopsy* (two hours after death). Upon opening the abdomen a thick, yellowish-red, purulent fluid, having a urinous odor, was found bathing the intestines, the coils of which were everywhere bound together by recent adhesions. The omentum was in places firmly adherent to the intestines, and contained numerous irregular, nodulated masses, varying in size from that of a pea to that of a hen's egg. These masses on section presented a whitish-yellow color. In the lower part of the abdominal cavity was a large, irregularly-shaped mass, firmly adherent to the small intestines, colon, omentum, and walls of the pelvis. On careful dissection the tumor was found to originate in the prostate gland. On section it presented in parts the characteristics of schirrus, in others those of encephaloid, in other places there were large loculi, with hardened, irregular, friable walls, filled with a liquid similar to that found in the abdominal cavity, though no connection between these loculi and the abdominal cavity could be found. No trace of normal prostate gland or seminal vessels could be discovered. The bladder, containing a few ounces of urine, was found in front of the upper portion of the growth, its upper boundary almost on a line with the umbilicus; its anterior wall was apparently perfectly normal, its posterior wall, resting on the tumor, was thickened, raised, red, and velvety.

The ureters were normal, and opened in the usual position. The urethra, as far as could be seen, ran along the anterior surface of the tumor, and was not involved by it. The weight of the growth was five pounds two ounces. The kidneys, stomach, lungs, and intestines were normal. The peritoneum and capsules of the liver and spleen contained several secondary growths. Microscopic examination showed the growth to be a typical, small, round-celled sarcoma. The secondary deposits were similar in structure to the primary growth. The submucous and muscular tissues of the bladder wall were somewhat infiltrated. The growths in the capsules of the liver and spleen had commenced to penetrate these organs.

#### MELANOTIC SARCOMA OF ORBIT WITH METASTASES TO LIVER, ETC.

Presented by DR. SHAKESPEARE.

The patient was an elderly woman who had been operated upon by Dr. Hyle at the Episcopal Hospital some six months before death, the contents of the orbit having been thoroughly removed. Recurrence took place, the cavity being filled with a black, fungating mass; the left nostril gave vent to a blackish discharge, and the various internal organs became involved, nota-

bly the liver. Death took place from exhaustion. Most of the metastases are entirely melanotic, but some in the liver show at their periphery a distinct whitish zone. Dr. Shakespeare remarked upon the singular fact that orbital growths were usually melanotic, although they might not spring from the choroid coat of the eye, as in this case, where all pigmented structures had been removed months ago.

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### REPORT OF THE COMMISSIONERS APPOINTED TO INQUIRE RESPECTING SMALL-POX AND FEVER HOSPITALS IN LONDON.

WE have before us a bulky English Blue Book of four hundred pages, containing the report submitted to Parliament last August, of a Commission, known as the Hospitals Commission, appointed to inquire concerning Small-Pox and Fever Hospitals in London. The Commission was appointed about a year ago, and consisted, besides several laymen, of Sir James Paget, Professor Burdon-Sanderson, Dr. Alfred Carpenter, Dr. W. H. Broadbent, and Mr. Jonathan Hutchinson. The report deals virtually with the prevention and control of epidemic infectious diseases in London and its neighborhood. Before the appointment of the Commission much trouble had arisen in regard to some of the small-pox hospitals already established in London by the Metropolitan Asylums Board, on account of the alleged increased propagation of small-pox around them. Two, namely that at Hampstead and that at Fulham, had been closed, and the patients transferred to hospital ships on the Thames, pending the settlement of the questions involved by the courts, and reports concerning Hamerton and Fulham Hospitals, by Messrs. Bridges and Powers, had been submitted to the Local Government Board, as well as a report on the Use and Influence of Hospitals for Infectious Diseases, by Dr. Thorne Thorne, all three of which appear as appendixes in the present Blue Book, and are very thorough papers.

These reports, and especially that of Mr. Powers, seem to have had much weight with the Commissioners in reaching their own conclusions. Their own report, based upon the minutes of evidence, the appendixes mentioned, and others — among them one by Mr. Shirley Murphy, formerly a resident medical officer, respecting the influence upon its neighborhood of the London Fever Hospital, — is an interesting and valuable document, worthy the attentive consideration of our profession, not merely on account of the

names attached to it, but as containing curious matters touching the history of small-pox in London, and careful conclusions concerning the prevention of epidemic diseases and sanitary administration in large centres of population.

The report strongly recommends the compulsory notification of infectious diseases, and the immediate and complete isolation of those attacked, with the thorough disinfection of the surroundings. Such a course, combined with the removal of all local causes of disease, and the constant employment of means of infection, would result in a great diminution of infectious diseases in general; and small-pox would be still further reduced if vaccination could be made more effectual, and re-vaccination more frequent. All evidence goes to show that well-conducted fever-hospitals involve no appreciable risk to the neighborhood, and the Commissioners were satisfied that under proper precautions a limited number of small-pox cases may, without sensible risk of infection, be received within the precincts of the fever-hospitals.

They also report that the existing large small-pox hospitals, in each of which — there being five of them in London — several hundred cases are at times collected under one roof, do cause, in their present shape, an increase of small-pox in their neighborhoods, and that this fact is clearly established by the experience of those hospitals during the last ten years; that is, since the remarkable epidemic of 1872. As to what proportion of this increase of small-pox in the neighborhood of large hospitals is due to "personal communication," and what proportion to "atmospheric dissemination," the Commissioners naturally do not commit themselves; but they evidently felt that "personal communication" was not proved to be adequate to the explanation of the whole phenomena, and that "atmospheric dissemination" is not shown to be in the highest degree improbable, and hence insist that it is essential in the construction and management of these hospitals to guard with the utmost care against both sources of danger. The former may be met by stringent rules strictly executed; and against the latter Dr. Burdon-Sanderson offers a plan for an especial system of ventilation and atmospheric disinfection by hot air.

In concluding his report to the Local Government Board on the Fulham Small-Pox Hospital, Mr. Powers raises this question: whether the difference between the hospital and separate private houses in the same district, in their ability to distribute small-pox to neighbors, is mere matter of concentration and demonstrability, or is it a wholly different affair, a something that has a different quality, intensity, or potency from anything belonging to small-pox in its several nests of origin, consisting in an alteration in the quality of the small-pox material, an exalted faculty of reproducing its kind attributable to the bringing together of many differing, while all actively endowed, varieties of the disease; in the same fashion that longer stamened primroses and shorter stamened primroses, flowers of the same species, propagate heter than primroses which all have the same relation of stamen to ovary. These questions Mr. Powers

does not answer, but expresses a suspicion, obtained during his inquiry, that the latter may hereafter be found to be the truer solution.

Since 1875 small-pox has been on the increase in London, a course naturally regarded as preventable, and the Commission concludes, from tables covering the years from 1838 to 1881 inclusive, that whilst under tolerable control in the country its evil influence has, during the last twenty-one years, been gradually but fitfully gaining ground in London.

London will soon have 4,000,000 inhabitants, and it is estimated that administrative arrangements and appliances for 3000 fever patients and 2100 small-pox patients will be ample provision for ordinary emergencies. The number of cases of small-pox under treatment at any one time in a year, it is found, may be fairly estimated from the mortality in that year, being on an average about equal to it. In only three years out of the forty-one considered has the mortality from small-pox in London exceeded 2800. The Commission believe that it is not necessary to make provision for more than 400 or 500 cases in London itself, the remainder being capable of transportation to a distance. This number, it is thought, can be safely divided among existing small-pox and fever hospitals, thirty or forty patients being allotted to each locality.

#### FREE TRADE IN DIPLOMAS.

THE officers of the so-called "Bellevue Medical College" have been examined before the United States Commissioner on charges of using the mails for fraudulent purposes. Evidence was offered by the government, and not contradicted, to the effect that the "college" had issued degrees and diplomas to individuals grossly ignorant of the theory and practice of medicine, and after a farcical course of instruction covering a few weeks or less. The defendants claimed simply that they were empowered to do all that was alleged by the laws of Massachusetts. It appeared that the institution was legally incorporated, and that according to the corporation laws and its charter it enjoys all the privileges of other medical colleges. This was admitted by the government attorney. The Commissioner decided that these diplomas, representing neither study nor medical knowledge on the part of the recipients, were nevertheless not "fraudulent," because they were issued in accordance with authority conveyed to the officers by the State.

In the words of Commissioner Hallett, "We must, then, sit in judgment upon the laws of Massachusetts. The State has authorized this college to issue degrees, and it has been done according to legal right. It cannot be argued that the issue is fraudulent any more than an allopath can claim that a homeopathic college issues degrees fraudulently. The law makes the faculty of the college the sole judges of eligibility of applicants for diplomas. There is no legal restriction, no legal requirement. If the faculty choose to issue degrees to incompetent persons, the laws of Massachusetts authorize it. This is not, therefore, a scheme to

defraud under the statute. The defendants are discharged."

This institution holds its charter under the statute providing for *manufacturing* and other corporations. Whatever goods the diploma mill may turn out, if only satisfactory to the manufacturing corporation, have received in advance the approval of the State, and must receive the protection of the law.

Under this decision this new branch of industry will receive a powerful impetus. Buchananism, expelled from its birthplace by an inappreciative public, has only to come to Massachusetts to receive all the impetus of a combined "protection" and "free trade."

#### ANNUAL REPORT OF THE SUPERVISING SURGEON-GENERAL OF THE MARINE HOSPITAL SERVICE.

THE increasing importance of the Marine Hospital Service is shown by the corresponding increase in the size of its reports. In 1872 it failed to number one hundred pages; in 1882 it exceeds three hundred, and bids fair at no distant day to rival in bulk various other productions of the Government Printing Office. Nearly two hundred pages of the report are occupied with cases from the hospital practice of the department. The first one hundred are devoted to what may be called the report proper of the department, a large portion of which consists, as usual, of tables of diseases occurring in the different departments, of which it is unnecessary to speak. As a whole the present report seems more than ordinarily interesting, and illustrates better than ever before the peculiar work the service performs. In accordance with the prevailing nomenclature of the day were the bureau not a portion of the government machinery it would assume the name of the Association for the Prevention of Cruelty to Seamen, and would be puffed by the newspapers and enriched by bequests. Under the heading Additional Hospitals, Dr. Hamilton repeats the constantly recurring plea for a National Sailors' Home for the aged and infirm sailors who have outlived their sea-going days. It seems to us that no class of humanity can call more loudly for relief than the old salts. Many of them have at some time served in the navy of the United States, and about them all clings a salt-water flavor which an acquaintance with certain members of their class tends to foster rather than abate. One who knows the work of the Marine Hospital Service cannot fail to recall old fellows able in the summer to ship as cook, perhaps, on some little coasting schooner whose additional crew beside the captain consisted of a boy and a dog, or in some way to eke out an independent existence on the outskirts of his craft, and who when winter came used on some pretext or other to find admission to hospital. The more stringent application of hospital regulations deprives him of his winter's refuge, which he must now seek in the almshouse.

The Surgeon-General has taken pains to inquire into the execution of the regulations requiring the

use of lime juice and fresh provisions on merchant vessels of the United States, the occasion being the occurrence of six cases of scurvy admitted to hospital at Astoria, Oregon.

The deaths occurring on voyages from foreign ports to this country have been the subject of examination, and changes have been made looking to greater accuracy in future returns. The small-pox occurring during the past year is the subject of a short consideration. With the materials at hand and the ambition of the bureau to direct the hygienic measures of the nation it would seem as though a more valuable contribution to our knowledge of the modes by which the disease is spread by vessels might have found place in these pages.

The proposed bill for the reduction or abolition of the Marine Hospital tax gives an opportunity for a fair statement of the return actually made to the sailor for his forty cents a month. Further on in the report are given accounts of various marine disasters and the means used by the Marine Hospital Staff for the care of the sufferers.

Life-Saving Stations, Revenue Marine, and Marine Hospital Service seem to work harmoniously together under the direction of the Treasury for the good of the sailor, and we should regret to see the usefulness of the latter affected in any degree by envious legislation. As the report is for the operations of the service up to June 30th, the end of the fiscal year, no mention is made of the work of the service as a health board.

The clinical portion of the report contains many extremely valuable observations which we are glad to see preserved. Perhaps no physicians in the United States see a more varied and interesting class of diseases than the Marine Hospital surgeons. It has been the aim of the service for many years to encourage the publication of cases. Of the various observations it would not be impossible to find abundant opportunity for criticism, but we can hardly imagine a more effectual way of enforcing care on the part of medical officers than the requirement of a full report of all autopsies and their subsequent publication.

The work of the Marine Hospital Service is exceedingly important in our eyes, not only to the sailor when he is sick, but to American shipping, and to the sailor when engaged in his ordinary occupation, from the general oversight given to matters pertaining to the hygiene of the fore-castle. We believe the work to be done with increasing efficiency from year to year as the service grows older and the men more accustomed to their duties.

#### MEDICAL NOTES.

— Dr. Paul F. Mundé has been appointed gynecologist to Mt. Sinai Hospital, New York, to fill the vacancy caused by the resignation of Dr. E. Noeggerath.

— An Obstetrical and Gynecological Society was formed in Washington, D. C., during the past month, with Dr. S. C. Buscy as President and Drs. Joseph

Taber Johnson and W. W. Johnston as Vice-Presidents.

— Aberrations of Audibility was the title of a paper recently read before the Philosophical Society of Washington by a gentleman formerly connected with the Light-House Board. The subject was considered with special reference to the fallibility of fog-signals, the sound of which is not heard equally in all directions from its source. This variation in sound intensity does not seem to be dependent altogether upon the wind, but upon the differing relative density of different layers of air. An investigation of the Light-House Board into a steamship disaster in which it was claimed that the fog-signal was not sounded disclosed the fact that it was acting properly, but that while there was no lack in the volume of the sound emitted by the signal, there was often a decided lack in the audition of that sound, so much so that it would not be heard at the intensity expected, nor at the place expected; indeed, it would be heard faintly where it ought to be heard loudly, and loudly where it ought to be heard faintly; that it could not be heard at all some at points, and then further away it could be heard better than near by; that it could be heard and lost and heard and lost again, and all within reasonable ear-shot, and all this while the signal was in full blast and sounding continuously.

#### PHILADELPHIA.

— Dr. J. Forsyth Meigs is very ill with pleuropneumonia; he is a son of Professor Charles D. Meigs, and author in connection with Dr. Pepper of the well-known *Diseases of Children*. He has been for many years Physician to the Pennsylvania Hospital.

— Prof. Alfred Stillé, being the only nominee for the office, will probably be elected President of the College of Physicians at its next meeting, to succeed Dr. W. S. W. Ruscheberger, who declined renomination.

— At the December meeting of the College of Physicians, Dr. W. W. Keen exhibited for Dr. George T. Porter, of Bridgeport, Conn., a specimen of vesical calculus of the xanthic oxide variety, the first of the kind reported in America, and it is believed only the eighth on record. The stone was cut in half; one half was deposited in the Mütter Museum, the other was to be presented to the Jefferson Medical College. A full description and a representation of the same, it was said, had been published in the *New England Medical Monthly* for May, 1882. In the discussion which took place it was stated that Dr. Levis had removed a similar stone in 1876 from a patient at the Pennsylvania Hospital, the chemical character of which had been recognized, but it had not been reported; it will probably be presented at the next meeting of the College. Dr. James Tyson reported a case of cystine calculus.

Dr. J. Ewing Mears presented a report of a case of extra-uterine pregnancy, which was read by title, but which will shortly appear in full in these pages.

Reports were received from various standing committees showing satisfactory progress during the past



year. Some changes have been made in the library, which is rapidly increasing in size and influence. By a vote of the College it was decided to open the library in the evenings of every day except Saturday, commencing with the first of the year, the hours being from eleven A. M. to four P. M., and from seven to ten P. M. This experiment will be continued for three months, and if it is found desirable by the Fellows the change will be made permanent.

—The Nurse Registry Bureau of the College of Physicians made a very satisfactory report through the committee having it in charge. All the running expenses, including salaries to superintendent and messenger, were paid, and a surplus remained as the result of the first year's working. A number of extra expenses in fitting up rooms, providing furniture, outfit, etc., were paid out of a special fund of nearly twelve hundred dollars collected for the purpose by friends of the enterprise, of which about one half remains unexpended. The fees from applicants for nurses now average about eighty dollars per month, and there have been registered in all nearly three hundred nurses. Apart from the gratifying fact that the Bureau under its very able management has been self-sustaining from the beginning, it has proved itself extremely valuable to the community, and has received repeated favorable notices from the press. It is no longer merely a convenience, it is a necessity, and will increase in usefulness as its character becomes more widely known.

—Provost Pepper has announced the addition of \$23,000 to the endowment fund of the University of Pennsylvania. By the terms of a recent conveyance of land by the city fifty free scholarships in the University are opened to competition among the pupils of the public schools of Philadelphia.

### Disseclanp.

#### A LETTER FROM LONDON.

##### THE LONDON MEDICAL SCHOOL FOR WOMEN.

LONDON, November, 1882.

DEAR MR. EDITOR,—While here I have taken advantage of an opportunity, which I owe to the kindness of Professor Huxley, to visit the Woman's Medical College. In view of the general interest felt in America in the medical education of the other sex, and since, too, the agitation in favor of the admission of women to the Harvard Medical School has made this problem prominent before both the profession and the general public, I was particularly glad to gather information about the London School in Henrietta Street, Brunswick Square.

A small number of ladies studied medicine several years ago at the University of Edinburgh, but certain difficulties arose which led to further complications, and finally to the retirement of the female students. Miss Jex-Blake immediately devoted her energies to the establishment of a school in London for women only, and was soon joined in her efforts by others, notably Mrs. Garrett-Anderson, Dr. Austie, Burdon-Sanderson, Professor Huxley, and more persons whose names are familiar.

The school was opened in October, 1874, with twenty-three students, and has grown since then slowly and steadily. It may therefore be considered successful and permanent, although its funds are very limited. At the start the school had £1000, obtained through private subscriptions from friends of the movement. They obtained the lease of an old-fashioned two-storied house, the private garden of which secured light and air on one side. A very competent corps of instructors was gathered, including a number of distinguished teachers from other London schools. Collections of specimens were immediately begun, and laboratory equipments started. The opportunity of providing the necessary oral and practical instruction was thus at once made certain of.

For three years they were unable to make any arrangement for the proper clinical training of the students. During that period the scholars shifted as best they could. They were admitted to Mrs. Dr. Anderson's new Hospital for Women, where they could obtain a valuable though limited experience, which, however, did not qualify them for examination, as the certificates of a small special hospital are not recognized by the English examining boards. This fatal deficiency was obviated in 1877, when an arrangement was entered into for five years with the largest hospital in the neighborhood of the school, that on Gray's Inn Road. The agreement admits the students of the Henrietta Street School to clinics in the hospital, the contract holding for five years, the school making an annual guarantee to the hospital of, at present, £715.

To complete the success it was necessary to secure the admission of women to the examinations qualifying them to practice. Here, especially, was the field of agitation in favor of the desired reform, and rebuffs and discouragement were meted out abundantly to those interested in the venture. In 1876, with the support of the government, Parliament passed a bill enabling all the nineteen British medical examining bodies to confer their licenses or diplomas upon women. Under this act the Irish College of Physicians gave the first degree ever granted to a woman in the Kingdom of Great Britain and Ireland. Its recipient was Miss Edith Pechey. In the fall of 1876 another lady applied for admission to the medical examinations of London University. The application led to a very interesting and somewhat protracted discussion, chiefly because the Convocation voted against women being admitted to the examination for the medical degrees, before the question of their admission to all the degrees of the university had been considered. Thereupon the senate placed before Convocation a supplementary charter providing that all degrees of the university shall be open to women. It was carried by two hundred and forty-one against one hundred and thirty-two. Since then women have also been admitted to the examinations of the Society of Apothecaries and the Royal University of Ireland.

The three first requisites have thus been met: (1) Lectures, recitations, and practical work; (2) clinical instruction at a large hospital; (3) admission to examinations qualifying to practice.

The running expenses are met by the students' fees, which amount to a little over £1000, the number of students being a little over thirty; a small amount of interest from investments, and the remainder from subscriptions and donations, making a total of nearly £2100 (\$10,000) for the annual expenditures,

which is certainly not large. It is hoped now to raise a permanent endowment, which is intended for educational and not architectural use, an example that seems to commend itself little to Americans.

The school is installed very modestly, but is carried on with marked earnestness and ability. It is certainly an interesting and important experiment, one which must go far towards settling the vexed question of the feasibility and desirableness of giving women medical training, and how far it is of practical value to them. Indeed, this may be regarded as a crucial experiment, since the school is a very superior one, and if it fails to achieve success it will seriously discredit the whole movement towards the professional education of women.

The school must be admitted to be superior to most if not *all* American medical schools, in that its course of study extends over four years, the students being recommended to take five. The instruction, as far as I could ascertain, is thorough and efficient. It is well known that at London University the women have several times carried off the prizes from the men competitors. Passing the examinations requisite for qualifying is a severe test, which the women, however, stand well, although few of our schools, perhaps, would like to expose their pupils to such proofs.

It is hardly worth while to attempt to describe the instruction, both because my visit was too brief to enable me to form an independent opinion, and because it seems to differ little from the known English standard, which is higher than the American.

The number of women physicians in Great Britain is very small. I have not now the list at hand, but to the best of my recollection it adds up to a couple of dozen only. Those who wish to practice find, I have been informed, abundant occupation. There is here, as in America, an unquestionable demand for female physicians, and under these circumstances it appears but wise to provide thorough education for ladies who are determined to enter the profession.

In conclusion, permit me to add, Mr. Editor, that I believe the just ground to take in regard to this vexed question of medical women is to view the whole as an experiment. It is, too, only fair to add that the success of women has thus far been greater and better deserved than most of us of the other sex had been previously ready to admit to be possible. The most common objection usually made now is that woman has intuition rather than a logical faculty. But is not this too often a formula, a cabala of refuge? Does the average male practitioner always reason out his treatment with severe scientific logic, or does masculine intuition often help him?

It is to be deplored that discussions of this subject are so frequently conducted with strong feelings on both sides, and that there is not more judicial consideration of the *pros* and *cons*. If a gentleman asserts that women are not fitted to become, and cannot become, competent physicians, one cannot avoid the conviction that he who makes the assertion is not fitted to form a sound judgment, for candor compels the admission that we have not yet the basis for a positive and definite decision for either side. Meanwhile ought it not to be remembered that women have achieved more success than was anticipated? Let opportunity, therefore, be given for fair trial, and for a while let judgment be suspended. I am, etc.,

CHARLES SEDGWICK MINOT.

## DR. J. J. MASON ON THE CENTRAL NERVOUS SYSTEM OF REPTILES AND BATRACHIANS.

SMITHSONIAN INSTITUTION,  
WASHINGTON, D. C., December 9, 1882.

MR. EDITOR, — I find in the Boston Medical and Surgical Journal for November 30th a notice of Dr. Mason's work on the Central Nervous System of Reptiles and Batrachians, in which it is suggested that the Smithsonian Institution may have rendered some assistance to the author in bringing out this extensive and elaborate work.

I now beg to say that the only help given by the institution, was in furnishing some of the specimens which constitute the subject of the investigation.

It may be well to place on record the fact that not only were all the photographs made by Dr. Mason's own hands, in addition to his prosecuting the original researches themselves, but that the composition and press-work of the book were executed entirely by himself in his own house, and the artotype plates made under his daily supervision. The book well deserves to be considered as a curiosity in literature, apart from its scientific value, being a specimen of amateur printing and press-work seldom, if ever, surpassed by the most celebrated typographical establishments in the country.

Yours truly, SPENCER F. BAIRD.

## MASSACHUSETTS STATE BOARD OF HEALTH.

LAWRENCE, December 14, 1882.

MR. EDITOR, — Permit me to remark in relation to the query contained in the closing paragraph of your editorial in the JOURNAL of December 7th concerning the qualifications of John Fallon, Esq., of Lawrence, for the duties of a member of the State Board of Health, Lunacy, and Charity, that Mr. Fallon is a self-made man, of large information upon scientific subjects, a practical chemist of distinguished attainments and wide experience, and a student of social science. He will carry to the duties of the position assigned him those qualities which cannot fail to make him a worthy successor of Mr. Hoadley, to whose place he succeeds.

Mr. Fallon, having retired from active business, has the time as well as the taste and inclination for the service required of him, and he will, unquestionably, become a useful and valued member of the Board of Health, Lunacy, and Charity. C. N. C.

[The "query contained" was a hope expressed. — Ed.]

## HOSPITAL FOR INCURABLES.

MR. EDITOR, — It is almost superfluous to call to the minds of your readers the fact that among our poor are many who are afflicted with incurable or virtually incurable diseases, which unfit them for work of any nature. They can obtain only temporary entrance into our large hospitals, because the sick who are curable require every bed. These unfortunates, therefore, many of them, have only to struggle on, living as best they may without medical care, unless it be given without fee.

Doubtless every physician in active practice has been embarrassed as to how to dispose of such cases.

In recognition of the urgent need of a refuge for

these incurables, a house, to be known as the Hospital for Incurables, has been opened in Brighton. This has been accomplished by means of generous subscriptions and donations from influential men and women of Boston who appreciate the need of such a refuge, and are earnestly interested in its development.

I write to ask the coöperation and interest of the JOURNAL, as well as of all physicians to whose notice this communication may come. The hospital is ready to receive patients. For the present only women and children can be admitted.

I will gladly call and examine candidates who may be in, or be brought into, the city. On Wednesdays, at

10 A. M., I will do the same at the hospital, which is located in Harvard Place, Brighton, opposite Cattle Fair Hotel. Patients who can do so will be expected to pay a nominal fee for board; others will be admitted gratuitously.

It is to be hoped that the institution will constantly receive pecuniary aid in the form of donation or subscription. The list of donors may be seen during the forenoon of week days at Miss Harmon's room (No. 37), Charity Building, Chardon Street, or at my office, 2 to 4 P. M.

Yours very truly,  
HAMILTON OSGOOD.

235 MARLBOROUGH STREET, December 17, 1882.

# REPORTED MORTALITY FOR THE WEEK ENDING DECEMBER 9, 1882.

| Cities.                           | Population by Census of 1880. | Reported Deaths in each. | Deaths under Five Years. | Percentage of Deaths from         |                |                       |                |                |
|-----------------------------------|-------------------------------|--------------------------|--------------------------|-----------------------------------|----------------|-----------------------|----------------|----------------|
|                                   |                               |                          |                          | The Principal "Zymotic" Diseases. | Lung Diseases. | Diphtheria and Croup. | Scarlet Fever. | Typhoid Fever. |
| New York.....                     | 1,206,590                     | 578                      | 200                      | 15.57                             | 21.80          | 6.23                  | .86            | .86            |
| Philadelphia.....                 | 846,984                       | 405                      | 128                      | 21.56                             | 11.56          | 14.08                 | 2.22           | 2.96           |
| Brooklyn.....                     | 566,689                       | 240                      | 85                       | 20.41                             | 25.74          | 8.33                  | 5.83           | 1.25           |
| Chicago.....                      | 503,304                       | 187                      | 84                       | 24.46                             | 14.95          | 10.68                 | 3.74           | 4.27           |
| Boston.....                       | 362,535                       | 173                      | 57                       | 23.16                             | 11.92          | 14.50                 | 2.51           | 1.73           |
| St. Louis.....                    | 350,522                       | 109                      | 68                       | 48.60                             | 11.90          | 27.51                 | 9.17           | 1.83           |
| Baltimore.....                    | 332,190                       | 178                      | 67                       | 33.04                             | 6.72           | 13.44                 | 2.24           | 1.12           |
| Cincinnati.....                   | 255,708                       | 107                      | 39                       | 19.61                             | 23.35          | .93                   | 2.83           | 8.41           |
| New Orleans.....                  | 216,140                       | —                        | —                        | —                                 | —              | —                     | —              | —              |
| District of Columbia.....         | 177,638                       | 61                       | 17                       | 9.84                              | 18.04          | 1.64                  | 6.56           | —              |
| Pittsburg.....                    | 156,381                       | 60                       | 16                       | 29.88                             | 15.00          | 10.00                 | —              | 15.00          |
| Buffalo.....                      | 155,137                       | 54                       | 20                       | —                                 | —              | —                     | —              | —              |
| Milwaukee.....                    | 115,578                       | 50                       | 29                       | 16.00                             | 18.00          | 12.00                 | 2.00           | 2.00           |
| Providence.....                   | 104,857                       | 47                       | 11                       | 25.54                             | 17.02          | 2.13                  | 2.13           | 19.05          |
| New Haven.....                    | 62,882                        | 21                       | 11                       | 28.56                             | 4.76           | 4.76                  | 4.76           | —              |
| Charleston.....                   | 49,999                        | 33                       | 11                       | 12.12                             | 9.09           | —                     | —              | 6.06           |
| Nashville.....                    | 43,461                        | 17                       | 4                        | 35.28                             | 17.64          | 5.88                  | —              | —              |
| Lowell.....                       | 59,485                        | 29                       | 9                        | 31.05                             | 10.34          | 6.90                  | 3.54           | 6.90           |
| Worcester.....                    | 58,293                        | 20                       | 9                        | 15.00                             | 20.00          | —                     | —              | 10.00          |
| Cambridge.....                    | 52,740                        | 19                       | 5                        | 5.26                              | 21.04          | 5.26                  | —              | —              |
| Fall River.....                   | 49,006                        | 21                       | 4                        | 28.57                             | 4.76           | 4.76                  | 4.76           | —              |
| Lawrence.....                     | 39,178                        | 12                       | 3                        | 32.32                             | 8.33           | 32.32                 | —              | —              |
| Lynn.....                         | 38,284                        | 9                        | 2                        | 11.11                             | —              | —                     | —              | —              |
| Springfield.....                  | 33,340                        | 15                       | 4                        | 6.66                              | 6.66           | —                     | —              | —              |
| Salem.....                        | 27,598                        | 16                       | 6                        | 12.50                             | 6.25           | 6.25                  | —              | —              |
| New Bedford.....                  | 26,875                        | 9                        | 2                        | —                                 | —              | —                     | —              | —              |
| Somerville.....                   | 24,985                        | 13                       | 7                        | 22.22                             | 11.11          | —                     | 11.11          | —              |
| Holyoke.....                      | 21,851                        | 13                       | 7                        | 33.07                             | 7.69           | —                     | 7.69           | —              |
| Chelsea.....                      | 21,785                        | 11                       | 3                        | 9.09                              | 27.27          | —                     | —              | —              |
| Taunton.....                      | 21,213                        | 4                        | 0                        | 25.00                             | —              | —                     | —              | 25.00          |
| Gloucester.....                   | 19,329                        | 4                        | 1                        | —                                 | —              | —                     | —              | —              |
| Haverhill.....                    | 18,475                        | 5                        | 0                        | —                                 | 20.00          | —                     | —              | —              |
| Newton.....                       | 16,995                        | —                        | —                        | —                                 | —              | —                     | —              | —              |
| Brocton.....                      | 13,608                        | 5                        | 2                        | 20.00                             | 40.00          | —                     | —              | —              |
| Newburyport.....                  | 13,537                        | 5                        | 1                        | 20.00                             | —              | —                     | 20.00          | —              |
| Fitchburg.....                    | 12,405                        | 3                        | 0                        | —                                 | —              | —                     | —              | —              |
| Malden.....                       | 12,017                        | 5                        | 2                        | 20.00                             | —              | —                     | —              | —              |
| Nineteen Massachusetts towns..... | 143,900                       | 42                       | 17                       | 19.04                             | 19.04          | 7.14                  | —              | —              |

Deaths reported 2567 (no report from New Orleans): under five years of age 924: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas, and fevers) 351, consumption 395, lung diseases 412, diphtheria and croup 244, typhoid fever 72, scarlet fever 63, diarrheal diseases 41, small-pox 30, malarial fevers 24, whooping-cough 20, measles 21, cerebro-spinal meningitis 19, erysipelas eight, puerperal fever four. From diarrheal diseases, New York 10, Chicago six, Boston five, Cincinnati and Brooklyn four, St. Louis three, Baltimore, Nashville, and Lowell two each, Charleston, Fall River, and Chelsea one each. From small-pox, Baltimore 23, Philadelphia four, Chicago, Pittsburg, and Nashville one each. From malarial fevers, New York nine, St. Louis five, Brooklyn four, Chicago and Nashville two each, Baltimore and Cincinnati one each. From whooping-

cough, New York five, Brooklyn four, New Haven three, Philadelphia two, St. Louis, Cincinnati, District of Columbia, Charleston, Lynn, and Chicago one each. From measles, New York 13, Boston and Baltimore two each, Philadelphia, Pittsburg, New Haven, and Peabody one each. From cerebro-spinal meningitis, New York five, Holyoke and Chicago two each, Philadelphia, Chicago, Pittsburg, Providence, Lowell, Worcester, Springfield, Somerville, Brockton, and Woburn one each. From erysipelas, New York two, Philadelphia, St. Louis, Cincinnati, Lowell, Salem, and Malden one each. From puerperal fever, Chicago, Boston, St. Louis, and Baltimore one each.

One hundred and twenty-six cases of small-pox were reported in Baltimore, Pittsburg eight, Cincinnati four, Nantucket one; diphtheria 58, scarlet fever 25, and typhoid fever 12, in Boston; scarlet fever 16 and diphtheria seven in Milwaukee.

In 36 cities and towns of Massachusetts, with a population of 1,010,390 (population of the State 1,783,086), the total death-rate for the week was 20.63 against 20.31 and 18.81 for the previous two weeks.

In the 28 English towns, with an estimated population of 8,439,571, for the week ending November 25, the death-rate was 24.2. Deaths reported 3919; acute diseases of the respiratory organs (London) 411, measles 120, scarlet fever 110, fever 96, whooping-cough 88, diphtheria 53, diphtheria 29, small-pox (London and Manchester two each, Newcastle one) five. The death-rates ranged from 14.7 in Bolton to 47.8 in Sunderland; Wolverhampton 19.7; Nottingham 21.8; London 22.5; Manchester

24.2; Bristol 25.8; Liverpool 26.7; Leeds 27.2; Hull 32.2. In Edinburgh 22.3; Glasgow 27.8; Dublin 29.2.

For the week ending November 23, in the Swiss towns, population 494,390, there were 31 deaths from consumption, acute diseases of the respiratory organs —, diarrheal diseases eight, scarlet fever four, typhoid fever four, diphtheria and croup two, puerperal fever two, whooping-cough one. The death-rates were, at Geneva 9.3; Zurich 10.1; Basle 17.1; Berne 23.9.

The meteorological record for the week ending December 9 in Boston, was as follows, according to observations furnished by Sergt. O. B. Cole, of the U. S. Signal Corps:—

| Date.            | Barom-eter. | Thermom-eter. |             |          | Relative Humidity. |            |            |             | Direction of Wind. |            |            | Velocity of Wind. |            |            | State of Weather. <sup>1</sup> |            |            | Rainfall.   |                       |                   |
|------------------|-------------|---------------|-------------|----------|--------------------|------------|------------|-------------|--------------------|------------|------------|-------------------|------------|------------|--------------------------------|------------|------------|-------------|-----------------------|-------------------|
|                  |             | Daily Mean.   | Daily Mean. | Maximum. | Minimum.           | 7.23 A. M. | 3.23 P. M. | 11.23 P. M. | Daily Mean.        | 7.23 A. M. | 3.23 P. M. | 11.23 P. M.       | 7.23 A. M. | 3.23 P. M. | 11.23 P. M.                    | 7.23 A. M. | 3.23 P. M. | 11.23 P. M. | Duration, Hrs. & Min. | Amount in inches. |
| December, 1882.  | Daily Mean. |               |             |          |                    |            |            |             |                    |            |            |                   |            |            |                                |            |            |             |                       |                   |
| Sun.,            | 3           | 30.013        | 20          | 34       | 11                 | 77         | 70         | 64          | 70                 | NW         | NW         | NW                | 12         | 20         | 18                             | T          | O          | C           | —                     | —                 |
| Mon.,            | 4           | 30.309        | 18          | 27       | 6                  | 55         | 46         | 73          | 58                 | W          | SW         | SE                | 8          | 6          | 8                              | C          | F          | O           | —                     | —                 |
| Tues.,           | 5           | 30.137        | 42          | 52       | 23                 | 82         | 41         | 91          | 71                 | SW         | SW         | SE                | 8          | 8          | 6                              | F          | O          | O           | —                     | —                 |
| Wed.,            | 6           | 29.968        | 46          | 54       | 36                 | 80         | 50         | 65          | 65                 | SW         | W          | W                 | 19         | 12         | 6                              | O          | T          | O           | —                     | —                 |
| Thurs.,          | 7           | 29.885        | 26          | 48       | 15                 | 78         | 88         | 67          | 78                 | SE         | NW         | W                 | 12         | 25         | 27                             | O          | F          | C           | —                     | —                 |
| Fri.,            | 8           | 30.179        | 20          | 25       | 14                 | 67         | 58         | 70          | 65                 | W          | SW         | W                 | 13         | 19         | 16                             | C          | C          | C           | —                     | —                 |
| Sat.,            | 9           | 30.287        | 25          | 32       | 15                 | 67         | 54         | 77          | 66                 | W          | W          | SW                | 12         | 14         | 5                              | C          | C          | O           | —                     | —                 |
| Means, the week. | 30.111      | 28            |             |          |                    |            | 73         |             |                    |            |            |                   |            |            |                                |            |            |             | 17 30                 | .33               |

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., snow; R., rain; T., threatening.

**GYNÆCOLOGICAL SECTION OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.**—A meeting will be held at 19 Boylston Place, on Wednesday evening, December 27th, at eight o'clock. The following papers will be read: Dr. J. R. Chadwick, Cases of Congenital and Acquired Stenosis of the Female Genital Tract. Dr. W. A. Dunn, Results in Five Hundred Labor Cases. JOHN B. SWIFT, Secretary.

**SUFFOLK DISTRICT MEDICAL SOCIETY.**—There will be a general meeting of the Society on Saturday, December 30th, at 19 Boylston Place, at 7.45 p. m. The following papers will be presented: Histology of the Uterine Myxoma, illustrated by Microscopic Preparations, Dr. H. O. Marcy. A Household Epidemic from Defective Drainage, Dr. H. W. Broughton. Two Cases of Tetanus, with Recovery, Dr. E. Cheney. Supper at nine o'clock. H. C. HAVEN, Secretary.

**BOOKS AND PAMPHLETS RECEIVED.**—Vick's Floral Guide. 1883.

Diseases of the Liver, with and without Jaundice, with the Special Application of Physiological Chemistry to their Diagnosis and Treatment. By George Harley, M. D., F. R. S., etc., etc. Illustrated by Colored Plates and Wood Engravings. Philadelphia: P. Blakiston, Son & Co. 1883.

Three Cases of Stricture of the Urethra cured by Electrolysis after all other Methods of Treatment had Failed. By John Butler, M. D. New York. (Reprint.)

A Case of Ovarian Tumor with Rare Complications. By A. P. Dudley, M. D., and H. C. Cox, M. D. (Reprint.)

Fibromata and Cysto-fibromata of the Ovary. By Harry C. Cox, A. M., M. D. New York. (Reprint.)

Incontinence of Feces in Children. By George B. Fowler, M. D. New York. (Reprint.)

Transactions of the Minnesota State Medical Society. 1882. St. Paul.

Circulars of Information of the Bureau of Education. No. 2, 1882. Proceedings of the Department of Superintendence of the National Association at its Meeting at Washington, March 21, 23, 1882.

Preliminary Report on the Yellow Fever Epidemic of 1882 in the State of Texas. Treasury Department, Marine Hospital Service.

Excision of Cartilage in Nasal Obstruction due to Deviated Septum. By John B. Roberts, M. D. Philadelphia.

Contributions to the Vital Statistics of Australia. By James Jamieson, M. D. Melbourne. (Reprint.)

Biennial Report of the Officers of the Vermont Asylum for the Insane for the two Years ending July 31, 1882.

Medical Colleges. Advance Sheets from Fourth Annual Report Illinois State Board of Health.

Reduplication, or Doubling of the Cardiac Sounds. By James Barr, M. D., L. R. C. S., Edin. Liverpool. (Reprint.)

Les Rapports avec la Commission de Contrôle; des Expériences Relatives au Microbe de la Pneumonie Contagieuse. Par G. Bruylants and G. Verriest, professeurs à l'Université de Louvain.

Analysis of Eight Thousand Cases of Skin Disease. By L. Duncan Bulkley, A. M., M. D. New York. 1882. (Reprint.)

The Balamams. By Henry M. Field, M. D. Read before the New Hampshire Medical Society, June 26, 1882.

Annual Report of the National Board of Health for the Year 1882.

Contribution to Surgical Gynaecology. By Edward W. Jenks, M. D., LL. D. Chicago, Ill. (Reprint.)

Studies from the Pathological Laboratory of the University of Pennsylvania. No. X. The Pathogenesis of Secondary Tumors. By Henry Vile, A. B., M. D. Rochester, N. Y. (Reprint.)

Some Comments and Discussion on the Paper "The Etiology of Tumors." By H. F. Formad, B. M., M. D. (Reprint.)

The Bacillus Tuberculosis and Some Anatomical Points which suggest the Refutation of its Etiological Relation with Tuberculosis. By H. F. Formad, B. M., M. D. (Reprint.)

Mittheilungen aus der Ophthalmologischen Klinik in Tübingen herausgegeben. Von Dr. Albrecht Nagel. Erster Band. Tübingen. 1882. Verlag der H. Lauppischen Buchhandlung.

Pestilenzia in Nummis. Geschichte der Grossen Volkskrankheiten in Numismatischen Documenten. Ein Beitrag zur Geschichte der Medicin und der Cultur. Von Dr. L. Pfeiffer and C. Roland mit zwei Tafeln Abbildungen in Lichtdruck. Tübingen. 1882. Verlag der H. Lauppischen Buchhandlung.



had no history; it probably originated in the same attack of rheumatic inflammation which affected the valves, the serous investment of the heart being inflamed externally as well as internally. As a result of this rheumatic pericarditis there has been adhesion and complete obliteration of the pericardial space, and the heart is fastened to the inner surface of the chest. This fully explains the heaving or dimpling of the chest wall during life synchronously with the motions of the heart. Passing my fingers down through the aortic orifice I find the valves stiffened by calcareous deposits in the leaflets, but the valves are probably competent; there is no obvious loss of substance. Upon trying the hydrostatic test, however, I find that the water poured into the aorta leaks through into the ventricle, but I do not place much reliance upon this test under these conditions because I am not able to hold the heart in proper position. So far as I can judge from the appearances there could not have been much incompetence of the valves, and this is confirmed by what was noticed during life; there was no aortic murmur. The cavity of the left ventricle is increased, and while the hypertrophy undoubtedly predominates there is also dilatation; the mitral orifice instead of only admitting two fingers easily admits three. The leaflets here are also thickened, calcareous, and defective. Here is the explanation of the mitral systolic murmur; this thickened, incompetent valve permitted regurgitation, and with this amount and character of deposit the murmur was apt to be a harsh one.

Let us now turn to the brain. The dura mater, although its vessels are less full of blood than they were at the time of the autopsy, is still seen to be congested. It is tightly adherent to the brain along the line of the longitudinal sinus, but this is old, and has nothing to do with the present trouble, at least directly. This, however, as you know, is the point of entrance of the veins from the brain into the longitudinal sinus, and obstruction here leads to interruption in the flow of the blood from the brain. Upon the convexity of the hemispheres we find deep congestion; the membranes are dry; there is no excessive moisture here or at the base of the brain, and no increase of subarachnoid effusion; no lymph. It is only at the convexity that we have any condition of the brain that will at all account for the nervous symptoms during life, and these conditions were only in the beginning stage; there is only injection, there has been no subarachnoid effusion nor throwing out of lymph as yet, or if any is present it is barely sufficient to permit of scraping up by the scalpel, it is not at all evident on inspection.

You see the difficulties attending the diagnosis in such a case. The man could give no account of himself; his friends gave no history of any previous illness. At first, from the general appearance of the patient, his symptoms resembling those of typhoid fever, it was thought that it might be a case of that kind, but later this idea was abandoned. The question then came up whether these nervous symptoms were due to disorder in the chest, that is, symptomatic delirium, or due to meningitis, but the pulse turned the decision in favor of the latter, and the temperature record also sustained the view of early meningitis. As to its character, whether there was a blood poison bringing about this meningitis or not we were unable to decide, and are still unable to decide now that the results of the post-mortem examination are before us. You see that the question turned upon symptomatic delirium or

meningitis, for you know that in many disorders of the chest, where the endocardium is inflamed, but especially where the pericardium is involved, you are very apt to have brain disorder. It is therefore very important to remember this in the diagnosis of supposed cerebral disease. Here it was very difficult to decide. The autopsy shows that although there was disorder in the chest it was not enough of a character to cause the cerebral symptoms; we find, however, that there was really meningitis. That he died so early in the affection is peculiar, but it is reasonable to suppose that the heart, tied down by pericardial adhesion and diseased in every way, would be unable to bear the additional strain put upon it by the fever process. Notice the crippled valves, notice the immense hypertrophy, and the universal pericardial adhesions; is it a wonder that the heart failed when the fever process fairly set in?

#### BILATERAL EXTRAVASATION OF BLOOD ON THE BRAIN FROM MENINGEAL HÆMORRHAGE, WITHOUT PARALYSIS.

Here is another case of even more interest; it is rather an exceptional than a typical one, however, but the exceptions are exceedingly valuable sometimes. This man was brought in by policemen on the 21st inst., and died in thirty-six hours. The statement made by those accompanying him was that he was known as a drinking man, and that he had fallen in a fit on the street; it had not been observed whether he was intoxicated or not, but his breath did not smell of liquor. We also were told that he was subject to epileptic convulsions. When he came in he was very dull and stupid, he could move his limbs, but paid no attention to questions; the respirations were full and heavy, but not stertorous. Instead of being comatose, he looked much more like a man under the influence of alcohol. His temperature was 101° F., his pulse was 100, full and regular, and not very tense. So far as we could make out there was no appearance of paralysis of face or extremities. There was no scalp wound, but there was some blood in his left ear, which had oozed from an abrasion on his face produced by the fall. His pupils were irregular, — the right was contracted, the left rather dilated. This still continued after death, but the difference was not very great. There was also observed a very sluggish reaction to light in the pupils, though both were mobile. The urine had to be drawn by the catheter; it contained neither albumen nor alcohol. The bowels were moved by an enema. After he had been in the hospital for a short time he revived, and was very restless; it was with difficulty that he was kept in bed; he was actively delirious; he talked incoherently, and the appearance of intoxication became even more marked. He had to be tied in bed, finally, like a case of delirium tremens. The next morning he became comatose, and died later in the day.

Here is another very imperfect history. A man falls in the street, has symptoms of concussion of the brain, and dies in thirty-six hours. I need not detail the treatment, which was merely symptomatic. Let us examine the specimens: Here is the brain. Over the most prominent portion of the left middle lobe, in the middle fossa outside the dura mater, we find a considerable amount of effused blood, deeply staining the tissues around. This blood came from a fracture of the skull, which is very thin. Upon the right side of the

brain there is a hæmorrhage in and from the brain tissue; it has torn up, destroyed, and compressed the right middle lobe. The blood on this side is within the dura mater, but the corresponding areas of brain are involved, on the one side compressed, on the other lacerated as well as compressed. It does not extend to the ventricle. Here you see the fracture of the left side and base of the skull. The cerebral hæmorrhage must have caused the man to fall, and striking his head the thin skull was fractured at the seat of the blow — the side opposite to that of the previous cerebral hæmorrhage.

This is a very unusual case. It was one of apoplexy, but the pulse was 100 to the minute, and not of high tension; the face was not notably flushed, nor the superficial arteries prominent; there was no stertorous respiration early in the attack, and no hemiplegia, — in short, none of the usual characteristics of apoplectic convulsions, nor indeed of hæmatoma. Why was there no paralysis? You will find that in a certain number of cases of escape of blood upon both sides of the brain, when outside the corpora striata, and especially where it is meningeal or peripheral, that there will not be any paralysis during life. Why this is so I cannot positively state, but think that it is because the pressure upon both sides is evenly balanced. Where one side is alone pressed upon, the hemispheres are unequally affected, and paralysis occurs, usually upon the opposite side of the body; where the pressure is bilateral both hemispheres are affected alike and balance each other. Whether the explanation is satisfactory or not, the fact is so. You see that in this case there was pressure from hæmorrhage upon both sides without disturbance of motion; the man could move his limbs, and even had to be tied in bed to prevent his escaping.

Now on cutting into the brain at the level of the corpus callosum you will be enabled to examine the condition of the ganglia and ventricles. As it is important sometimes to be able to replace the parts in order to study the relations of any abnormality, you will find it best to make your section of the hemispheres in this manner: with a sharp knife having a rather large blade a horizontal cut is made on the inner surface just above the corpus callosum, running the whole length of the hemisphere, but not carried entirely through to the external aspect; here a small part of tissue is left to act as a hinge on throwing back the upper section. Now, repeated incisions may be made, and the brain spread freely open, and yet the parts can all be replaced without confusion or mistake. By this method you can get the same amount of exposure, without disturbing the relations. As the ventricles are now exposed, you observe in the left lateral ventricle some bloody fluid, but there is no marked distention, and no changes in the corpus striatum or optic thalamus on this side; the other side is perfectly normal. Hæmorrhage into the corpus striatum must cause hemiplegia, but the hæmorrhage just outside, as it was here, does not cause hemiplegia, and does not often give paralysis. This case, therefore, though very exceptional, is not without its lesson.

In making the diagnosis between apoplexy and alcoholism, I laid stress upon the facts that there was no odor of alcohol in the breath, and that the urine did not contain alcohol. I will now show a practical method of testing urine for alcohol, devised by Dr. Woodbury, formerly a resident physician in this insti-

tution. The test is simple, easily made, and accurate enough for ordinary purposes. It is a modification of Anstie's test. About a drachm of white sulphuric acid is poured into a test tube, and about twice the quantity of the suspected urine is then added so as to overlay the acid. Then a clear crystal of bi-chromate of potassium is dropped into the test tube, and its solution favored by rotating the tube, thus mixing the liquids. The presence of free alcohol will be demonstrated by the oxidation of the chromium, producing an emerald green color after the reaction is completed. If there is no alcohol, or if very small traces only are present, the green color, if it appear at all, will not be permanent, but the fluid will have a permanent port wine color. Dr. Woodbury has found that so small a quantity as three parts in a thousand of alcohol are readily detected by this test. Of course, if the reaction is obtained, the results can be confirmed by distillation of the remainder of the urine, if enough can be had for the purpose.

#### SCIATIC RHEUMATISM. REMARKS ON DIAGNOSIS AND TREATMENT.

The case now brought before you is one of sciatic rheumatism. He came into the ward in a very poor condition, but has since greatly improved. I bring him now to your notice, although the symptoms have almost entirely disappeared, to discuss with you its relations to other diseases for which this is often mistaken.

His history is as follows: T. M., about forty-one years of age, works very hard in a foundry, where he is much exposed to heat and cold. Four days before admission, on the 14th of November, he gave himself a holiday, and stood about in the cold on the street corners. He possibly had been indulging in some strong drink, but he says that he had not been sweating before he was standing in the cold. The next day he also remained away from his work and repeated the exposure. In the evening he was seized with a pain in the left hip-joint; and in describing this pain he located it principally at the great trochanter running through to the inner side of the thigh, but not posteriorly. The next day he could not go to work; the pain now extended down the thigh to the knee, but there was no swelling of this joint. Warm applications relieved the pain in the knee, but not in the hip, which remained constant until he was admitted, keeping him from sleeping at night or resting in the day. When we saw him first, he was suffering greatly. The pains extended down the front of the thigh, which was swollen, and the hip was very tender to the touch. The urine was small in quantity, acid, concentrated, and contained a trace of albumen. The temperature was 99.5° F., therefore only a slight febrile movement, probably no more than might be accounted for by the painful condition of the limb, and his restlessness. He had no more fever after the day of admission.

Let us indicate precisely where this pain was. He shows us that the pain was principally here, — placing his hand on the great trochanter and the outer side of the joint, — and that it passed through to the inner side of the thigh, and made all this group of muscles (extensors) extremely tender to the touch. There was no pain nor tenderness at the back.

Here we have a case of muscular rheumatism in nearly the same region as ordinary sciatic rheumatism; for notice that although he had pains extending down

to the knee, they were not in the locality of those of sciatica. It is important in such cases not to accept ready-made diagnoses, which the patient will be apt to give, but to examine and judge of the case for yourself in order to get good results. The pain is not in the course of the sciatic nerve, but is principally in the muscles; in reality it is a muscular rheumatism. It is not articular rheumatism, however, any more than it is sciatica. All the cases of sciatica I have seen in the early stages, however, have some pain in the origin of the muscles, but it is not confined to them.

For treatment, he had hot applications of fluid extract of hamamelis, but the pain was so great that he required repeated injections of atropia and morphia. Internally he had iodide of potassium, in ten-grain doses, four times a day. Under this he has, as you see, become much better.

In connection with this case I will, in conclusion, make a few remarks upon the relationship of ordinary rheumatism, whether muscular, articular, or of the sciatic nerve, and that occurring in connection with changes in the spinal cord or in the vertebrae, with especial reference to a point in the treatment. This is connected with a little piece of history of the Pennsylvania Hospital which is worthy of note. In 1831 Dr. J. K. Mitchell, who was one of the attending physicians, broached a theory of rheumatism, suggested by a case under his care. He asserted that many cases of articular rheumatism were of spinal origin. The case which first brought this into his mind was one of Pott's disease of the spine, vertebral caries, in which there occurred an acute inflammation of the knee-joint, an inflammation in every respect resembling that of acute articular rheumatism. By way of experiment, he applied cups to the diseased spine, with the surprising result that the articular inflammation of the knee almost immediately subsided. Now, I do not mean to say that this view which he entertained was correct that many cases of articular rheumatism are of spinal origin, but it appears to warrant the statement that cases of articular inflammation may have a nervous origin. Those cases which have been brought to our notice by Charcot, of Paris, and which he denotes "spinal arthropathies," are simply inflammations of joints of spinal origin; exactly the same as those recognized long before by Dr. Mitchell, and which he believed to be caused by disturbed innervation. You may call it trophic, or call it what you will, the fact is, that the spinal disorder caused an inflammation (in every respect like articular rheumatism) in the knee-joint, which by the treatment, cupping the spine, was promptly relieved. Acting upon this theory, Dr. Mitchell ordered that every case of acute articular rheumatism which came into his ward of the hospital should have wet cups placed along the spine, as near as possible to the place where the nerves issued which were distributed to the inflamed joints. It is another surprising fact that many cases were greatly relieved by this treatment, and the articular inflammation rapidly subsided. In a case of sciatica, which is more apt to have a spinal origin than joint rheumatism, cups could be placed in the lumbar region, and you will find that many cases of sciatic inflammation will be relieved in a very remarkable manner by three or four dry cups placed in this region. I recall a case of a very large woman suffering with sciatica in my ward last year, who came in helpless with pain; she could not even turn in bed. I ordered the cups to be applied, but as she weighed

over two hundred pounds the nurse could not turn her over. I saw her the next day, still acutely suffering. By exerting the entire available force of the ward, they succeeded in applying the cups before my next visit, when I found her enjoying complete relief from pain. Before this she had had several attacks, which in spite of treatment usually lasted several weeks; whereas, complete and permanent relief was afforded almost immediately by the method which we adopted.

## Original Articles.

### THE NEW LENOX MALARIA CASE.

BY J. F. A. ADAMS, M. D.

THE trial of the Smith Paper Company of Lee, Mass., for maintaining a nuisance at New Lenox, commonly known as the "Malaria Case," took place before the Superior Court at Pittsfield, beginning October 10, 1882, and ending November 1st, with a verdict for the defendants.

The indictment, which was presented by the grand jury July 10, 1882, recited that the Smith Paper Company possessed and have maintained a certain dam on the Housatonic River, by means of which the water has been dammed back and flowed up over the surface of a large tract of land adjoining the river in the towns of Lenox and Lee, for a distance of four miles in length, and one mile in width. By such maintenance of the dam and the use of the water the channel of the river and the adjacent lands have been alternately flowed and drained, causing a deposit of mud and various organic substances in the channel, and rendering the adjacent lands marshy and covered with decaying vegetation and other filth, the source of noisome stenches and unwholesome exhalations, which have poisoned the air and injuriously affected the health of persons living or passing in that vicinity.

The case was tried before Judge Brigham; the Commonwealth was represented by District-Attorney A. J. Waterman, assisted by Hon. Justin Dewey, of Great Barrington, Thomas Post, of Lenox, and E. M. Wood, of Pittsfield. The defense was conducted by Messrs. Pingree and Barker, of Pittsfield, assisted by ex-Judge Soule, of Boston, and E. D. Slocum, of Pittsfield. The opening argument for the Commonwealth was made by the District Attorney, and that for the defense by J. M. Barker, Esq.

Seventy-two witnesses were called by the Commonwealth, and sixty by the defense.

The testimony for the Commonwealth may be summarized as follows:—

In 1870 the dam of the Smith Paper Company, near Lenox depot, was raised three feet, a dam four feet high having previously existed at the same place. The effect of this was to greatly enlarge the reservoir by overflowing the meadows on either side of the river, the water being set back for a distance of four miles in a direct line. In the upper half of this distance the water was not ordinarily raised above the banks of the river, but in the lower half the banks were submerged, and the water spread out irregularly to a width of about a quarter of a mile on the average. This surface was diversified with islands and tongues of land, varying in shape and extent with the height of the water. When this was flowing over the dam a considerable pond appeared, with marshy borders,



but when the water level was one or two feet below the crest of the dam large tracts of muddy bottom were exposed, all vegetation being killed, and nothing remaining but the decaying skeletons of trees and bushes. With the daily variations in the height of water portions of this muddy bottom were alternately covered with water and exposed to the sun and air. The extent of these fluctuations depended upon the volume of water in the river, being very large in times of drought and low water, as during the summer and fall of 1880, and less in more rainy seasons, as those of 1881 and 1882. Outside of the water line the land was saturated with water, and would produce only coarse marsh grass in place of the valuable hay and other crops which had formerly grown there. There were also numerous depressions in the surface of the meadow, the vestiges of former floods or changes in the channel of the river. Some of these were connected with the river and called "coves," others were detached and called "pockets." The pockets, which formerly drained off readily after freshets, and produced a good quality of grass, were converted, by the raising of the water level, into stagnant pools, where water stood most of the summer, killing the grass, and causing putrefaction and a nauseous and offensive smell.

This valley is shut in on the east by the Hoosac range of mountains, which rise abruptly from the meadow to the height of five hundred feet or more. On the west the ground rises more gradually toward the village of Lenox, which is two miles away, and two hundred feet higher than the valley.

In the summer of 1878 intermittent fever began to prevail in the vicinity of this reservoir, the first cases appearing close to the river, on the east side, at the foot of the mountains, and has continued to prevail until the present time, being limited to the valley in which the reservoir is situated and to the hill-sides around it to a distance of a mile. This region has a population of about eight hundred souls, of which number three hundred and fifty-three were attacked with intermittent fever up to October 1, 1882. The first cases were close to the river, and chiefly on the east side, and thence new cases appeared further and further away. Up to 1880 cases had appeared in every one of the twenty houses on the east side of the river between the dam and the Pittsfield line. In some houses as many as six cases have occurred. No cases have occurred in the higher parts of Lenox. Of the contiguous towns on the south, no cases have occurred in Stockbridge, with a single exception, in 1880, and but very few in Lee. In Pittsfield, which adjoins Lenox on the north, a few cases have appeared each year since 1880, chiefly in the vicinity of a millpond east of the village.

Of the witnesses living in the malarial district forty-six had themselves had chills and fever. Of the physicians called by the Commonwealth, Drs. Holcombe, of Lee, Roberts and Wentworth, of Pittsfield, had treated cases of intermittent fever in the same locality.

The testimony of experts called by the Commonwealth, though given in some cases at great length, may be briefly summed up as follows:—

Dr. C. C. Holcombe, of Lee, after describing the cases he had treated, and the condition of the locality, was asked what cause he could discover for the disease. He replied, "The conditions that exist about

the defendants' dam, as I have described it, are sufficient cause for the cases."

On being asked what those conditions are, he answered, "I mean the conditions which could be removed by thorough drainage."

Dr. J. F. A. Adams, of Pittsfield, said, "My belief is that the prevalence of the fever is due to the swampy nature of the locality. This affords a soil favorable for the development of malaria, but this development would not take place except for the epidemic influence which comes from without." He described the progress of the epidemic northward through the western portions of Connecticut and Massachusetts, appearing first and prevailing most violently in the vicinity of swampy places. He did not accept the germ theory because the existence of a specific germ is not yet proved, but thought it more in accordance with the known facts than any other theory. He believed the malarial poison was exhaled from the swampy land on the margin of the reservoir, and from the muddy bottom when exposed to the sun and air. He considered the condition of things in this locality peculiarly favorable to the development of malaria, and similar to those which have always and everywhere been found to conduce to the prevalence of malarial fevers. He believed that if the dam had not been there the cases of this disease in that neighborhood would have been very few, and that the removal of the dam would greatly diminish the number and severity of such cases.

Dr. W. H. Wentworth, of Pittsfield, said, "I do see a sufficient cause for the disease. It was the low, swampy condition of that valley."

Dr. O. S. Roberts, of Pittsfield, said, "I think I discover the cause in the shallow water, which exposes a large extent of vegetable matter to the atmosphere the greater portion of every day."

Dr. George M. Beard, of Millport, Clay County, N. Y. "I do discover an adequate cause for the malaria at New Lenox. From my experience I have not the least doubt that this is a hot-bed for promoting, if not generating, malaria." In support of his opinion he said that he had been appointed by the New York State Board of Health to examine an abandoned portion of the Chenung Canal, which had become partly filled up and converted into a marsh. Malaria appeared in the vicinity in 1877, and during the two following years nearly every person in that neighborhood had chills and fever. Drainage was begun in 1881 and completed in 1882, a ditch being dug in the centre of the canal, with the result that, in 1882, only forty-one cases have occurred in that vicinity, only four of these being under the care of physicians.

Dr. John T. Wheeler, of Chatham, N. Y., said: "I think the cause lies in the marsh, and the conditions affecting it." He believed the condition would be improved by drainage, and cited a case within his own knowledge at Chatham, where the drainage of a shallow pond and marsh in 1876 and 1877 was followed by a great diminution in the cases of chills and fever. The first year after drainage the number of cases diminished one half, and now there is not one tenth the former number.

Dr. William Deming, of Hartford, Conn., testified that he lived in Lenox from 1858 to 1867, and never saw or heard of any cases of chills and fever there, except imported ones. He said that he could see

conditions favorable to the development of malaria in that valley.

Dr. Charles A. Lindsley, Professor in Medical Department of Yale College, and member of State Board of Health of Connecticut, said, in answer to various questions: "I discover there the conditions usually prevailing where malarial fever prevails. I don't think I ever saw a pond so favorable for the development of malaria in so marked a degree. For a remedy, I would not obstruct the water by a dam. Intermittent fever has always prevailed most extensively by marshes, but all marshes do not produce it. The primary cause is an unknown poison, which comes in an unknown way, and is only known by its effects. The reason why one swamp is healthy and another not is that the poison exists in one and not the other. Such a dam should never have been erected in such a place as the New Lenox valley."

Dr. Horace S. Fuller, of Hartford, Conn., chairman of Hartford Board of Health, said: "I should say, assuming the facts stated in the question, that the condition here is a sufficient cause for the disease. I have no doubt that this pond would contribute to the prevalence and intensity of the disease."

Dr. Charles F. Folsom, of Boston, member of the National Board of Health, and former Secretary of Massachusetts State Board of Health, said: "I find an adequate cause for the existence of fever and ague. All the known causes for its existence are there." In regard to the "unknown factor," he said that he does not at present accept the germ theory. He has made investigations, but the result has been negative. He believed drainage would relieve this locality, but that effectual drainage would be impossible with the dam as it is. As long as the dam is maintained at its present height, he believed the condition will remain the same as now.

Dr. A. W. Barrows, of Hartford, Conn., said: "The condition and exposure of the ground I consider a cause for the prevalence of the disease. Malaria as a poison has found lodgment there. The conditions here are by the medical profession recognized as developing malaria. In this instance I have no doubt the conditions increase the intensity, prevalence, and persistency of the disease."

Dr. Chauncey M. Field, of Plainfield, N. J.: "I found causes which in my opinion are sufficient for the disease. These were the changes in the atmosphere produced by the conditions found there." He cited a case at Bound Brook, N. J., where he has lived till within a few months. A railroad built in 1874 dammed up a pond of seventy-five acres, converting the adjacent lands into a morass. The people around it were attacked with chills and fever. The dam was removed in 1880, and the pond drained by ditching. The following year the number of cases greatly diminished. In 1881 another pond, a mile away, was also drained with a similar result, as regards chills and fever in its vicinity.

Col. George E. Waring, of Newport, R. I., Sanitary Engineer and Engineer of Land Drainage: "I discover an adequate cause for the excessive prevalence of malarial fever. I am in accord with the physicians as to the influence of the exposed bottom in producing malaria. I believe, in addition, that the raising of the water level in the neighborhood, saturating the soil near the surface, impeding the outflow of drains and of tributary streams, is an important factor in

producing the disease." For remedies, he mentioned two:—

(1.) To excavate the entire soil, so as to make a reservoir with steep banks, and prevent the exposure of the bottom.

(2.) The *simple* remedy—the removal of the dam followed by proper drainage. If the dam were removed, he believed the effect of freshets would be cleansing.

Gen. E. L. Viele, of New York, Consulting Engineer: "There is no doubt in my mind that the sole cause of the disease is the condition of things existing by reason of this dam. The former swamp might have induced cases of fever and ague, but would not have created an epidemic." From his own investigations he was satisfied that the germ theory is correct. The dam saturated large areas of soil, causing decay of vegetation, and exposing decaying matter to the solar rays. In the beds so created the seeds of malarial diseases flourished.

*The Defense.*—The defendants brought witnesses to show that the reservoir and its vicinity were swampy before the dam was raised in 1870; that a dam of some sort had existed since the first settlement of the country; that the dam rests upon a ledge of rocks which would prevent the complete drainage of the valley if the dam were removed; that the river is subject to semi-annual freshets which would promote a swampy condition, however well drained it might be; that the fluctuations of level are due more to the dams above, holding back the water, than to the Smith Paper Company's dam; that there are other swamps in Lenox which are not malarious, and that malaria prevails irrespective of local conditions. A number of witnesses testified that they had not observed any bad smells. The existence of intermittent fever was admitted by the defense, but not attributed to the dam. On the contrary it was asserted that the dam maintained the water at a more even level than would exist without it, and was therefore a positive benefit, by keeping the bottom more constantly covered with water. The defendants employed an engineer to make a survey and map of the reservoir, from which it appeared that its present area is two hundred and eighty acres, and that, before the dam was raised, it was one hundred acres; that the depth of water above and near the dam is two and one half to five feet when the dam is full; that the depth of mud in the same locality is twelve to fourteen feet; that the distance from this dam to Van Sickler's dam, the next above, is six and one half miles by the map, and thirteen and one half by the river, with a fall between them of twelve feet, and that the area of the "pockets" between the dam and the Pittsfield line is twenty-five acres.

To all of the experts called by the defense the three following questions were put:—

Question 1. "Assuming that the dam of the defendants is situated across the Housatonic River in Lee and Lenox; that it is built upon a ledge of rock which crosses the river about six and one half feet below the top level of the dam; that this dam flows about two hundred and eighty acres of land, a large portion of which was originally swampy, with a muck bottom in many places of from ten to thirty feet in depth; that this dam has been used for the last twelve years for supplying water power, the water not having been drawn down more than twenty six and one half inches below the crest of

the dam, and usually remaining in it at a height of from six to fourteen inches below the crest; that for five years before, there had been in the same location a dam similarly operated, but two feet less in height; that for many years before that time a dam similarly operated had been in the same location, but was about four feet less in height; that prior to 1877 no cases of malarial disease had appeared among the inhabitants residing on the roads nearest to the pond; that, commencing in 1877 or 1878 and continuing to the present time, malarial disease has prevailed to a considerable extent among the inhabitants dwelling around the pond, affecting those residing near and at a distance of a mile or more: Is the appearance or prevalence of the disease, in your opinion, caused by the existence and use of the dam as described?

Each of the seventeen experts called by the defense answered this question in the negative.

Question II. "Would the removal of the dam, leaving a large extent of low and alluvial land covered by freshets, and one hundred acres of marsh uncovered every day, which is kept in a constantly wet condition, remove the disease?"

Each answered this in the negative.

Question III. "If the natural state is as last described, would malarial fevers have prevailed as extensively if the dam had never been erected?"

Each answered this in the affirmative. The additional testimony of the experts may be briefly stated as follows:—

Dr. Francis Bacon, of New Haven, Conn., does not adopt any theory of malaria. "On the germ theory, the removal of the dam would be a disastrous experiment. There are no conditions for the development of malaria stated definitely by authors, the conditions usually described being everywhere present in a greater or less degree. This epidemic is an invasion from without. The first cases usually appear along water-courses, but the disease soon spreads to higher lands. Malarial fevers are more common on low lands, as are also consumption and other diseases. There are some striking instances of the prevalence of malarial fevers near bodies of water, but this rule has been stated too strongly. I have seen many instances of the wide spread of malarial fevers in conditions noticeably the contrary of wet and marshy." For a remedy, in this case, he would first get rid of the outlying swamps, by drainage, and next prevent the contamination by sewage of the stream above. When asked to name a first-class modern authority who does not in substance say that malarial fevers chiefly prevail in marshy localities, he mentioned Ferguson (who said they are most common in a marsh which has dried up), and Oldham (who attributes them to the effect upon the system of heat and chill).

Dr. F. K. Paddock, of Pittsfield, Mass., testified to the marshy condition of "Wood's Pond," a portion of the reservoir near the dam, before the dam was raised. He said the valley is the natural basin for a very large water-shed, so that freshets produce an extensive overflow. He did not believe the malarial condition could be relieved by drainage, but thought the disease would subside of itself.

Dr. William D. Breck, of Springfield, Mass., testified that in Springfield, the water shops pond has stood for fifty years. About twenty years ago the dam was raised and the pond enlarged, so as to be from one sixteenth to three quarters of a mile in width, and

three or four miles in length. This is drawn off in summer, exposing a large amount of vegetable material to decomposition. Up to the present year not a case of intermittent fever has occurred, he said, within three quarters of a mile of this pond. In the vicinity of Springfield, he said, the disease prevails on high as well as low land. It has prevailed most severely at West Springfield. Everybody in a certain section there had chills and fever three years ago. There has been no alteration of any kind, and there is scarcely a case there now.

Dr. Lyman M. Tuttle, of Holyoke, Mass., said that in Holyoke the water supply is taken from a pond which has been at various times raised six feet. Two years ago it was raised so as to flow one hundred acres. Last year sixty acres of this was bare; this year twenty-five acres. The worst cases of chills and fever were in 1877 and 1878. Since then they have been gradually decreasing, and last year there were very few cases. He has had as many cases on high as on low ground.

Dr. Henry M. Van Devier, of Somerville, N. J., lives four and one quarter miles east of Bound Brook, and knows of the prevalence of intermittent fever there both this year and last. Besides the drainage of the ponds described by Dr. Field, much has been done in the way of local sanitation. A fire in Bound Brook a year ago destroyed the worst part of the town.

Dr. Grove H. Wilson, of Meriden, Conn., member Connecticut State Board of Health: "Intermittent fever first appeared in Meriden in 1865. Cases occurred on high ground, and also on a dry, broad, sandy plain at South Meriden in the vicinity of a dam. There were four cases in 1865, thirty-eight in 1866, and from three hundred to four hundred in 1867. It has prevailed in all parts of the town; is now less prevalent. Typhoid fever disappeared from 1868 to 1878. Since then it is returning, the cases beginning as intermittent, and running into typhoid. I can't see that malaria has been any more prevalent on low than on high ground. The sum of my testimony is, that malaria migrates under a law unknown to me."

Dr. Rufus W. Griswold, Rocky Hill, Conn., stated that the village of Rocky Hill is on a bluff forty feet above the Connecticut River. Out of a population of 1100, fully one half have suffered from chills and fever since 1872. He thought the disease prevailed as extensively on high as on low ground, and knew of no rules governing the progress of the epidemic.

Dr. Charles Taylor, New Milford, Conn., said that the first cases of chills and fever at New Milford appeared in 1877 on the highest land in the town. In 1878 it appeared in all portions of the village, fully fifty per cent. of the cases on high land. It began to abate in July of last year, and there have been but few new cases the present year. Its disappearance, he believed, is not attributable to drainage. New sewers were put in about the time the fever began to abate, but some of them are not yet connected, and, on one street which was sewered in 1873, the disease has been as prevalent as in those not sewered. Water was brought into the town in 1874.

Dr. James J. Averill, Falls Village, Canaan, Conn., said that he had not found any more cases of chills and fever on low than on high land, and that, as far as he knew, the telluric conditions have nothing to do with malaria.

Dr. Isaac R. Sanford, of Sheffield, Mass., has treated malarial fevers at Sheffield, and at Cornwall, Conn. It is his opinion that ponds do not cause malaria, and that there is no local reason why malaria should not appear at one place as well as another.

Dr. Simeon P. Dresser, Hinsdale, Mass., testified that he has treated twenty or thirty cases of chills and fever in the last two years in Hinsdale, Peru, and Washington. There are three reservoirs in Hinsdale, one of three hundred, one of one hundred, and one of fifty or sixty acres. He could not trace any connection between his cases and these reservoirs. He has had cases on hill-tops, and cited those of two wood-choppers in Peru. They had lived there two or three months, and had recently come from France. They went to Hinsdale for their supplies.

Dr. Charles W. Stratton, of Lee, Mass., had treated cases of chills and fever at New Lenox, but could find no local cause.

Dr. Abner M. Smith, of Pittsfield, Mass., believed fever and ague to be a migratory disease, not due to local causes; but said that swampy land favors malaria, the marsh being a passive condition for its development in the same way that rich ground is for the growth of corn. As a general thing, he believed drainage to be beneficial, but there are places in New Lenox where he thought it would be better if the water were raised four feet higher.

Dr. Paul A. Chadbourne, of Amherst, Mass., President of Massachusetts Agricultural College, ex-President of Williams College, etc., testified that he was a professor in the Berkshire and Maine Medical Schools from 1858 to 1862, and gave instruction as to the nature of malaria. He then believed and taught that it is of gaseous nature, due to decomposition of vegetable matter, and heat. He has now abandoned this theory, and has no opinion as to the cause of malaria based upon facts enough to make it of value. He knows of no theory as to its spread through the country which meets all the cases, and would not say that one locality is more favorable to its development than another. He believed this poison is either affected by vegetable decomposition, or it is not. If it is, the dam at New Lenox covers it up; if it is not, the dam does not affect it.

Dr. Charles W. Chamberlain, of Hartford, Conn., Secretary of the Connecticut State Board of Health, has formerly held the marsh theory and the germ theory, but has given them both up. He thinks the reason why more cases of malarial fever are found in river valleys is because the population there is generally more dense than on the hills. He believes it would be impossible so to drain the New Lenox valley as to render it any less liable to chills and fever. He thinks drainage is of value for the prevention of malarial diseases in places where malaria is *endemic*; but when *epidemic*, drainage is of no value. When his last Report of the State Board of Health of Connecticut was completed in December, 1881, he believed and wrote that malaria was most common on low grounds, near water-courses and ponds; and also that drainage was valuable for arresting it. He has since changed his opinion. His opinion as to the value of drainage was based in part upon the results in the town of Fairfield, Conn. He has since then become convinced that drainage did not diminish the malaria in Fairfield. He does not consider malaria as endemic in Connecticut. To be so, it must exist for more than a

generation. Where malaria is epidemic he would not be willing, in any locality, to advise the use of any preventive measures, with the expectation that they would be of any use.

Dr. Charles P. Russell, of New York, member of the New York Board of Health, stated that he excludes the marsh theory, and accepts the theory of "pandemic influence." He does not profess to know anything about the causes of malarial fever. He described a *malarial district* as one where malaria has always existed; a *non-malarial district* as one where it only appears occasionally, and for a limited period. He said that in malarial districts drainage has been found useful, as he had himself seen, in many instances; but, in a non-malarial district, drainage is not beneficial. He could not see that any system of drainage could be put on at New Lenox which would keep the ground dry.

Dr. Nathaniel G. Kierle, of Baltimore, Md., Lecturer on Pathology in the University of Maryland, said that he believed the cause of the intermittent fever at New Lenox is the extension to this section of the widespread influence which is prevalent over the country. He cannot tell the conditions under which malaria exists; it will prevail without conditions. Drainage, he said, is useful only so far as it may affect the general health.

*Rebuttal.*—Several witnesses were introduced by the Commonwealth in rebuttal, among them the two following:—

Dr. William G. Hills, of Boston, Mass., Instructor in Chemistry in the Harvard Medical School, testified that he had examined samples of water taken from the Housatonic River, July 6, 1881. The samples were taken at intervals from the South Street iron bridge in Pittsfield to the bridge at the New Lenox depot. Traces of sewerage were found in the water from the South Street bridge as far as Lathers' bridge, but none below that point.

Dr. Samuel D. Brooks, of Springfield, Mass., stated, in reply to Dr. Breck, that chills and fever have prevailed, to his knowledge, about the water shops pond, in Springfield. Twenty cases have occurred in a sparse population, within half a mile of the pond, during the past three years, including nearly all the families in that vicinity. In each of three families living near the dam one to three cases have occurred. Cases from this locality were treated at the City Hospital in July and August last. At West Springfield, in a low, damp locality, there were twenty to thirty virulent cases in a single month in 1881. The cases at Springfield have been mostly on the side bordering the river. The Holyoke dam holds back the water, and exposes the river bottom, at Springfield.

The closing argument for the defense was made by Judge Soule. He called attention to the difference of opinion among the medical and sanitary experts as to the causes of malaria, which rendered it impossible, he contended, to fix the responsibility for the sickness at New Lenox upon the defendant's dam. He quoted from the testimony of nearly all the experts that the malarial poison is introduced from without, and is prevalent in epidemic form over a large region of country. He showed that about half the witnesses had not noticed any bad smells in the vicinity of the reservoir, whence he argued that the fact of smells had been exaggerated. Finally, he referred to the importance of the interests involved, and said that the

result of removing the defendants' dam would be to stop the busy wheels of Lowell and Lawrence.

The District Attorney, in closing for the Commonwealth, quoted from the testimony of witnesses to show that before the dam was raised the amount of boggy land was very small, and produced grass; that the "pockets" were dry, the water clean, and the locality a very healthy one. The raising of the water-level, caused by raising the dam, made the valley swampy, caused water to stagnate in the pockets, and converted a healthy valley into a foul marsh, where malaria found its natural breeding place. The sufferings, loss, and general deterioration of the community, resulting from constantly recurring attacks of fever and ague, were well depicted. The remarkable changes of opinion on the part of certain experts for the defense were not overlooked. He also showed that all examinations of the reservoir, and measurements of the depth and fluctuations of the water, testified to on behalf of the defendants, were made during the present year (1882), when the supply of water has been abundant, and the bottom has been hidden from sight. He contrasted this condition with that in 1880, when, in consequence of drought, a great expanse of marshy bottom was for months exposed to the sun and air, and the deeper portions kept alternately wet and drying, which condition is liable at any time to recur.

Judge Brigham, in his charge to the jury, explained those legal and technical points which were calculated to confuse and perplex, and placed the essential points in the case in their clearest light. He did not especially favor either side of the case, but left it for the jury to decide from the evidence whether or not the defendants' dam had been proved a public nuisance and a cause of the prevalence of intermittent fever in its vicinity.

The jury, after being out for twelve hours, brought in a verdict of *not guilty*.

## A RÉSUMÉ OF TWENTY-FIVE CASES OF ABDOMINAL SECTION.<sup>1</sup>

BY J. EWING MEARS, M.D.,

*Surgeon to St. Mary's Hospital, Demonstrator of Surgery in Jefferson Medical College, and Gynecologist to Jefferson Medical College Hospital.*

WITH a view of placing on record the results in a number of cases of abdominal section, and with the hope of contributing to the information possessed already with regard to these operations, I beg to submit the following *résumé* of the cases which have come under my care. I have endeavored to present the points, which were regarded of interest, in a concise manner, for this purpose grouping them under different headings. Of the twenty-five cases of abdominal section, twenty-two were performed for the removal of tumors of the ovary; one was made in a case of encysted dropsy of the peritoneum;<sup>2</sup> one in a case of abdominal dropsy, in which the diagnosis was obscure, and an operation of exploration was made; and one for removal of the child in extra-uterine foetation. As the case of encysted dropsy has been reported to the college, and as I propose, at a future time, to report the one of extra-uterine pregnancy, I shall present on this occasion a *résumé* of the ovarian cases.

<sup>1</sup> Read before the Philadelphia College of Physicians and Surgeons, December 6, 1882.

<sup>2</sup> Reported in the Transactions of this college, third series, vol. i.

*Age of Patients.*—In the twenty-two cases the age varied from the youngest, sixteen, to the oldest, sixty-five years.

*Nationality.*—Sixteen patients were natives of the United States, and six of Ireland.

*Social Condition.*—Five were single, one was a widow, and sixteen were married.

*Duration of Growth.*—The duration of growth varied from three months to seven years, counting from the time at which the tumor was recognized first by the patient.

*Aspiration or Previous Tapping.*—Aspiration, for the purpose of obtaining a specimen of fluid for examination, was performed in eight cases; tapping, to relieve abdominal distention, in four. In one case, in which the cyst was very fully distended by fluid, and the abdominal wall was very tense, leakage followed aspiration, and persisted for some hours, despite the efforts made to control it by pressure. In none of the cases, in which aspiration or tapping was performed, did any serious results occur, nor were there any evidences in the operations, which followed, of complications due to the previous aspiration or tapping. In all cases proper precautions were taken, the patient being required to rest in bed from three to four days subsequent to the operation.

*Condition of the Patients at the Time of Operation.*—With the exception of two, who were the subjects of malignant disease of the ovary, the condition of the patients was good. All were placed upon preparatory treatment, extending over periods varying from two weeks to two months.

*Line of Incision.*—In all cases the abdominal cavity was opened by incision in the linea alba, midway between the umbilicus and pubes, the length of the incision varying according to the nature of the tumor and the presence or absence of adhesions. A simple, mono-cystic, non-adherent growth was extracted easily through an opening one and a half inches in length, whilst other tumors, polycystic in character, with numerous and strong adhesions, required incisions from four to six inches in length in order that the hand could be introduced into the abdominal cavity, so as to sweep over the external surface of the tumor for the purpose of detaching adhesions, and also into the interior of the growth to disintegrate its contents, and thus reduce its size. The incisions were invariably closed by the introduction of metallic sutures.—iron or silver wire,—the needle being carried so as to include the peritoneum.

*Adhesions.*—In eighteen cases adhesions, either parietal, omental, or visceral, existed—differing greatly as to extent and character. In some instances they were so slight as to be separated readily with the finger; in others they were very extensive and very firm, requiring some force to effect their detachment, and exposing denuded, bleeding surfaces. In one of the fatal cases the adhesions were universal, and so firm as to require a minute dissection to be made, in order to effect removal of the cyst. In a second case, a portion of the parietal surface of the peritoneum as large as the palm of the hand, and embracing the sub-peritoneal fascia, was detached, leaving a broad band of attachment. This was included in three animal ligatures, and the detached portion removed. During the period of recovery, which was not retarded, the patient referred to the position of the exposed surface as a sensitive point. In still another case, an adhesion,

in the form of a cord, at least two inches in thickness, and from four to five inches in length, fastened the tumor to the parietes. It was drawn down and a double animal ligature applied before section was made. Hemorrhage caused by the separation of adhesions has been controlled by the application of carbolized silk and animal ligatures, both ends being cut short, and the ligatures permitted to remain *in situ*. In some instances, torsion of the vessels has been sufficient to restrain the bleeding.

*Character of the Cysts.* — Four cysts were unilocular, sixteen were multilocular, and in two malignant disease existed. In one of the latter medullary cancer involved both ovaries, and in the other colloid disease was present.

*Double Ovariectomy* was performed in two cases.

*Primary or Secondary Operation.* — In one case the operation was secondary, ovariectomy having been performed thirteen years previously. In this instance the incision was made to the side of the cicatrix of the primary operation, so as to avoid wounding the pedicle of the tumor removed, which was found to exist as a small cord attached to the inner surface of the abdominal wall, and to be of such length as to permit the uterus to occupy a normal position. Elongation and shrinkage of the pedicle has been observed in post-mortem examinations made in cases in which death occurred some years after ovariectomy.

*Treatment of the Pedicle.* — In all but one case the pedicle was secured by the application of the clamp; in the case excepted a carbolized catgut ligature was applied, both ends cut short, and the pedicle was returned to the abdominal cavity. In cases of very short pedicles I have been able always to secure them with the clamp, and in no case was it observed that the traction made to accomplish this produced any harm. In one instance of an extremely short pedicle, where, in fact, the wall of the cyst was separated not more than a half inch from the uterus, a double animal ligature was applied, which failed to control the hemorrhage. The clamp was then applied over the ligature, bringing the uterus well up between the edges of the incision. Although the patient had a tedious convalescence, the ligature and clamp came away in good time, and the abdominal incision healed kindly. Beneath the cicatrix the uterus could be distinctly outlined, and after the return of the patient to her usual duties no complaint was made of pain caused by traction upon the organ. In one case only was there noticed a slight tendency to the occurrence of ventral hernia, and this in a young patient who slipped and fell on the icy pavement a short time after recovery from the operation. A good deal of tension of the abdominal walls was felt in the act of falling, and it was thought a slight detachment of the pedicle had occurred. Rest in bed for a few days, with pressure over the cicatrix, relieved the condition.

In nearly all of the cases in which the clamp was applied it was observed that it could be removed safely at about the same time with the last of the sutures, and, therefore, the healing of the abdominal incision was not materially delayed. In one or two cases both sutures and clamp were permitted to remain longer than usual.

In favorable cases the first of the sutures was usually removed on the sixth day, and the clamp on the eighth or tenth.

In three cases menstruation has occurred by the

pedicle. In all of the cases it took place but once, and did not produce any serious inconvenience. It occurred in one of the cases in which double ovariectomy was performed, two clamps having been applied to the pedicles without difficulty.

Strangulation of the intestine has been noted as being due to the use of the clamp. In my observation of the cases of others, and in my own, I have not met with an accident of this nature. As it has followed likewise the use of the ligature, it cannot be ascribed alone to the employment of the clamp.

The support afforded to the uterus by the attachment of the pedicle to the abdominal walls has seemed, in some of the cases, to have been of benefit, overcoming displacements which were productive of much previous discomfort.

In one of the three fatal cases which occurred, the ligature was applied and the pedicle returned to the abdominal cavity; death resulted on the third day from septicæmia, and the autopsy showed the stump of the pedicle softened and covered by a grayish slough. This condition of the pedicle was, I think, not a primary condition, but was a part of the general inflammation which pervaded the abdominal cavity, occurring in a case in which the cyst was adherent in every part to the parietes and viscera, and which required minute dissection to effect its separation.

While the tendency of the present day is to return to the use of the ligature as an exclusive method of treating the pedicle, I think it unwise to discard entirely the clamp. The imbedding of the ligature and its subsequent absorption demand a degree of reparative power, which some much debilitated patients do not possess; in such cases it would appear proper to employ the clamp.

*Drainage.* — In one case it was thought desirable to secure drainage of the abdominal cavity after operation. For this purpose a large perforated rubber tube was introduced and allowed to remain in position for three days. During this period no fluid escaped, and the symptoms presented by the patient gave no indication of the collection of septic fluids. Of the great value of drainage after ovariectomy there can be no question. Its use is especially indicated in cases in which adhesions of some extent have existed.

*Antiseptic Precautions.* — In fourteen cases the antiseptic methods were employed in full detail at the time of operation, and partially during the conduct of the after-treatment, the spray being then omitted. The successful results which have attended some of the cases were undoubtedly due to its use. The condition of the patients during the after-treatment was favorably influenced, and convalescence was promoted. Of three fatal cases, one occurred after operation under the system. The tendency of most operators at the present time is to employ a modified form of the system, owing to the fear of constitutional impressions made by agents employed. The constitutional effect of the carboic acid has been observed in two or three cases in the condition of the urine, other than this no symptoms were noted.

It has been stated above that menstruation by the pedicle occurred in three cases. In one a marked impression was made upon the temperature, and the elevation occurring as it did without being accompanied by a corresponding increase of the pulse-rate attracted attention. On the day preceding the appearance of the flow the pulse was 84 and the temperature normal,

98.5° F. On the day of its appearance the temperature rose to 100° F., and on the third day reached 100.4° F., then declined to 99.6°–99° F., and on the day of the cessation of the flow returned to the normal, 98.5° F., the pulse-rate in the meanwhile remained unchanged. As the elevation of the temperature occurred after convalescence had been fully declared, and the patient was within two days of the period when she would have been permitted to sit up, some anxiety as to the cause existed, which was not relieved until its relation to the presence of the menstrual flux was considered.

In two of the cases pregnancy occurred and terminated safely in connection with the development and growth of the cysts. In both, the cysts had attained large size, and notwithstanding the pressure exerted during parturition rupture did not occur. In one, puerperal peritonitis supervened, causing the formation of extensive adhesions; in the other, slight but firm adhesions were found.

In cases under my care recently, quinine has been administered in large doses in the twenty-four hours preceding the operation, with a view to obviate shock, and in this respect its use has been attended with success. Thirty to sixty grains, in divided doses, have been given, and in each case so treated shock has been absent. In the preliminary and after-treatment it has also been given in tonic doses.

The duration of the operation has varied from thirty minutes to two hours, in the former time mono-cystic non-adherent tumors have been removed and the wound closed. The latter period of time has been required to remove polycystic growths, with extensive and firm adhesions and many bleeding points to control. Serious complications during the operation and after-treatment have occurred in but two cases. In one already alluded to the adhesions were so extensive as to complicate seriously the operation, and to render the result fatal. In the other, the slipping of the ligature and the persistence of hæmorrhage for some hours after the closure of the wound complicated the operation. This patient's recovery was slow, two months and a half elapsed before she was able to leave her bed, in which period there occurred in order the following complications: obstinate, uncontrollable diarrhœa, suppuration of hemorrhoids, formation of a large bed-sore over the region of the sacrum, with destruction of the sacro-coccygeal articulation, and a condition of blood poisoning, with swelling of the left parotid gland. Recovery finally took place, and the patient has been able to maintain herself by her work as a seamstress.

The size of the tumors varied greatly, and the weight from three to sixty pounds.

With one exception, all of the operations have been performed either in private houses or in a private hospital. One was operated upon in a private room of a general hospital, and in this a fatal result ensued—death, however, could not be attributed to this fact, but rather to the complications which existed in the case. In all cases careful attention was given to the preparation of the apartments, so that the patients should be placed under the most favorable hygienic conditions.

In the cases in which the progress was favorable the patients, as a rule sat up in bed on the twelfth day, and on the fourteenth were permitted to get out and occupy the lounge or an easy-chair. At the end of

the third week gentle exercise about the house, and in favorable weather, in the open air, was allowed. This exercise was continued daily so as to prepare the patient, if living out of the city, for the journey home, which was undertaken between the fourth and fifth weeks after operation.

For twenty-four hours after the operation no food was given; at the end of this time, one ounce of milk, with lime-water, if vomiting had occurred, or if there was nausea, was given every three or four hours. In two or three days the amount of milk was increased to two ounces every three hours, alternating with a teaspoonful of beef-juice in three tablespoonfuls of water. In some cases the beef-juice was administered instead of the milk from the first. As convalescence advanced additions were made cautiously to the diet, no solid food being given until the sutures and clamp had been removed and the bowels moved freely by enemata.

Usually enemata of soap water and olive oil were administered on the eighth day, and on alternate days, subsequently, until evacuations occurred naturally. The catheter was used every six or eight hours for five days, and then efforts at evacuation of the bladder were permitted to be made by the patient.

When possible to avoid it, opiates were not administered. When required to relieve pain or secure rest, morphia in one sixth to one quarter of a grain was given hypodermically.

In the twenty-five abdominal sections death occurred in four cases, — three after operation for the removal of ovarian cysts, and one after operation for the removal of the child in extra-uterine foetation. Septicæmia was the cause of death in two of the ovarian operations, and in the case of extra-uterine pregnancy. Shock and hæmorrhage produced a fatal termination in the case of malignant disease of both ovaries in which double ovariectomy was performed.

## A CASE OF DOUBLE OSTEOTOMY AND OSTEOTOMY.

BY E. H. BRADFORD, M. D.

CASES of osteotomy are at the present time not at all uncommon, and the same may be said of osteoclasis, but the employment of both methods on the same patient is sufficiently unusual to justify the report of the following single case:—

J. B., a girl ten years of age, entered the Samaritan Hospital with marked rickety deformity of both lower extremities. The child was short and rather pale, but apparently of good health; the evidences of previous rickets were slight in the upper extremities and in the thorax. Three years before, the patient had sustained a fracture of the left femur, and had been treated at Bellevue Hospital, New York. The mother thought that that limb was somewhat straighter since the accident, and the deformity was most pronounced on the right side. The internal condyle projected one inch lower than the external; the patella slid to the outside when the knees were flexed. The femora were somewhat bowed outwards and a little forwards. Marked curvature of the tibia was present, so that when the knees were flexed, although the upper part of the tibia became parallel, the malleoli were separated by a distance of four inches. When the knees were straight this distance became, of course, much

greater, owing to the unusual projection of the inner condyle. This separation, however, as indicated in

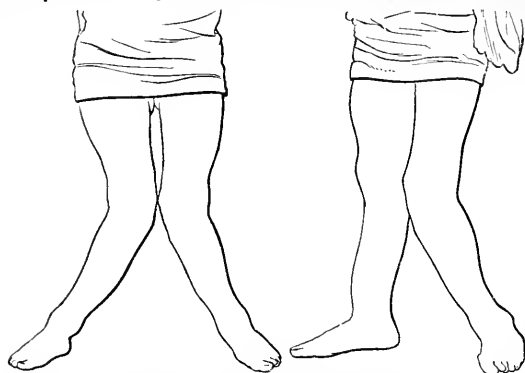


Fig. 1. Before operation (front view). Fig. 2. Before operation (side view).

the accompanying illustration, represented two distortions, one at the knee (genu valgum), and the

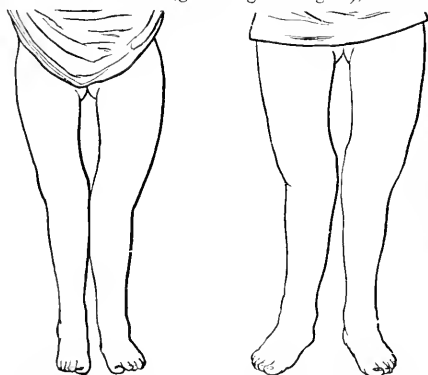


Fig. 3. After Osteotomy.

Fig. 5. After Osteotomy and Osteoclasis (front view).



Fig. 4. After Osteotomy and Osteoclasis (side view), showing flexibility at knee.

other a curve in the tibia. This bone was also twisted on its shaft so that the line of the crest presented a

spiral curve from top to bottom, the line passing from the head of the tibia downwards and inwards, downwards and outwards, and downwards and backwards. To completely correct these curves would require several osteotomies. It was decided instead of this, to perform first McEwen's operation, and gain all that could be gained in that way, and then to break the tibia by means of the osteoclast at such a point as would give an approximately straight leg, furnishing a practically useful limb. Repeated osteotomies would give a more perfectly shaped limb, but at the expense of a more severe procedure.

November 30, 1881, MacEwen's operation was performed on both knees, under strict antiseptic precautions. The limbs were immediately done up in plaster-of-Paris bandages, which were applied directly over the Lister dressings. At the end of a fortnight (no leakage in the dressings having taken place in the mean time) the plaster bandages were removed, and the incisions found healed. The stiff bandages were reapplied and worn until January 12th. After the first few days the child was not confined to bed, but was carried about and allowed to sit in an easy-chair. An opiate was given on the two nights succeeding the operation, but with that exception none was necessary. No febrile disturbance followed the surgical interference. By February 1st the patient was able to walk quite well, and was then sent into the country. On her return osteoclasis was performed, the limbs held in a corrected position, and plaster bandages immediately applied. At the end of four weeks they were removed, and the patient allowed to walk. At the present time, six months after the removal of the bandages, the child is as active as any one, and there has been no relapse in the deformity. The patient is in no way worse for the surgical intervention, and has much more serviceable legs.

#### A CASE OF GENERAL PARALYSIS.<sup>1</sup>

LOCALIZED CONVULSIONS ASSOCIATED WITH A LIMITED MENINGO-ENCEPHALITIS. DEATH FROM EMBOLISM OF THE PULMONARY ARTERY.

BY GEORGE T. TUTTLE, M. D.,

First Assistant Physician at the McLean Asylum for the Insane.

J. L. S., American, aged forty, married, engineer. Had lived a dissolute life, but enjoyed a good degree of health till the spring of 1878, when, without previous symptoms, he had a convulsion, which was followed for a few days by pain and a feeling of pressure in the head, vertigo, and difficulty in articulation.

After a lapse of eight months he had a second slight fit, and following it the same symptoms as before, with numbness of the left hand and arm. Another convulsion occurred September 18, 1879, and, on regaining consciousness, in addition to previous symptoms, he complained for a short time of diplopia.

After this third convulsion he had delusions, and was at times considerably excited. One of his delusions was that some unknown person applied electricity to his left arm, and he made himself a nuisance in the neighborhood by searching for the man and the

<sup>1</sup> Read before the Boston Medico-Psychological Society.



machine. He was admitted to the McLean Asylum September 25, 1879. There was then slight right facial paralysis. The right pupil was much larger than the left; the tongue protruded straight, but showed marked fibrillar tremor; articulation not impaired; no lack of coordination could be detected in arms or legs; patellar reflex perhaps slightly exaggerated.

A physical examination of the chest and chemical analysis of the urine showed nothing abnormal. Pulse and temperature normal.

He exhibited a considerable degree of mental weakness, was deluded, and willingly came to the asylum to escape the persecution of the man with the battery as well as for treatment of his left hand, the bones of which he thought were rotten.

During his hospital residence he had at irregular intervals brief paroxysms of pain and a burning sensation in the left hand and arm, occasionally in the head, and once in the left leg. Sometimes with the pain he had involuntary movements of the muscles of the left arm. January 5, 1880, after quite violent exercise, he suddenly felt as though something struck him on the head; "it sounded like a drum." He was in great fear of death, and was sure he would have a convulsion, for he could "feel it coming up from his feet." While talking there was conjugate deviation of the eyes to the left. There was constant slight twitching of the muscles of the left fore-arm, and at times those of the forehead, eyelids, and left leg participated in the order named. Finally in about half an hour a general convulsion occurred, of two minutes' duration, beginning with opisthotonos, the head in the tonic stage being gradually and strongly turned to the left. He regained consciousness in an hour.

The next morning, on a comparison of the two sides, no difference in sensation could be detected in the limbs, body, or face. There was no paralysis and no albumen in the urine. The pulse and temperature were carefully taken for a short time after three of the convulsions. It was observed that the temperature was invariably higher on the left side.

During the next month he had two more convulsions, of which the above will serve as a description.

While he had the pain and involuntary movements of the hand his face was pale, and the extremities were cold, so that when, on March 31st, he had the premonitory symptoms of a general convulsion he was given all the brandy he would drink, about four ounces, and allowed to inhale nitrite of amyl. He escaped a convulsion. May 23d there were similar symptoms, but no treatment was given; in an hour he had a convulsion. June 22d, another convulsion. Treatment was attempted, but the patient was not seen soon enough; he vomited the brandy, and had scarcely begun inhalation of the amyl before the convulsion came on. From this time till January 26, 1882, the man had no convulsion when the treatment was begun in season, and properly applied. Sometimes brandy alone was used, sometimes the amyl, but usually both, aborting, perhaps, twelve convulsions. He is known to have had three in this time, no treatment having been given. In the course of the disease there were very many partial and quite a number of complete convulsions. The partial seizures were for the most part confined to the left arm, and the complete ones were always, so far as observed, preceded by involuntary movements in that limb. In the course of time marked ataxic symptoms appeared. His mind gradually became weaker, and he

developed the condition of self-satisfaction so commonly observed in this disease. He soon thought himself possessed of great knowledge and power, for example, that he knew where each one was at all times, and by clapping his hands and giving the word of command could stand him on his head; he did this regularly and systematically, and thus punished those who in his opinion had anything to do with the electricity. His delusions became even more characteristic, and he thought himself possessed of fabulous wealth, as well as great personal strength.

December 23, 1881. While giving a bath the attendant noticed that the right leg was badly swelled. There was found to be considerable enlargement from the groin to the toes; it was dark in color from distention of the superficial veins, and pitted on pressure below the knee. He was so fleshy that no thickening could be detected in the course of the saphenous vein, and by this time so far advanced in dementia that he could not understand that anything was the matter.

January 26, 1882. He was found dead on his bed, having died apparently without a struggle.

Autopsy by Dr. W. W. Gannett, forty-two hours after death. Body well developed, well nourished, subcutaneous fat tissue everywhere very abundant. Lividity of dependent portions. Right thigh and leg slightly larger than left, not pitting on pressure. Rigor mortis marked. Ratio of head to body and cranium to face apparently normal. Skull markedly brachycephalic, symmetrical. Calvaria of normal thickness; its removal was attended with the escape of considerable clear fluid; ratio of diploe to tables normal. Dura mater quite firmly adherent to calvaria in central line, everywhere thin and translucent; nothing unusual observed on external or internal surface. Superior longitudinal sinus contained a small amount of liquid. Other sinuses showed nothing abnormal. There was a considerable collection of clear serum in the meshes of the pia uniformly distributed over the convexities; moderate thickness and opacity of the pia along the course of the vessels. Vessels at base of brain and in fissure of Sylvius showed nothing abnormal. Each lateral ventricle contained about ten centimetres of fluid. Ependyma slightly thickened and granular. Floor of the fourth ventricle granular, roughened.

Brain substance rather flaccid, but tough. Sulci in anterior portion wider than usual. On section, ratio of gray matter of cortex to white matter somewhat diminished; this most marked in anterior frontal region; gray matter pale. Section of white matter showed moderate moist surface; puncta cruenta well marked, though rather small. Section of corpora striata and optic thalami showed a diffused, pale, suff-colored appearance. Section of medulla, pons, and cerebellum showed nothing abnormal. The pia was adherent, tearing away brain substance, on its removal, over the lower portions of the ascending frontal and parietal convolutions on the right side, as indicated in the diagram.

There was chronic adhesive pleurisy of the left, marked oedema of both lungs. In the right primary pulmonary artery was a firm, homogeneous, pale-red thrombus, one end of which extended into one secondary pulmonary artery, the other end into the other branch, forming a rider completely



obliterating the lumen of the vessel, in one portion adherent to the inner wall. In the right iliac and femoral veins, from a point about six centimetres below the inferior vena cava to the popliteal region, was a thrombus, tolerably firm, homogeneous, dark blue, for the most part adherent to the wall, and in many places completely obliterating the lumen; the end towards the vena cava was irregular.

Other organs were found to be sufficiently normal.

The points of interest in the case are, —

(1.) The great number of the partial convulsions, and their limitation to the left arm, taken in connection with the localized meningo-encephalitis.

(2.) The gradual way in which the general convulsion came on, giving ample opportunity for treatment.

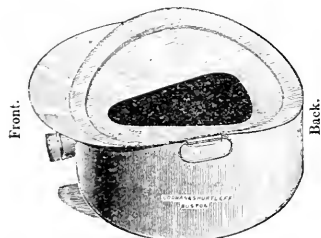
(3.) The successful use of alcohol and nitrite of amyl.

(4.) The thrombosis of the iliac and femoral veins, perhaps due to long-continued horizontal position, and the obvious mode of death. The thrombus probably gradually extended up the iliac vein till it projected into the vena cava; the blood current from the other leg swept away a portion which lodged in the pulmonary artery, causing death.

## New Instruments.

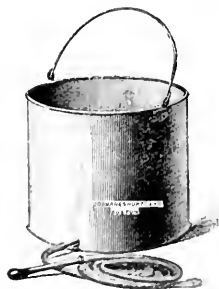
### VAGINAL DOUCHE.

THE vaginal douche apparatus, figured in the diagrams, was designed by Dr. W. H. Baker several years



Vaginal Douche Pan.

ago; but, although it has been used in several hospitals and by the patients of a number of physicians who



Douche Pail.

have obtained it privately<sup>1</sup> for them, it has never been formally brought to the notice of the profession.

<sup>1</sup> Messrs. Codman & Shurtleff are now prepared to furnish this apparatus.

The pan, which is made of tin, is of sufficient size to contain the large quantity of water used in a single douche; it is suitably curved to support the buttocks comfortably, and is provided with a broad flange in front to prevent the water flowing from the vagina from wetting the bed. The pail, also of tin, will contain six quarts, which in most cases is sufficient for a single douche. Fitted to the pail is a long rubber tube provided with a compressing catch and a vaginal tube of hard rubber. The hard rubber tube is superior to that of block tin in being a poorer conductor of heat, and therefore less likely to cause annoyance when *in situ*. This vaginal tube is provided with holes only in the sides of the bulbous end, as water is less liable to enter the uterus than when the tube has a central aperture.

The proper method of using this apparatus is as follows: —

The pan should be placed on a bed or sofa, with cushions or pillows so arranged behind it as to support the patient's back in comfort; a small pad or folded towel may be placed over the posterior edge if the patient desires it. The pail, filled with water at a temperature of from 110° to 115° F., should be suspended from a hook in the wall, or placed in any other convenient way, at such a height that at least twenty minutes would be required for the pail to empty itself. The patient should then assume a reclining position, supporting the feet on a pillow if necessary; the head should be slightly raised, but the shoulders should rest on a level with the bottom of the pan, in order that the pelvis may be relatively higher, and the too speedy outflow of the water from the vagina thereby prevented. The patient should then hold the vaginal tube over the pan, and raise the lever of the compressing catch to insure the complete expulsion of air before introducing the tube into the vagina. G.

## Reports of Societies.

### BOSTON MEDICO-PSYCHOLOGICAL SOCIETY.

WALTER CHANNING, M. D., SECRETARY.

THE Society held its seventeenth regular meeting at the residence of Dr. T. W. Fisher, at the City Lunatic Asylum, on the evening of April 6, 1882, Dr. F. W. PAGE occupying the chair. There were present Drs. Ayer, Boland, Channing, Cowles, Denay, Fisher, Jelly, Page, Tuttle, and Schwab.

DR. GEORGE T. TUTTLE read the paper of the evening, which was entitled

A CASE OF GENERAL PARALYSIS ASSOCIATED WITH A LIMITED MENINGO-ENCEPHALITIS. DEATH FROM EMBOLISM OF THE PULMONARY ARTERY.

A full report of the case will be found on page 612. In the discussion following Dr. Tuttle's paper, DR. JELLY asked if there were any syphilitic indications.

DR. TUTTLE said there were not, but anti-syphilitic treatment had been continued for some time.

DR. DENNY said that symptoms of epilepsy were rarely found in general paralysis. Sometimes the anterior portion of the gray matter was affected, and then similar symptoms might be developed. In some of the early stages, aphasia might occur. He remembered one case at the Longview Asylum, in which the patient, a man, had the characteristic symptoms of

general paralysis and frequently suffered from slight apoplectic attacks. In regard to the development of epilepsy late in life, a patient of Dr. Denny's, twenty-eight years of age, is now developing symptoms of the disease.

DR. FISHER said that in the fifteen autopsies, in cases of general paralysis at the South Boston Lunatic Hospital, one sided lesions had not been found.

DR. BOLAND thought that it would be unusual to find cases of general paralysis beginning with delusions of persecution. Might it not have been a case of delusional mania?

DR. TUTTLE thought not.

DR. PAGE mentioned a case of fainting fits which was found to be *petit mal*, with melancholia. A year after, when the patient died, a cerebral tumor was found.

DR. FISHER then proceeded to read his paper on Guiteau, entitled

#### WAS GUITEAU SANE AND RESPONSIBLE FOR THE MURDER OF PRESIDENT GARFIELD?

This paper was published June 20, 1882, in the Boston Medical and Surgical Journal.

DR. DENNY said that he had approached the question of Guiteau's mental condition from the point of sanity, but he had exhausted all arguments in this direction, and was finally led, from the weight of evidence, to believe that Guiteau was insane. There was a similarity in the case of Guiteau and Freeman, in some ways. The suddenness of conception was the same, or rather the way they expressed themselves about it; also the way they had struggled against the desire and the fixedness of the idea. The deed itself showed insanity.

The case never should have been brought to trial. The test of the court was antediluvian, and not in accordance with the teaching of the present time.

DR. COWLES said that the opinions of the inmates of asylums were interesting in connection with this case. One patient took the ground that it was a mistake to have tried Guiteau. The District Attorney should have placed him in the hands of a Commission. It was a mistake to have made in this case a precedent of sanity.

Dr. Cowles asked Dr. Fisher what he thought of the popular opinion that Guiteau was shamming?

DR. FISHER thought that this was not the opinion of the most intelligent observers. He seemed to be only Guiteau.

A committee was appointed to formulate an expression of opinion on the trial of Guiteau to be presented at the next meeting of the Psychological Section of the Suffolk District Medical Society.

There being no further business the meeting adjourned.

### Recent Literature.

*On the Diseases and Injuries of the Eye.* A Course of Systematic and Clinical Lectures to Students and Medical Practitioners. By J. R. WOLFE, M. D., F. R. C. S. E., etc. Philadelphia: Presley Blakiston. 1882.

In a publication in the form of a series of lectures

it may usually be expected that the personal opinions of the author will have more prominence than would be given to them in a more systematic treatise, and this expectation increases the interest with which we take up the book. But, although in the volume before us the individuality of the author is sufficiently evident, we carry away from it a feeling of disappointment that the points on which he differs from the views generally held are not so presented as to convince of the correctness of his opinions.

The book seems to bear evidences of hurried and careless preparation almost throughout, and there is often an inaccuracy of expression which makes it, to say the least, difficult to understand the meaning intended. Thus, to search for a foreign body under the upper lid: "The eyelid should be everted without the use of instruments, simply by paralyzing the orbicularis by pressure between the index finger and thumb, then lift it with a probe, and look deep into the cul-de-sac." An injunction which we must freely confess our inability to fully comprehend.

In the first lecture, devoted to the anatomy and physiology of the eye, the transformation of the retinal purple by light is said to be "the essence of perception of light and color." Yet the retinal purple is found only in the rods, not in the cones, and in the fovea and its immediate neighborhood, where vision is most acute, it does not exist.

The pigmented cells which form a layer at the posterior surface of the retina are called migratory cells. But the only basis for this statement is the fact that the contained pigment granules move from one part of the cell to another with changes of light. As to the mechanism of accommodation, the theory preferred is that according to which the circular portion of the ciliary muscle compresses the rim of the lens, and so accommodates the eye for near vision, while the radiating part of the muscle withdraws the ciliary processes from the circumference of the lens, causes the lens to return to its condition of a state of rest, and thus accommodate the organ to distant vision.

Catarhal conjunctivitis is regarded "as a form of erysipelas of the conjunctiva, and its genesis, like most causes of erysipelas, to be traumatic, dusty particles in the air lacerating the epithelial surface."

Very satisfactory treatment of trachoma, from which the author has in ten years seen no reasons to depart, consists in free scarification, squeezing out of the sagolike deposit, and application of syrup of tannin, with friction.

The section on Parenchymatous Keratitis contains no word as to danger of iritis.

Sympathetic ophthalmia is described less thoroughly than its importance demands, and without hint of the condition known as sympathetic irritation.

"The fact is, as Donders has demonstrated, that asthenopia is *always* the result of latent hypermetropia." The italics are ours. No one, we imagine, will be more surprised at this assertion than Donders himself; if it be true, diagnosis will be greatly simplified in a not inconsiderable class of cases.

Dr. Wolfe has been widely and favorably known from his ingenious and successful device of transplantation of the conjunctiva of the rabbit for the cure of symblepharon, and of large portions of skin, without pedicle, in cicatricial contraction of the lids. We cannot think the present work will add greatly to his reputation.

# Medical and Surgical Journal.

THURSDAY, DECEMBER 21, 1882.

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## ANNUS MEDICUS.

WITH this closing issue of the year, following the former custom of this journal, we recapitulate some of the leading events in the medical world. The year has, fortunately, been free of startling or sensational occurrences, but has contributed a creditable contingent to the sum of professional literature. Of this we have endeavored to furnish a fair representation to our readers, and shall not attempt to review the many valuable papers of the year. Of events of general medical interest we allude to the following:—

The Harvard Medical School has during the year suffered the loss of two of its most distinguished teachers, but retains them, as we trust it will for many years, on its list of emeriti. The retirement of Professors Bigelow and Holmes is too fresh in the minds of our readers to demand more than mention. While the school has lost the prestige of two of the most illustrious names in its history, it is gratifying to feel that the work is to be taken up by strong hands. Dr. D. W. Cheever has succeeded to the chair of surgery, and Dr. Thomas Dwight is to deliver the lectures on anatomy during the remainder of the year.

Among other eminent teachers who have retired from active work, but who still continue to enjoy the fruits of their labors and the esteem of the profession, we may mention Dr. Samuel D. Gross, who resigned the professorship of surgery in Jefferson Medical College March 27th, at the age of seventy-seven, after a brilliant service of twenty-six years. Dr. Gross has crowned his age by the issue of a new and carefully revised edition of his work on surgery.

In this connection we may refer to the retirement of Surgeon-General Barnes, and the appointment of Assistant Surgeon-General Crane as his successor.

Early in the year the antivivisection movement, championed by a few hopeless fanatics, became a question of great moment for our English brethren. Legal impediments and restrictions amounting to a practical prohibition of all physiological research had been thrown about experiments upon animals, and such men as Lister, Ringer, Fraser, and Ferrier were estopped from their investigations. About the beginning of the year Miss Frances Power Cobbe, the secretary of the Antivivisection League in England, was active in procuring the arrest of Dr. Ferrier for making some remarks at a scientific meeting *à propos* of some monkeys that had been operated upon several months before, as therein being guilty of "conducting an ex-

periment" without a license, and being accessory to the crime of keeping an animal alive after anaesthesia had passed off. Fortunately the good sense of the magistrate promptly dismissed the charge, but the secretary has since continued her violent opposition to science, and has written a magazine article containing an unreasonable arraignment of the medical profession as cruel, selfish, and dishonest. She took occasion in this paper to advocate the principles and practice of homeopathy, presumably from the fact that that system requires no scientific researches of any sort on the part of its practitioners. Unfortunately the restrictions upon experimental study have not been removed, and physiologists can only pray for liberal interpreters of a law which is more honored in the breach than in the observance.

Perhaps the leading event of an ethical bearing during the year was the action of the Medical Society of the State of New York, taken at their annual meeting February 7th to 9th. As will be remembered, this removed all restrictions as to professional fellowship previously maintained, and sanctioned the meeting in consultation all "legally qualified practitioners of medicine." It was the first step taken by any medical society in opposition to the invariable usages and traditions of the profession. The American Medical Association, meeting at St. Paul, the first week in June, expressed its unfavorable opinion of this innovation by refusing to recognize or admit to its deliberations the delegates from the New York Society. The district branches of that Society have for the most part selected their representatives for the next annual meeting of the State organization, and it is understood that the majority of them are in favor of a repeal of the new code, and have been instructed by their constituents so to vote.

Probably no discovery of the year has attracted so wide attention, especially among the non-professional public (owing to the prominence given to it by a letter of Tyndall in the *London Times*), as that of Koch, announced before the Berlin Physiological Society, and first published in the *Berliner klinische Wochenschrift*, April 10, 1882. This was a demonstration of the form, position, and characteristics of a new parasite, named by its discoverer *Bacillus tuberculosis*, of its propagation by culture-fluids, and the production of tuberculosis by the inoculation of this parasite. Other observers have abundantly confirmed the presence of this bacillus in the sputa of phthisis, but the question of vital importance, whether by an inoculation with this modified virus mankind can be rendered insusceptible of contracting the disease which is now the scourge of the civilized world, is not yet solved satisfactorily. Important and striking as is the discovery of Koch, we believe it is not the opinion of pathologists that it has as yet furnished us with any therapeutic hint of value.

The great question of medico-legal interest during the year has been the mental condition and moral responsibility of Guiteau. Our own views on the subject have been sufficiently stated. Following the trial there were attempts at obtaining a stay of proceed-

ings, and at securing a commission *de lunatico inquirendo*, all of which failed, and the prisoner was executed June 30th. The somewhat uncertain and varying conclusions from the autopsy have been the means of continuing the discussion since. Criticisms of the treatment of President Garfield's wound have also been abundant, the most notable being that of Professor Esmarch, published in full in the JOURNAL. Much has been written in the medical as well as in the non-professional press, evidently prompted by personal prejudices, and the closing chapter of a generally unpleasant subject was the scaling down by the Board of Audit of the professional fees in the case to figures hardly comparing favorably with the pay of the nurses or the liquor bills of the congressional delegation who attended the funeral.

An interesting case, from a toxicological point of view, was that of the murder, in England, by George Henry Lamson, a young surgeon, of his brother-in-law, by the administration to the latter of a large amount of aconitia in a capsule given for the ostensible purpose of demonstrating the convenience of that method of administering nauseous medicines. The circumstances we have not room to recount, but the chemical examination showed in various viscera of the body an alkaloidal extract, which produced the characteristic symptoms of aconitism as the result of administration to the investigators, and death from larger doses given to animals. Lamson was sentenced, and, in spite of strong efforts at reprieve, executed.

The bill to regulate the practice of dentistry, which passed the Massachusetts legislature last spring, was vetoed by Governor Long on the ground that it gave the power of controlling the practice of dentistry to one society, which might, in his opinion, easily establish a monopoly.

In April eight out of nine members of the post-graduate faculty of the Medical Department of the University of the City of New York resigned, owing to the fact that they were not allowed a voice in the government of the institution, and also because the governing body had not given them the facilities for instruction which were considered necessary. The result of this move has been the establishment of two new institutions, the Post-Graduate Medical School, and the New York Polyclinic, each of which includes distinguished names on its faculty, and appears to be doing useful work and filling a much needed requirement in medical education.

The second series of Cartwright Lectures, three in number, were delivered in New York in January and February on The Experimental Method in Medical Science, by Dr. John C. Dalton. The course was a worthy successor to the inaugural series of the year before by Dr. Bartholow, and presented the claims of experimental study, particularly with reference to the complex phenomena of the nervous system. In England the Croonian Lectures were delivered in March, before the Royal College of Physicians, by Sir Joseph Fayrer, on the Climate and Fevers of India. The Gulstonian Lectures, on Pulmonary Cavities, their Origin, Growth, and Repair, were given by Dr. William

Ewart. The Lumleian Lectures, on Inflammation, were by Dr. J. Burdon-Sanderson.

During the spring numerous public hearings were given in London by the Select Committee of the House of Commons on the Contagious Diseases Act, which were reported in detail in the British journals. A very large proportion of the time was granted to the opponents of those acts, whose opposition was founded chiefly on moral grounds. Yet the committee, whose labors have extended through three years, reported that not only was the hygienic effect of the acts good upon the soldiers (it is chiefly in the garrison towns that the supervision of venereal diseases has been attempted), but that neither in theory nor in practice was there tenable objection on grounds of morality. It was even claimed that so far from making prostitution safe and popular, there was a diminution in the gross number of prostitutes as a result of the periodical examination to which they were subjected. While the committee recommended no repeal of the existing law, they did not advocate its extension over any additional districts at present, on the ground that public sentiment was not ready for it.

The jubilee meeting of the British Medical Association, the fiftieth anniversary of its organization, was held at Worcester last summer, and was the occasion of a large gathering, of some valuable papers, numerous felicitous speeches, and much hospitality on the part of the local branch. Mr. Hastings, M. P., gave an address commemorative of his father, Sir Charles Hastings, who founded the Association and inaugurated it by an address delivered fifty years before in the same city.

Among other notable gatherings we may mention the meeting of the American Social Science Association at Montreal in September; the celebration of the three hundredth anniversary of the University of Würzburg, held in August; the meeting of the International Sanitary Congress, Geneva, in September; that of the American Laryngological Association in Boston in June, and of the American Gynecological Society in Boston in September.

At the beginning of the year there were in Boston 5 cases of small-pox at the Canterbury Street Hospital. During the year there occurred 26 cases, with 8 deaths, of which only two had been vaccinated. The last case reported was on June 23d, and was discharged well August 5th. The stamping out of this epidemic in Boston is due to the energy and watchfulness of the city physician and Board of Health.

Up to December 23d there had been, according to the figures furnished by the City Physician, in the city 1296 cases of diphtheria, with 436 deaths; 645 cases of scarlatina, with 71 deaths; 791 cases of typhoid fever, with 208 deaths.

#### NECROLOGY.

The year, which has closed so many brilliant careers in the domain of literature and science, has not spared our own profession, and we are obliged to chronicle the loss of some eminent minds, who have contributed much to the advancement of medical knowledge.

John W. Draper, M. D., died January 4th, at the age of seventy-one. He filled successively several chairs of natural science in the University of New York and in the University Medical College, and was long President of both the Scientific and Medical departments. He was a prolific writer on chemical and physiological topics, and also had attracted much attention by articles on literary subjects. In 1874 he received the medal of the American Academy of Science for his researches on Radiant Matter. He was universally recognized as one of the most eminent scientists and philosophers that America has produced. Equally eminent with the father was the son, Prof. Henry Draper, whose death occurred November 20th. He had been Professor of Physiology both in the academic and the medical departments of the University, and succeeded to the chair of Chemistry left vacant by his father, but soon resigned the position to devote his time to astronomy and celestial photography, in which he had achieved a high reputation.

Sir Robert Christison, Bart., M. D., F. R. S., died at Edinburgh, January 27th, at the age of eighty-five. He had formerly been Professor of Medical Jurisprudence in the University of Edinburgh, and later was Professor of *Materia Medica*. He was made a baronet in 1871, was twice elected President of the Royal College of Physicians, Edinburgh, and at the time of his death was physician in ordinary to the Queen for Scotland. His *Treatise on Poisons* is a standard work.

Joseph Pancoast, M. D., Emeritus Professor of Anatomy in Jefferson Medical College, died at Philadelphia, March 7th, at the age of seventy-seven. He had for many years been a prominent practitioner and teacher, having held the chair of surgery before that of anatomy. He was the author, among other works, of a treatise on operative surgery, and was known as an exact anatomist and a careful operator.

Dr. Theodore L. Mason, of Brooklyn, died in February, at the age of seventy-nine. He was especially interested in the treatment of inebriety as a disease, and was President of the American Association for the Cure of Inebriates. He was also a prominent member of the New York Medical Society, and the American Medical Association.

Dr. Junod, of "Junod boot" fame, died February 25th. He was a Swiss by birth, but had spent most of his professional career in Paris, where he died.

Another noted name which is not included in our list of the deaths in the Massachusetts Medical Society, for the reason that his demise occurred in the last days of 1881, is that of Dr. Edward Reynolds. As one of the founders of the Massachusetts Charitable Eye and Ear Infirmary, as an ophthalmic surgeon, and a general practitioner, he had led a useful and a busy life, and at the ripe age of eighty-eight he died leaving an enviable reputation for personal integrity and professional honor.

In April science lost one of her foremost prophets and exponents in Charles Robert Darwin, whose name as a naturalist and biologist was known throughout the civilized world. The obligations of medical sci-

ence to his researches and inductions are great, and medicine will probably in all future time feel the influence of the theory of evolution.

Sir John Rose Cormack, the founder of the *Edinburgh Medical Journal*, died at Paris in May, where he had resided for twelve years. He rendered great service during the Franco-German war, and was made Chevalier de la Légion d'Honneur.

Prof. James R. Wood, of New York, died in May, at the age of sixty-six. He had a high reputation as a surgeon, and had for years been collecting a valuable museum, which he handed over to the Commissioners of Charities of the city about a year before his death.

Dr. Andrew Buchanan, Professor of Physiology at Glasgow, died July 9th, at the age of eighty-four. He was the inventor of the rectangular staff for lithotomy, and was a discoverer of the cause of the coagulation of the blood.

F. M. Balfour, LL. D., F. R. S., the newly appointed Professor of Morphology at Cambridge, England, was killed on the Swiss Alps. He was thirty years of age.

Carl Mayrhofer, Professor of Gynecology, Vienna, died June 3d, aged forty-six.

Joseph Thomas Clover, F. R. C. S., Eng., b. 1825, died October.

Robert Wishart Lyell, M. D., F. R. C. S., b. 1849, assistant surgeon Middlesex Hospital, died October 1st.

George Critchett, F. R. C. S., Surgeon Moorfields Eye Hospital, died November 1st.

Prof. George Gulliver, Hunterian Professor of Comparative Anatomy and Physiology, died November 17th.

William Pirrie, F. R. C. S., Ed., Emeritus Professor of Surgery, Aberdeen, died November 21st.

#### NECROLOGY OF FELLOWS OF THE MASSACHUSETTS MEDICAL SOCIETY.

(Furnished by kindness of Dr. F. W. Goss.)

Cyrus Bell, of Feeding Hills, died September 10, 1882, aged seventy-nine.

Abner W. Buttrick, of Lowell, March 27th, thirty-nine.

Phineas M. Crane, of East Boston, August 13th, seventy-seven.

Daniel M. Elliot, of Peabody, July 26th, forty.

John B. Foley, of Roxbury, July 25th, thirty-two.

Samuel H. Gould, of Brewster, August 25th, sixty-seven.

Albert S. Herrick, of Lowell, June 5th, thirty-eight.

Christopher C. Holmes, of Milton, July 16th, sixty-four.

George M. Howe, of Framingham, September 16th, fifty-eight.

John H. Jennings, of New Bedford, July 31st.

Othello O. Johnson, of Framingham, January 8th, sixty-four.

William P. Kelly, of Boston, April 9th, twenty-six.

Sanford Lawton, of Springfield, July 24th.

Jonathan Leonard, of Sandwich, January 29th, seventy-eight.

Augustus Mason, of Brighton, May 23d, fifty-six.  
James Morison, of Quincy, May 20th, sixty-three.  
George Osborne, of Peabody, September 21st, eighty-three.

Ebenezer S. Phelps, of Middleton, May 28th, ninety.  
Menzies R. Randall, of North Rehoboth, July 23d, eighty-eight.

Jeremiah J. Reardon, of Natick, January 22d, thirty-two.

Herbert Shurtleff, of Campello, March 31st, thirty-five.

Isaac Smith, Jr., of Fall River, January 20th, forty.

Horace Stacy, of Boston, May 5th, sixty-eight.

George Stearns, of Groton, March 7th, seventy-nine.

Obed C. Turner, of North Cambridge, October 31st, forty-two.

Also the following honorary members :—

Augustus A. Hayes, of Boston, June 21st, seventy-six.

James R. Wood, of New York city, May 4th, seventy.

February 12th, at Rome, Prof. Gaetano Valerj, M. D., well known to many American visitors in Rome.

#### MORE DIPLOMAS?

THE natural result of the existing laws and the judicial interpretation, as given by us last week, may be seen in the following item cut from the daily press :—

The American University of Boston has been incorporated, with Joseph Reader Buchanan as president, and R. C. Flower as treasurer. The object of the institution is to establish a college of therapeutics, a college of general culture, a college of industry, and such other departments as time may render necessary or desirable for the development of the moral, intellectual, industrial, and vital capacities and character of persons of all ages, for the cultivation of science, art, literature, and ethics, by investigation and propagation of knowledge, and for the preparation of pupils for all honorable vocations in the arts, sciences, skill, and virtues.

Such a sudden growth is rather appalling even in this age of steam and electricity. The royal road, if not to learning, at least to its outward insignia, has been found at last. Who can longer doubt that at the blow of the brazen axe of the blacksmith Vulcan Minerva sprang, fully armed, from the head of Jove, or that the adventurous Jack climbed to unknown regions beyond the clouds, on a bean-stalk, which sprang up during a single night.

We deem it our duty to give what publicity we can to this rapid incorporation of educational institutions, but a journal which appears but once in seven days can scarcely hope to accurately chronicle the growth of mushrooms in even so small a State as Massachusetts. We cannot promise to keep our readers informed of the variations in the market prices of diplomas, but we can assure them that our efforts shall be unremitting.

Already we can see, not far off, the day when no man shall be too poor to practice the noble art of healing with the protection of a diploma, or if, perchance, any shall lack, let him join himself with his uncle and his neighbor, who is like minded with him-

self, and become incorporated under the laws of Massachusetts, and he shall adorn himself with as many degrees as ambition can desire, or the most unlimited purse could purchase. Future governors shall enumerate among the causes for thanksgiving that the ratio of college graduates to the population exceeds that of any civilized country on the globe, and the charitable shall form societies for the distribution of diplomas among the heathen. Benevolent spinsters shall purchase for their beloved pastors the coveted D. D., and success in a gubernatorial campaign shall no longer be a necessary step to the possession of an LL. D.

God save the Commonwealth of Massachusetts.

#### MEDICAL NOTES.

—The New York Academy of Medicine have passed resolutions of sympathy and condolence with Dr. Edward C. Seguin.

—At the burning of a gun-shop in this city recently, the firemen performed the act familiar to the novelist, but exceedingly rare in real life, of carrying a large canister of gunpowder in their arms when the flames singed the clothes of one of the bearers. Hardly was this removed, when a fusillade of cartridges began, through which the firemen worked with the utmost nonchalance.

—It is estimated that there are 35,000 people in New York City and Brooklyn whose business requires them to turn night into day. This estimate does not include the thieves and other criminals who thrive best under cover of darkness, but refers only to those whose regular and legitimate pursuits compel them to reverse the natural order of work and rest. Four fifths of these people live in Brooklyn and Jersey City.

—We have received Walsh's Call-Book and Tablet, Lindsay and Blakiston's Visiting List, and Leonard's Pocket Day-Book for 1883. Blakiston's is the least bulky, Walsh's contains the greatest number of tables, and Walsh and Leonard are alike in being adapted to any year equally well with the coming one.

#### NEW YORK.

—The Hospital Saturday and Sunday Association of New York has compiled a statement of the work and resources of the hospitals connected with the Association for the year ending September 30, 1882, from which the following statistics are taken: The total expenses of the hospitals were \$442,760.68; current expenses for the care of patients, \$409,590.26; total income from invested funds, \$106,449.81; amount received from paying patients, \$79,072.71; amount received from city, county, or State appropriations, \$58,156.38; amount received from collections in 1881, \$33,815.44; amount received from subscriptions other than bequests and gifts to the permanent fund, \$152,066.07; receipts applicable to current expenses, \$409,084.35; total number of patients treated in hospital, 9165, of whom 6945 were free patients; total number of days of hospital care, 368,374, of which 261,705 were free.

— At a meeting of the Board of Estimate and Apportionment, held December 15th, Mrs. Josephine Shaw Lowell appeared on behalf of the State Commissioners of Charities, and read a communication in relation to the attendance of physicians at the city insane asylums, in which she asked that the appropriation for salaries of such physicians should be increased. On account of the small salaries allowed the physicians were constantly resigning, and their number was always smaller than it ought to be for the proper care of so many patients. Dr. MacDonald, of the Ward's Island Asylum, had reported that during the year six assistant physicians under him had resigned because of the inadequate pay. This institution had at present 1232 patients, and the appropriation for salaries and wages was \$46,595, while the female asylum on Blackwell's Island had 1345 patients, with an appropriation of but \$34,500 for this purpose.

— Dr. Hugo Kuenstler, a German physician in Harlem, a graduate of the College of Physicians and Surgeons in 1871, recently died very suddenly while attending a patient in her confinement. Just before the birth of the child he fell to the floor, and then expired in a few minutes. For some time previously he had been suffering from chronic meningitis, and Dr. Cocks, the physician who had attended him, was of the opinion that death was due to resulting abscess of the brain.

— Dr. Alexander N. Dougherty, one of the best-known surgeons of Newark, New Jersey, died suddenly of disease of the heart on the 28th of November. He was a graduate of the College of Physicians and Surgeons, and was sixty-two years of age. During the late war he was medical director of the Army of the Potomac, and at the battle of Gettysburg was one of the first persons to arrive at the side of General Hancock when he was wounded. He was at one time President of the New Jersey State Medical Society, and always took an active interest in its affairs.

— Mrs. Margaret Lundrigan died in New York, December 10th, at the age of one hundred and three years. She was born in County Kerry, Ireland, in 1779, and was seventy years of age when she came to this country. The ocean voyage gave her but little inconvenience, and she never suffered from illness until two months before her death. Up to that time she did fine needlework, being an expert seamstress, and it was only during the past two years that she found it necessary to wear glasses. She was the mother of six children, only two of whom survive her. The older of these two is now sixty-two years of age.

#### PHILADELPHIA.

— For some time a sort of running fight has been kept up between some physicians and some druggists, which, of course, has been fomented by the daily papers. General charges of substitution of cheap and inferior drugs were made by one party, and counter-charges of mistakes and favoritism were returned by the other. Finally the druggists, at a meeting called for the purpose, appointed a committee and demanded

the facts, volunteering at the same time to prosecute the offenders in the courts. After some delay several instances were furnished them where druggists had dishonestly substituted other preparations than those called for in prescriptions, to the detriment of patient and the physician, but the matter has been quietly allowed to rest; at all events no prosecutions have been announced. The latest move was one by Dr. Henry Loffmann, who read a paper on The Adulteration and Substitution of Drugs as Elements of Uncertainty in Medical Practice, before the Philadelphia County Medical Society, December 13th.

— The first lecture of Dr. Austin Flint, of New York, before the County Medical Society was so largely attended that it was decided to have the next two lectures in the ample amphitheatre of the Jefferson Medical College Hospital. The second lecture, of December 16th, was, as announced, on Auscultation and the Respiratory Murmur, with its Abnormal Manifestations. The final lecture, on The Râles and Vocal Signs, is set down for January 13, 1883. These lectures will not appear as part of the Proceedings of the Society, and it is understood that Professor Flint reserves the right of publication.

Arrangements are being made to tender a complimentary dinner to Professor Flint by some of the members of the profession of Philadelphia on the night before the last lecture is to be delivered.

— Owing chiefly to the generosity of Mr. Lankman, the President of the Board of Managers of the German Hospital, a new wing is to be added to the building, which will furnish a clinical amphitheatre for lecturing purposes. It is also intended to erect on the capacious grounds attached to the hospital a building to be used as an Old Men's Home.

#### ST. LOUIS.

— Diphtheria and scarlatina being prevalent in many portions of St. Louis, the Board of Health have adopted the following rules: "Bodies of persons who have died of scarlet fever, small-pox, or diphtheria shall not be allowed to be shipped or taken to other points, and the public is hereby advised to effect a speedy and quiet burial of persons so deceased." The following circular was also approved and issued: "Whereas, scarlet fever and diphtheria prevail to a considerable extent in various sections of the United States, and meteorological and other influences appear to be favorable to the transmission and spread of the diseases specified; we would earnestly recommend that families who have lost a member from the above, or from any other contagious disease, carry out the burial as rapidly as possible, and discountenance visiting the residences and the attendance of friends at the funeral." The circular also requests physicians to look to the disinfecting and fumigating of such places, and to remember the duties required when attending cases of contagious diseases. It also calls attention to the law which makes it a misdemeanor for parents to send children to school after it is known there is a disease of a contagious nature in their family, and for any principal or teacher of a private or public school to



allow any such pupil to attend. The circular concluded: "We also recommend that undertakers thoroughly air, cleanse, and disinfect any carriage or conveyance that may have been used to carry the body of any child or person who may have died of scarlet fever, diphtheria, or any other contagious or infectious disease."

—The sanitary condition of all the public schools is now being strictly investigated by the Board, and every precaution taken to prevent the spread of disease.

—The Mayor has filled the vacancy caused by the resignation of Dr. P. V. Schenck as Superintendent of the Female Hospital by the appointment of Dr. George F. Hulbert to the position. Dr. Hulbert is a young man, a graduate of the St. Louis Medical College, and is supported by nearly all the most prominent physicians here. The appointment is generally regarded as a good one, the only objection urged being the youth of the appointee.

### Miscellany.

#### THE CITY WATER. A CORRECTION.

December 23, 1882.

MR. EDITOR,—In the report of my remarks at the Suffolk District Medical Society meeting, the following words are found in reference to our city water: "He did not dare to use it in his house for domestic or drinking purposes." This is not strictly true. I do not use it at my table for drinking, and I always strain it for bathing;—and, at times, even with straining, the water is so dirty-looking that I cannot use it.

Yours respectfully,

HENRY I. BOWDITCH.

#### ACUTE ASCENDING PARALYSIS.

A CAREFUL account of what seems to have been a case of this rare disease is given in the *Dublin Journal of Medical Science* for October. It was not confirmed by autopsy, but inasmuch as it is very uncommon to find any structural lesions of the cord or brain in this disease, the lack of post-mortem examination is the less to be regretted, except as eliminating all other disease.

The patient was a clergyman, aged thirty-six, who had been doing the work of two parishes, and was much overworked. He had had typhus fever eleven years before, and had also a slight crepitus, at the left apex, which was stationary, and did not impair his usefulness or activity. Having been exposed to small-pox, he was successfully vaccinated February 21st.

The history is described by the attendant, Dr. Alexander Dempsey, as follows:—

His present illness commenced on the 5th of March with a cold in the head and in the chest,—with cough and expectoration. An eruption of herpes appeared at the same time on his mouth and nose. He felt generally out of sorts, but was not so ill as to necessitate his remaining in bed or even in the house. He attended to his clerical duties, though not so much as usual, but this was more because of the unsightly

eruption on his face than of his unfitness for the work. His appetite was not affected. On the morning of the 10th of March, while shaving, he remarked a numbness and want of sensation in his fingers. He could not feel the razor in his hand. This numbness was felt in the thumb and the two first fingers of both hands, and extended as high as the wrists. Numbness was also felt along the backs of the thighs and legs, and in the soles of the feet. On Sunday, the 12th of March, with these symptoms unchanged, he officiated twice, and in the evening preached for nearly an hour. He felt very much exhausted after this effort. The next day he was a little better, and the day being fine, he went out for a long walk. He attributed the numbness in the legs to bad circulation, and he thought a good walk would make him all right. He walked very fast for about four miles, but did not feel his feet touching the road. The sensation was similar to that of walking on deep snow. He was thoroughly exhausted when he came home, but ate a good dinner. Before going to bed he took a large dose of Eno's fruit salt, which acted several times during the night. He rested very badly,—felt hot and uncomfortable, and perspired very freely. However, perspirations had been very profuse for the last two or three nights.

The following day I found him sitting at the window with a newspaper beside him, which he had been trying to read, but the letters after a time became so blurred and indistinct that he was obliged to give it up. This temporary defect of vision was the only one complained of during his entire illness. The conjunctivæ were congested, and the pupils moderately contracted. This condition of the pupils remained throughout. The conjunctivæ, however, in a day or so became normal. His face was deadly pale, and the expression worn and haggard. From the beginning he had neither dizziness, headache, nor pains in the back or legs. Pressure on the spinous processes did not cause pain. His legs and hands were quite cold, though he felt a burning heat in them. His grasp was moderately firm. The patella tendon reflex was present. On getting him to walk I noticed slight unsteadiness in his gait. He lifted his feet well off the floor, but let them down in a tremulous, clumsy way, somewhat like an ataxic patient. He complained of great weakness in his legs and back. Pulse was 74, and temperature 98° F.; tongue was coated with a light yellow fur in the centre, red and moist at the edges and tip. There was no disturbance of the bladder. He passed water freely, which was loaded with lithates, but was free from albumen. Breathing was hurried, and there was dullness and crepitus at the left apex, and moist râles scattered through both lungs. Expectoration was thick, and slightly rusty in color. The heart's sounds were healthy and regular, but the pulsations were forcible and visible over the front of the chest. His mind was perfectly clear. I prescribed bromide and iodide of potassium, a mustard foot bath, a large mustard blister to the back, and rest in bed.

March 15th. Pulse 70, temperature normal. Spent a very restless night. Complains of an intolerable burning heat in the legs and up along the spine. This was the most annoying symptom he had, and it continued during the remainder of his illness. He also complained of burning heat in his mouth, but he had no thirst. The weakness in his legs is increasing. He attempted to get out of bed in the morning, but fell on the floor. He can draw his legs fully and quickly

up to him in bed, or move them about, and he can raise his arms up or move them in any direction, but his grasp is much more feeble than it was yesterday. I got him out on the floor. He raised himself off the bed with great difficulty, and when up could not stand without support. His legs were very weak and gave way under him, and this was especially the case when he attempted to turn on the floor. This effort to walk quite exhausted him. Patellar reflex is present, but more feeble. Has some difficulty in swallowing to-day: some tea taken quickly came back through his nose. There is no paralysis of the face, and he protrudes the tongue in a straight line, and there is no difficulty of speech. During the night had a sharp boring pain in the head; it only lasted for a short time, and was the only actual pain which he had anywhere during his entire illness. Sensation was impaired, but not lost. Contact with the skin was delayed in perception, and this was especially the case in the lower parts of the legs. Sensibility was not further disturbed during the disease. The cough was troublesome, owing to the accumulation of phlegm, and there was an evident inability to expectorate it, though it was quite loose. I had the advantage of Dr. Cuming's assistance in the case to-day. The bowels not having acted since, we pre-scribed a brisk purge, and the bromide was reduced in quantity and the iodide increased, while derivatives were applied along the spine.

March 16th. Pulse 60, temperature normal. Had one hard motion this morning. Has difficulty now in drawing the legs up to him, and there is less power in the arms. Sitting up and turning in bed are becoming impossible without help. No muscular twitchings nor spasmodic manifestations anywhere. The difficulty of swallowing is increasing. Urine passed freely.

March 17th. Pulse 60, temperature 98° F. Inability to expectorate secretion from lungs. Only slightest movements possible in the legs; patellar reflex completely absent. Arms still can be raised, but in a tremulous, zigzag way. No longer able to grasp the hand. Deglutition more difficult and respiration more impaired. Speech thick. Mind clear. In the afternoon could swallow nothing. The bowels had never acted freely, though repeated purgatives had been given. Functions of bladder perfect. No paralysis of facial muscles. Died at 7.30 p. m. on this, the eighth day from the first symptoms of numbness, the fourth after the first motor paralysis, and the thirteenth after catching cold.

In commenting on the case the writer says: The absence of paralysis of the sphincters was one of the strong points which we relied on in distinguishing this disease from acute central myelitis. In the latter disease it is often the first symptom which attracts attention, or if not it generally sets in early in the disease. The functions of the sphincters of the bladder and rectum were perfect until the last; indeed, in the case of the latter, obstinate constipation was one of our greatest difficulties in the treatment,—due, no doubt, to paralysis of the abdominal muscles and the muscular coats of the intestines.

Again, the character of the onset of the attack and the gradual progress of the disease were different from the usual course of acute myelitis. Its inception was marked by none of the severe disturbances of sensation or of motion which generally characterize the beginning of the latter disease. There were neither muscular spasms, contractions, fibrillar twitchings, nor

even pains, during the entire course of the illness, and the sensation was only very slightly impaired.

The progress of the disease was also characteristic of acute ascending paralysis, as first described by Landry, and more recently by Westphal. It slowly crept over the body, without fever, delirium, loss of intelligence or memory, or the development of decubitus, and finally attacked the functions of the medulla oblongata, producing paralysis of deglutition, asphyxia, and death.

The condition of the patellar reflex is a point of importance in the present case. There is only one case reported by Westphal in which it was found lacking. In our patient, with the advance of the disease it gradually became extinct, and on the last day of his illness was entirely absent.

In acute myelitis there is early failure of all reflex actions. In the latter disease there is also a rapid development of acute bedsores,—a complication which did not arise in the present case.

From acute myelitis disseminata the distinction is not so easy; however, in it, too, there is generally paralysis of the sphincters and spastic symptoms, but often it is impossible to decide the question positively without the aid of a post-mortem examination.

#### “MIRRORED WRITING.”

WE translate from *Le Journal de Médecine et de Chirurgie* a note on this curious phenomenon. This term (*l'écriture en miroir*) designates a peculiar method of writing observed in certain individuals who are aphasic or affected with right-sided hemiplegia. It has been noticed that some patients under those circumstances, when they tried to write with the left hand, instead of writing from left to right, made the lines from right to left, reversing the characters so that their arrangement was that of printing type, and they presented the appearance of ordinary writing when seen in a mirror. Some authors have considered this phenomenon as specially connected with aphasia. Dr. Martial Durand, in an article in *Le Journal de Médecine de Bordeaux*, endeavors, on the contrary, to show that this mode of writing, which is met more particularly in patients with cerebral affections, is nevertheless physiological when a special education does not intervene to modify it. In fact, the majority of children when asked to write with the left hand have this inverted penmanship. In adults differences are observed according to the mental condition of the individual. In persons who are intelligent, or who write a good deal, the inverted penmanship is not found. But in those who have only moderate intelligence and write but seldom, it is found that on using the pen with the left hand sometimes one and sometimes the other of the two methods occur, with this to be noticed, that in the inverted penmanship the letters are better formed than in the natural chirography. Finally, in persons whose intellect is not yet developed, and who are not used to writing, that is to say, in whom the mechanical part of the act, the impression of the formative movements, is more prominent than the visual image, it is the inverted writing which is oftenest seen. In other words, physiologically the left hand has a great tendency to reproduce exactly (symmetrically) the movements of the right, which causes the

inversion of the letters, which amounts to saying that the mirrored writing is the normal penmanship of the left hand.

If this is true, it is reasonable to suppose that the races which write *towards* the median line of their body (*écriture centripète*), that is to say, from right to left (as the Hebrews and the Arabs), ought to write with the left hand also centripetally, and with inverted characters. Now this is what is established from the researches of M. Charles Vogt. All the

Arabs and Israelites noticed by him who wrote centripetally with the right hand, did write with the left hand from left to right and with the letters inverted.

To conclude, it appears from the researches of M. Durand that mirrored writing is not a symptom connected with aphasia. Nevertheless it appears to be produced in some cases where the patient has lost in a certain degree his intelligence. It is, then, a fact interesting to determine, it is true, but by no means pathognomonic of lesions producing aphasia.

## REPORTED MORTALITY FOR THE WEEK ENDING DECEMBER 16, 1882.

| Cities.                         | Population by Census of 1880. | Reported Deaths in each. | Deaths under Five Years. | Percentage of Deaths from         |                |                       |                |                |
|---------------------------------|-------------------------------|--------------------------|--------------------------|-----------------------------------|----------------|-----------------------|----------------|----------------|
|                                 |                               |                          |                          | The Principal "Zymotic" Diseases. | Lung Diseases. | Diphtheria and Croup. | Scarlet Fever. | Typhoid Fever. |
| New York.....                   | 1,206,590                     | 598                      | 199                      | 16.21                             | 19.38          | 5.18                  | 2.67           | .50            |
| Philadelphia.....               | 846,984                       | 370                      | 128                      | 17.01                             | 9.99           | 13.50                 | 1.08           | .81            |
| Brooklyn.....                   | 566,689                       | 272                      | 101                      | 20.88                             | 23.40          | 7.29                  | 5.04           | 1.44           |
| Chicago.....                    | 503,304                       | 212                      | 100                      | 18.80                             | 11.28          | 7.52                  | 2.82           | 3.29           |
| Boston.....                     | 362,535                       | 186                      | 55                       | 16.11                             | 10.74          | 12.89                 | 1.07           | 5.4            |
| St. Louis.....                  | 350,522                       | 179                      | 78                       | 25.76                             | 20.16          | 13.44                 | 3.92           | 1.68           |
| Baltimore.....                  | 332,190                       | 219                      | 67                       | 36.80                             | 6.44           | 13.34                 | 1.84           | 2.30           |
| Cincinnati.....                 | 255,708                       | 112                      | 41                       | 19.58                             | 19.58          | 4.45                  | 2.67           | 8.90           |
| New Orleans.....                | 216,140                       | 126                      | 24                       | 29.46                             | 9.36           | 1.56                  | 1.56           | 1.56           |
| District of Columbia.....       | 177,638                       | 77                       | 31                       | 14.19                             | 15.48          | 5.16                  | 5.16           | —              |
| Pittsburg.....                  | 156,381                       | 64                       | 23                       | 20.28                             | 10.92          | 12.24                 | 1.56           | 10.92          |
| Buffalo.....                    | 155,137                       | 67                       | 28                       | 29.40                             | 10.29          | 5.88                  | 16.17          | 4.41           |
| Milwaukee.....                  | 115,578                       | —                        | —                        | —                                 | —              | —                     | —              | —              |
| Providence.....                 | 104,857                       | 43                       | 12                       | 39.52                             | 9.30           | 9.30                  | 2.33           | 20.92          |
| New Haven.....                  | 62,882                        | 13                       | 4                        | —                                 | 15.38          | —                     | —              | —              |
| Charleston.....                 | 49,999                        | 27                       | 7                        | 14.81                             | 7.41           | 3.70                  | —              | 3.70           |
| Nashville.....                  | 43,461                        | 28                       | 9                        | 17.85                             | 17.85          | 10.71                 | —              | —              |
| Lowell.....                     | 59,485                        | 26                       | 8                        | 15.38                             | 11.54          | 7.69                  | —              | 3.85           |
| Worcester.....                  | 58,295                        | 14                       | 8                        | 21.42                             | 14.28          | 7.14                  | —              | —              |
| Cambridge.....                  | 52,740                        | 18                       | 7                        | 44.44                             | —              | 44.44                 | —              | —              |
| Fall River.....                 | 49,006                        | 15                       | 8                        | 20.00                             | 6.66           | 13.33                 | —              | —              |
| Lawrence.....                   | 39,178                        | 13                       | 2                        | 23.07                             | 7.69           | 15.48                 | —              | 7.69           |
| Lynn.....                       | 38,284                        | 8                        | 3                        | 25.00                             | 25.00          | —                     | —              | —              |
| Springfield.....                | 33,340                        | 10                       | 2                        | 30.00                             | —              | 20.00                 | —              | —              |
| Salem.....                      | 27,598                        | 7                        | 2                        | 14.28                             | —              | 14.28                 | —              | —              |
| New Bedford.....                | 26,875                        | —                        | —                        | —                                 | —              | —                     | —              | —              |
| Somerville.....                 | 24,985                        | 5                        | 2                        | 40.00                             | 20.00          | 20.00                 | —              | —              |
| Holyoke.....                    | 21,851                        | 15                       | 10                       | 13.33                             | 6.66           | 6.66                  | —              | 6.66           |
| Chelsea.....                    | 21,785                        | 11                       | 1                        | 18.18                             | —              | 18.18                 | —              | —              |
| Taunton.....                    | 21,213                        | 8                        | 1                        | 25.00                             | —              | 12.50                 | —              | —              |
| Gloucester.....                 | 19,329                        | 6                        | 4                        | —                                 | 16.66          | —                     | —              | —              |
| Haverhill.....                  | 18,475                        | 5                        | 1                        | 20.00                             | —              | 20.00                 | —              | —              |
| Newton.....                     | 16,995                        | —                        | —                        | —                                 | —              | —                     | —              | —              |
| Brookton.....                   | 13,608                        | 8                        | 1                        | 12.50                             | 25.00          | 12.50                 | —              | —              |
| Newburyport.....                | 13,537                        | 5                        | 1                        | —                                 | —              | —                     | —              | —              |
| Fitchburg.....                  | 12,405                        | —                        | —                        | —                                 | —              | —                     | —              | —              |
| Malden.....                     | 12,017                        | 5                        | 2                        | 20.00                             | —              | 20.00                 | —              | —              |
| Twenty Massachusetts towns..... | —                             | 56                       | 11                       | 19.64                             | 7.14           | 12.50                 | 1.79           | 3.57           |

Deaths reported 2828 (no report from Milwaukee): under five years of age 983; principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 597, lung diseases 405, consumption 399, diphtheria and croup 261, scarlet fever 74, small-pox 64, typhoid fever 63, diarrhoeal diseases 54, malarial fevers 29, whooping-cough 14, measles 12, cerebro-spinal meningitis nine, erysipelas eight, puerperal fever seven. From *small-pox*, Baltimore 41, New Orleans nine, Philadelphia and Chicago five each, Pittsburg and Nashville two each. From *diarrhoeal diseases*, New York 18, New Orleans 10, Brooklyn five, St. Louis four, Pittsburg three, Boston, Buffalo, and Lynn two each, Chicago, District of Columbia, Charleston, Lowell, Worcester, Fall River, Taunton, and Brooklyn one each. From *malarial fevers*, New York 11, New Orleans six, Brooklyn five, St. Louis three, Chicago, Baltimore, District of Columbia, and Charleston one each. From *whooping-cough*, New York and Cincinnati three each, Brooklyn and St. Louis two each, New Orleans, Pittsburg, Providence, and Fall River one each. From *measles*, New York

eight, Providence two, Philadelphia and District of Columbia one each. From *cerebro-spinal meningitis*, New York three, St. Louis two, Buffalo, Worcester, Somerville, and Holyoke one each. From *erysipelas*, New York four, Chicago, Boston, Cincinnati, and Buffalo one each. From *puerperal fever*, Chicago three, Brooklyn, St. Louis, Pittsburg, and Buffalo one each.

Twenty-one cases of small-pox were reported in New Orleans, Cincinnati six, Brooklyn two, Pittsburg one; diphtheria 44, scarlet fever 22, and typhoid fever seven, in Boston.

In 36 cities and towns of Massachusetts, with a population of 996,037 (population of the State 1,783,086), the total death-rate for the week was 20.78 against 20.63 and 20.31, for the previous two weeks.

For the week ending November 25th, in 171 German cities and towns, with an estimated population of 8,516,821, the death-rate was 23.4. Deaths reported 3830: under five years of age 1755, consumption 510, lung diseases 390, diphtheria and croup 230, diarrhoeal diseases 135, scarlet fever 121, measles and röteln 67,

typhoid fever 57, whooping-cough 54, puerperal fever 20, typhus fever (Braunschweig one) one. The death-rates ranged from 12.3 in Leipzig to 33.5 in Frankfurt a. O.; Königsberg 30.1; Breslau 30.8; Munich 28; Dresden 23.3; Berlin 23.1; Hamburg 23.6; Cologne 22.3; Frankfurt a. M. 13.4; Strasburg 14.6.

In the 28 English towns, with an estimated population of 8,469,571, for the week ending December 24, the death-rate was 22.3. Deaths reported 3615: acute diseases of the respiratory organs (London) 424, measles 115, scarlet fever 111, fever 85, whooping-cough 49, diarrhoea 55, diphtheria 22, small-pox (London 10, Newcastle four, Nottingham one) 15. The death-rates ranged from 14.7 in Bolton to 28.6 in Newcastle-on-Tyne; Birk-

enhead 18.1; Brighton 19; Birmingham 20.9; Sheffield 22.3; Leeds 24.3; Sunderland 25.9; Manchester 26.1; Liverpool 28.1. In Edinburgh 20.7; Glasgow 27.8; Dublin 25.6.

For the week ending December 21, in the Swiss towns, population 494,390, there were 38 deaths from acute diseases of the respiratory organs, consumption 28, diphtheria and croup 14, typhoid fever 12, diarrhoeal diseases nine, scarlet fever one, puerperal fever one. The death-rates were, at Geneva 10.3 Zurich 22.3; Basle 20.4; Berne 25.3.

The meteorological record for the week ending December 16th in Boston, was as follows, according to observations furnished by Sergt. O. B. Cole, of the U. S. Signal Corps:—

| Date.            | Barometer.  | Thermometer. |          |          |            | Relative Humidity. |             |             | Direction of Wind. |            |             | Velocity of Wind. |            |             | State of Weather. <sup>1</sup> |            |             | Rainfall.             |                   |
|------------------|-------------|--------------|----------|----------|------------|--------------------|-------------|-------------|--------------------|------------|-------------|-------------------|------------|-------------|--------------------------------|------------|-------------|-----------------------|-------------------|
|                  | Daily Mean. | Daily Mean.  | Maximum. | Minimum. | 7.23 A. M. | 3.23 P. M.         | 11.23 P. M. | Daily Mean. | 7.23 A. M.         | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.        | 3.23 P. M. | 11.23 P. M. | 7.23 A. M.                     | 3.23 P. M. | 11.23 P. M. | Duration, Hrs. & Min. | Amount in inches. |
| December, 1882.  |             |              |          |          |            |                    |             |             |                    |            |             |                   |            |             |                                |            |             |                       |                   |
| Sun., 10         | 29.976      | 28           | 34       | 22       | 88         | 88                 | 83          | 86          | SE                 | W          | NW          | 5                 | 4          | 5           | S                              | T          | R           | —                     | —                 |
| Mon., 11         | 29.797      | 28           | 34       | 27       | 94         | 100                | 88          | 94          | N                  | NW         | W           | 12                | 11         | 12          | S                              | T          | R           | —                     | —                 |
| Tues., 12        | 30.284      | 25           | 30       | 20       | 73         | 74                 | 73          | 73          | W                  | NW         | NW          | 13                | 7          | 3           | C                              | F          | C           | —                     | —                 |
| Wed., 13         | 29.874      | 32           | 45       | 19       | 88         | 94                 | 89          | 90          | NW                 | SE         | W           | 11                | 21         | 14          | C                              | C          | C           | —                     | —                 |
| Thurs., 14       | 29.586      | 33           | 40       | 29       | 68         | 62                 | 60          | 63          | W                  | W          | SW          | 16                | 18         | 12          | C                              | C          | C           | —                     | —                 |
| Fri., 15         | 29.669      | 25           | 33       | 17       | 77         | 64                 | 70          | 70          | W                  | W          | W           | 12                | 20         | 14          | C                              | C          | C           | —                     | —                 |
| Sat., 16         | 29.651      | 21           | 30       | 12       | 70         | 56                 | 70          | 65          | W                  | W          | W           | 10                | 11         | 7           | C                              | C          | C           | —                     | —                 |
| Means, the week. | 29.834      | 27           |          |          |            |                    | 71          |             |                    |            |             |                   |            |             |                                |            |             | 26.00                 | 1.08              |

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., snow; R., rain; T., threatening.

#### OBITUARY. DR. GEORGE OSBORNE, OF PEABODY.

DR. GEORGE OSBORNE, who died September 21st, was one of Peabody's most honored citizens. He was born December 23, 1798, entered Harvard University in 1814, had there as chum Dr. George Choate, of Salem, and graduated in the class of 1818.

Since both his father and grandfather were sea-captains, it was natural that after graduation he should accept the position of supercargo, in which capacity he made two voyages to Sumatra and one to European ports. In 1826 he commenced the study of medicine with Dr. William G. Walker, of Charlestown. Afterwards attended lectures under Dr. Valentine Mott and others in New York, and received his degree in 1829. He married Miss Sarah Whittridge, of Salem, and in January, 1830, commenced practice in South Danvers, now Peabody, where he continued to be a highly valued practitioner until severe facial neuralgia compelled his retirement from professional duties in 1852. He was a man of very methodical habits, and kept such careful records of his medical cases and business affairs that they have much value as helps to local history. His medical and surgical skill was so extensively recognized that he had a regular and considerable practice in Salem as well as in Danvers. He was a member of the East India Marine Society of Salem, President of the Warren Five Cents Savings Bank, and Treasurer of the Peabody Institute Fund. He filled an unexpired term in the Massachusetts State Senate, was at one time Democratic candidate for Congress, and "filled other offices of trust and responsibility."

He leaves a widow and a son and daughter. Dr. George S. Osborne, of Peabody, the last Anniversary Chairman of the Massachusetts Medical Society, is his son, and has honorably held for many years the place vacated by his father. A. H. J.

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM DECEMBER 15, 1882, TO DECEMBER 22, 1882.

AIDEN, CHARLES H., major and surgeon. Now in St. Paul, Minn., to proceed to Fort Yates, D. T., and report to the commanding officer of that post for duty. Paragraph 3, S. O. 212, Department of Dakota, December 14, 1882.

BANISTER, J. M., assistant surgeon. To proceed to Camp

on White River, Colorado, and report to the commanding officer. Paragraph 7, S. O. 250, Department of Missouri, December 11, 1882.

BROWN, JUSTUS M., major, surgeon. Granted leave of absence for fifteen days. S. O. 119, Department of the South, December 11, 1882.

HALL, W. R., assistant surgeon. Granted leave of absence for one month. Paragraph 8, S. O. 250, Department of the Missouri, December 11, 1882.

PORTER, J. Y., captain and assistant surgeon. To proceed to St. Francis Barracks, St. Augustine, Fla., and to report to the commanding officer of that post for temporary duty. Paragraph 2, S. O. 119, Department of the South, December 11, 1882.

WYETH, M. C., first lieutenant and assistant surgeon. Granted one month's leave of absence. Paragraph 4, S. O. 206, Department of Dakota, December 8, 1882.

SUFFOLK DISTRICT MEDICAL SOCIETY. — There will be a general meeting of the Society on Saturday, December 30th, at 19 Boylston Place, at 7.45 P. M. The following papers will be presented: Histology of the Uterine Myxoma, illustrated by Microscopic Preparations, Dr. H. O. Marcy. A Household Epidemic from Defective Drainage, Dr. H. W. Broughton. Two Cases of Tetanus, with Recovery, Dr. E. Cheney. Supper at nine o'clock. H. C. HAYEN, Secretary.

SUFFOLK DISTRICT MEDICAL SOCIETY. — The Surgical Section will meet on Wednesday, January 3d, at 19 Boylston Place, at 7.45 P. M. Dr. H. P. Bowditch will show Bell's Induction Balance and Electric Probe for Bullets. Dr. J. Collins Warren will report Two Cases of Colotomy. Dr. John H. Homan will open the discussion. Dr. A. T. Cabot will report a Case of Nephrotomy for Hydronephrosis.

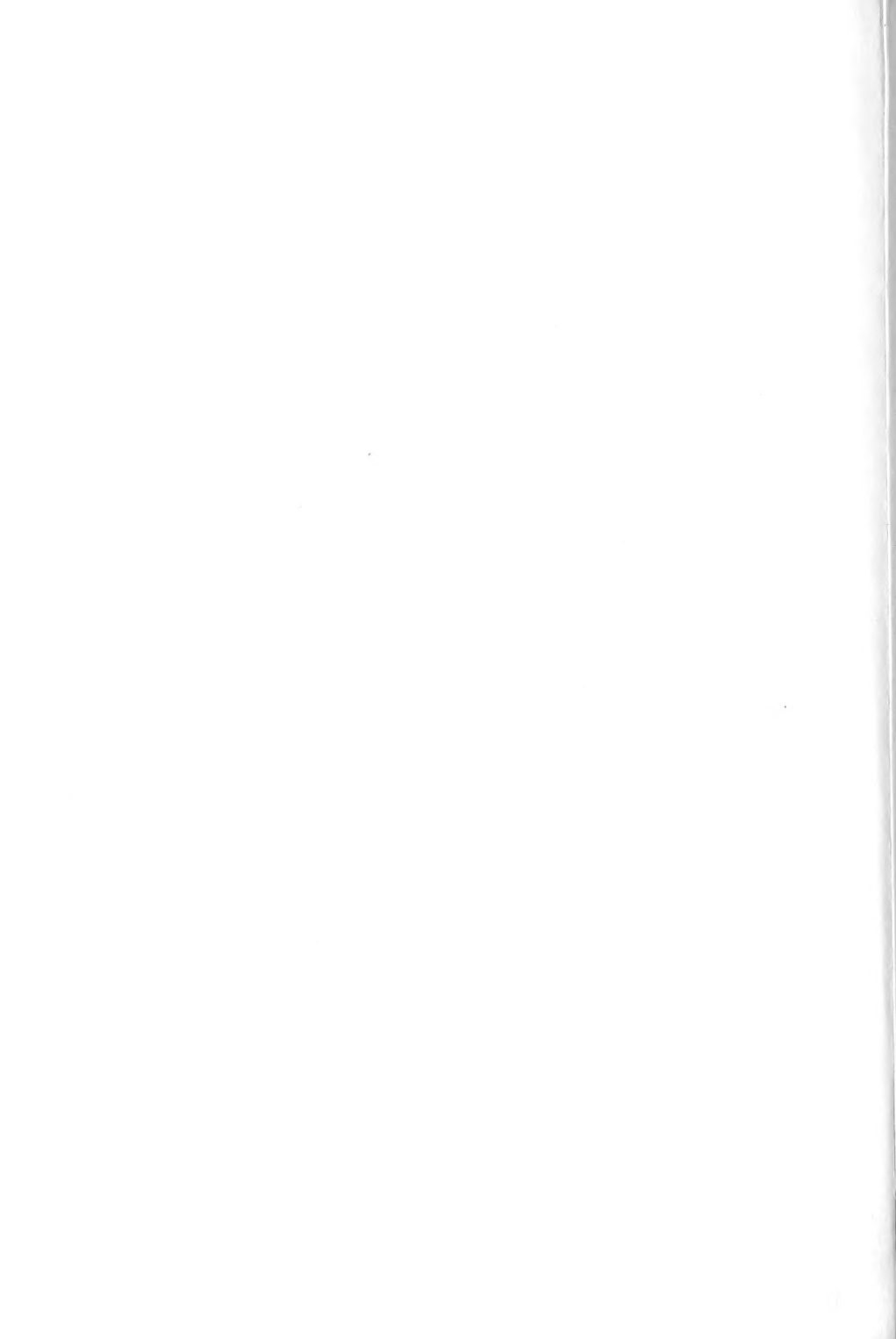
H. C. HAYEN, Secretary.

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — A regular meeting of the Society will be held at the Medical Library, No. 19 Boylston Place, on Monday, January 1, 1883, at eight o'clock P. M. Reader, Dr. C. Ellery Sedgman. Subject, A Case of Multiple Strictures of the Small and the Large Intestine following Enteritis. Dr. W. A. Dunn will report Four Cases of Ectopyse occurring during Labor. C. M. JONES, Secretary.











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